



**Metropolitan Transportation Authority**

# Finance Committee Meeting December 2018

---

## Committee Members

**L. Schwartz, Chair**

F. Ferrer, Vice Chair

A. Albert\*

N. Brown\*

I. Greenberg\*

D. Jones

C. Moerder

M. Pally

S. Rechler

P. Trottenberg

V. Vanterpool

P. Ward

C. Weisbrod

N. Zuckerman

# **Finance Committee Meeting**

**2 Broadway, 20th Floor Board Room**

**New York, NY 10004**

**Monday, 12/10/2018**

**12:15 - 2:00 PM ET**

## **1. PUBLIC COMMENTS PERIOD**

## **2. APPROVAL OF MINUTES:**

*Finance Committee Minutes - November 13, 2018 - Page 4*

*Special Finance Committee Minutes - December 3, 2018 - Page 10*

## **3. DRAFT 2019 COMMITTEE WORK PLAN**

*Draft 2019 Work Plan - Page 22*

## **4. BUDGETS/CAPITAL CYCLE**

*Finance Watch - Page 30*

## **5. MTA HEADQUARTERS & ALL-AGENCY ITEMS**

### **Action Items**

*Authorization to Issue New Money Transportation Revenue Bonds and Bond Anticipation Notes, Dedicated Tax Fund Bonds, and Triborough Bridge and Tunnel Authority General Revenue and Subordinate Revenue Bonds and Bond Anticipation Notes - Page 40*

*Authorization to Issue Transportation Revenue Refunding Bonds, Dedicated Tax Fund Refunding Bonds, Triborough Bridge and Tunnel Authority General Revenue Refunding Bonds and Subordinate Revenue Bonds - Page 123*

*Authorization of Updated MTA & TBTA Bond Refunding Policy - Page 175*

*Authorization of Reimbursement Resolution for Federal Tax Purposes - Page 179*

*Administrative Revisions to Advertising Policy - Page 183*

*Approval of One Year Extension of Energy Services Program Agreement w/NYPA - Page 189*

*Adoption of 2019 Budget and 2019-2022 Financial Plan (Available in the Exhibit Book and MTA.Info) - Page 191*

### **Report and Information Items**

*Contract Change Order Report - Page 192*

*DRAFT MTA Financial Statements 2nd Quarter for the Six Months Ended June 2019 (Available in the Exhibit Book and MTA.Info) - Page 196*

### **Procurements**

*MTAHQ Procurement Report - Page 197*

*MTAHQ Non Competitive Procurements - Page 200*

*MTAHQ Competitive Procurements - Page 202*

## **6. METRO-NORTH RAILROAD & LONG ISLAND RAIL ROAD**

*LIRR Procurement - Page 212*

## **7. NEW YORK CITY TRANSIT, and MTA BUS OPERATIONS**

*NYCT Procurement - Page 214*

## **8. BRIDGES AND TUNNELS**

*B & T Procurements - Page 216*

## **9. FIRST MUTUAL TRANSPORTATION ASSURANCE COMPANY (No Items)**

## **10. MTA CONSOLIDATED REPORTS**

*Mid Year Forecast and November Forecast vs Actual Results - Page 222*

*Statement of Operations - Page 225*

*Overtime - Page 232*

*Subsidy, Interagency Loans and Stabilization Fund Transactions - Page 237*

*Debt Service - Page 247*

*Positions - Page 249*

*Farebox Operating and Recovery Ratios - Page 252*

*MTA Ridership Report - Page 253*

*Fuel Hedge Program - Page 277*

## **11. REAL ESTATE AGENDA**

### **Action Items**

*Real Estate Action Items - Page 280*

### **Report and Information Items**

*Real Estate Info Items - Page 291*

Date of next meeting: Tuesday, January 22nd

Minutes of the MTA Finance Committee Meeting  
November 13, 2018  
2 Broadway, 20th Floor Board Room  
New York, NY 10004  
Scheduled 12:45 PM

The following Finance Committee Members attended:

Hon. Lawrence Schwartz, Chair  
Hon. Fernando Ferrer, Vice Chair  
Hon. Andrew Albert  
Hon. Norman E. Brown  
Hon. Ira Greenberg  
Hon. David R. Jones  
Hon. Charles G. Moerdler  
Hon. Mitchell H. Pally  
Hon. Veronica Vanterpool  
Hon. Peter Ward  
Hon. Carl Weisbrod  
Hon. Carl V. Wortendyke

The following Finance Committee Members did not attend:

Hon. Scott Rechler  
Hon. Polly Trottenberg  
Hon. Neal Zuckerman

The following Board Members were also present:

Hon. Susan G. Metzger

The following MTA staff attended:

Robert Foran  
David Keller  
Patrick McCoy  
Janno Lieber  
David Ross  
David Florio

Chairman Schwartz called the November 13, 2018 meeting of the Finance Committee to order at 1:15 PM.

### **I. Public Comments**

There were two public speakers. Mr. Murray Bodin noted the thorough diversity discussions in earlier committee meetings that morning, and commented on his role in assisting New Jersey to be in compliance with the Manual on Uniform Traffic Control Devices from the Federal Highway Administration. Mr. Jason Pinero discussed the new Amazon headquarters being located in Long Island City and the need to invest in transportation infrastructure.

## **II. Approval of Minutes**

The Committee voted to approve the minutes to its prior meeting held on October 22, 2018 (see pages 4 through 10 of the Committee book).

## **III. Committee Work Plan**

Mr. David Keller reported that there was one change to the Work Plan for November. The annual Charter review was removed because the Corporate Governance Committee and the Board completed the annual review of all Charters in March 2018 (see pages 12 through 19 of the Committee book).

## **IV. Budgets/Capital Cycle**

### **A. BudgetWatch**

Mr. Keller noted that there is no BudgetWatch for November because the November Financial Plan will be presented by Mr. Robert Foran in a joint meeting of the Board and Finance Committee on Thursday, November 15, 2018.

### **B. FinanceWatch**

Mr. Patrick McCoy presented highlights from FinanceWatch (see pages 20 through 30 of the Committee book for the complete FinanceWatch report).

Mr. McCoy reported that there were several remarketings of various variable rate bonds subseries, which are listed in the Committee book. These transactions included remarketings of Floating Rate Tender Notes (FRNs), a substitution of a letter of credit, and letter of credit extensions. Mr. McCoy noted that once a year the MTA solicits banks for capacity and pricing for liquidity and as letters of credit are due to expire, they may be replaced with new banks depending on the solicitation from that year. Mr. McCoy noted there will be a couple more variable rate remarketings before the end of the year.

**Fuel Hedge:** Mr. McCoy reported that on October 30, 2018, MTA executed a 2.8 million gallon ultra-low sulfur diesel fuel hedge with Cargill Incorporated at an all-in price of \$2.246/gallon. MTA's existing approved commodity counterparties participated in bidding on the transaction: Cargill Incorporated; Goldman, Sachs & Co./ J Aron; J.P. Morgan Ventures Energy Corporation; Macquarie Group; and Merrill Lynch Commodities. The hedge covers the period from October 2019 through September 2020.

## **V. MTA Headquarters and All-Agency Items**

### **A. Action Items**

#### **1. Law Firm Panel Addition**

Mr. Keller reported that the first action item is a request for Board approval for the retention of the law firm Skadden, Arps, Slate, Meagher & Flom, LLP, effective as of August 15, 2018, and the

addition of this firm to the panel of Board-approved outside counsel (see pages 32 and 33 of the Committee book). Mr. Thomas Quigley, General Counsel, was available to take questions.

The Committee voted to recommend the action item to the Board for approval.

## **2. Amendment MTA All Agency Investment Guidelines**

Mr. Keller reported that the second action item is a request for Board approval for an amendment to the MTA All Agency Investment Guidelines as related to Commercial Paper (CP) investments (see pages 34 through 46 of the Committee book). Ms. Josiane Codio, Treasurer, was available to take questions.

The Committee voted to recommend the action item to the Board for approval.

## **B. Reports and Information Items**

Mr. Keller reported that there were two Reports and Information items.

### **1. Update on the Business Service Center**

Mr. Wael Hibri presented the update on the Business Service Center (BSC) (see <http://web.mta.info/mta/news/books/docs/Update-on-Business-Service-Center-Presentation-MTAI-Overhead.pdf> on the MTA Board materials website for the presentation). The report provides an update on scope, workload and projects within the BSC.

Mr. Hibri highlighted two key performance measures related to order throughput and velocity (see slide 7 of the presentation) including the increase of purchase orders being completed via PeopleSoft automated sourcing events instead of manually and the decrease of average days to process across all purchase orders from 78 days to 39 days. Mr. Hibri further noted that two reports have been developed to help agency Chief Procurement Officers (CPOs) minimize contract extensions for time and value. The reports draw from contracts and PeopleSoft data and serve as an 18-month look ahead for CPOs, while providing actionable items. Mr. Hibri noted that in the last BSC update, he promised to provide a comparison to other peer service centers. The Hackett Group has worked with the BSC to complete the benchmark analysis. Mr. Hibri turned the presentation to Ms. Patty Miller of The Hackett Group to present the results (see after page 18 of the presentation for that summary).

Ms. Miller reported that the purpose of the analysis was to evaluate the performance of the BSC, looking at measures of efficiency and effectiveness across several “towers” or processes. The review covered a 12-month basis from June 2017 through May 2018. Overall observations consistent across all towers were that the BSC is working hard to meet business needs, but there are several challenges from MTA’s business realities. For example, there are numerous collective bargaining agreements which make it difficult to achieve standardization across the units, and being in New York City, the average cost of labor is higher than comparison groups. Ms. Miller highlighted the results for cost, staffing, technology enablement, noting a few concerns such as business continuity when individuals with institutional knowledge retire or leave and issues related to standardization and legacy applications that feed data into PeopleSoft. Additionally, there are manual processes remaining that affect efficiency and gaps in level of knowledge and training. Also, for stakeholder perception, the survey was sent to approximately 6,000 stakeholders, with a

19% response rate, with various results. Ms. Miller noted that there appears to be a perceived lack of follow-up and inconsistent quality and completeness of transactions. Ms. Miller discussed the specific results and comparisons to peer groups including several such as accounts payable and payroll administration that outperform peers and productivity measures for the contact center which have higher costs per contact. The Hackett Group made recommendations for the BSC including developing a talent management strategy, building a knowledge management system, documenting procedures, evaluating technologies to help automate processes, and improving customer service.

Mr. Hibri commented that the BSC is currently working on a reply to its customers to ensure that BSC responses to its customers were adequate and complete. Mr. Hibri further noted that the BSC must work on building a knowledge management database so new employees may work from the same base of knowledge as experienced employees. Mr. Hibri commented that the BSC is working on two tools to avoid the need to manually reenter data, one is “e-benefits” so employees may make changes to benefits which are uploaded automatically, rather than requiring another employee to enter the data, and the other is “e-settlements” where vendors would load invoices directly into PeopleSoft and the system would match automatically to issue payment to the vendor.

**Discussion:** Ms. Vanterpool inquired about cost savings and efficiencies for the IT tower, and whether The Hackett Group has an opinion about the greater use of contractors. Ms. Miller responded that generally the use of contractors is considered to be more expensive, but you need to evaluate whether there are benefits, such as specialized knowledge, that the organization would not want to retain on a long-term basis with full employment, because if contractors are simply being plugged into open positions, their use may be costlier.

Chairman Schwartz commended Mr. Hibri and the BSC and the progress made, but noted that he would like to see a reduction in the error rate. He further noted that regarding the lack of electronic invoices from vendors for accounts payable, he would like the BSC to consider setting a policy that invoices must be submitted electronically to do business with the MTA (and if an entity is truly unable to comply, providing for a waiver process).

## **2. Station Maintenance Receivable Update**

Mr. Keller reported that the total amount billed to the counties for the period from April 1, 2017 through March 31, 2018 was \$169,244,483 (see pages 48 through 50 of the Committee book). Mr. Patrick Kane, Comptroller, was available to take questions.

**Discussion:** Mr. Albert inquired about when Nassau County will pay. Chairman Schwartz responded that the Nassau County Executive is aware of the balance due (\$21,685) and has indicated the intent to pay. Mr. Pally noted that the amount is pending approval of the Nassau County Legislature at its November 19, 2018 meeting.

## **C. Procurements**

Mr. Ross reported that there were five non-competitive procurement action items for a total of \$3,514,227 for MTA Headquarters. The items include a non-competitive contract award to the National Industries for the Blind, a preferred source vendor, for the purchase of safety gloves, and one extension and additional funding on that and other contracts for graphic design and printing

services. Lastly, there is an Additional Service Work Order with IBM for a refurbished mainframe to provide redundancy for MetroCard debit/credit functionality should the current mainframe require maintenance or fail. Regarding the IBM item, Mr. Ross noted that the current contract was extended with IBM to May, and procurement staff are in the latter stages of procurement for a new contract for mainframe services, and the new contract anticipates having two mainframes as well (see pages 52 through 59 of the Committee book for all MTAHQ procurement items).

The Committee voted to recommend the procurement items before the Board for approval.

## **VI. Metro-North Railroad/LIRR**

There were no items for Metro-North.

## **VII. Metro-North Railroad/LIRR**

There were no items for LIRR.

## **VIII. NYCT/MTA Bus Operations**

### **A. Procurement**

Mr. Ross reported that there was one competitive procurement item for NYCT totaling \$5,798,000 for a change order for EE Cruz & Company for the installation of 34 trackside steel girders at three stations in Queens that were refurbished under a prior modification (see pages 60 and 61 of the Committee book).

The Committee voted to recommend the procurement item before the Board for approval.

## **IX. Bridges and Tunnels**

### **A. Procurements**

Mr. Ross reported that there were two items for Bridges and Tunnels, which were the award of two competitive design build service contracts, totaling \$47 million, with EJ Electric Installation Co. One contract is to rehabilitate tunnel control and communication systems at the Hugh L. Carey and Queens Midtown Tunnels. The other is to install fire alarm and smoke detector systems at the pump rooms, ventilation, exhaust and service buildings for the two tunnels (see pages 62 through 65 of the Committee book).

The Committee voted to recommend the procurement items before the Board for approval.

## **X. FMTAC**

There were no items for FMTAC.

## **XI. MTA Consolidated Reports**

This month's consolidated reports include: September actual results versus Mid-Year Forecast,

including statements of operations; overtime reports; subsidy, interagency loans and stabilization fund transactions; debt service; total positions by function and agency; farebox recovery and operating ratios; MTA ridership; and the fuel hedge program (see pages 66 through 119 of the Committee book).

## **XII. Real Estate Agenda**

### **A. Action Items**

Mr. David Florio reported that there were seven action items (see pages 120 through 157 of the Committee book for all real estate action and information items), which include:

- a) Permit with Premium Outlet Partners, L.P. for the use of parking spaces at the Harriman Station over Thanksgiving.
- b) Lease agreement with Leather Spa for retail space to provide shoe repair/shoe shine services in the Graybar Passage of Grand Central Terminal.
- c) Two license agreements with Boingo Wireless, Inc. for wireless communications services along a portion of the LIRR's Atlantic Branch right of way and associated stations and at the MTACC/LIRR East Side Access facility at Grand Central Terminal.
- d) License agreement with Sajjad Ahmad for a newsstand at the Myrtle-Wyckoff Avenues subway station, mezzanine paid zone on the Canarsie Line.
- e) Exercise of the option to purchase Grand Central Terminal and the Harlem/Hudson railroad lines.
- f) Single source procurement with Boston Properties to facilitate demolition of the MTA's buildings at 341, 345, and 347 Madison Avenue.

The Committee voted to recommend the real estate action items before the Board for approval.

## **XIII. Adjournment**

Upon motion duly made and seconded, the November 13, 2018 meeting of the Finance Committee was adjourned at 1:52 PM.

Respectfully submitted,

Marcia Tannian  
Deputy Director, Finance

Minutes of the MTA Special Finance Committee Meeting  
December 3, 2018  
2 Broadway, 20th Floor Board Room  
New York, NY 10004  
Scheduled 10:00 AM

The following Finance Committee Members attended:

Hon. Lawrence Schwartz, Chair  
Hon. Andrew Albert  
Hon. Norman E. Brown  
Hon. Ira Greenberg  
Hon. David R. Jones  
Hon. Charles G. Moerdler  
Hon. Scott Rechler  
Hon. Polly Trottenberg  
Hon. Peter Ward  
Hon. Carl Weisbrod  
Hon. Neal Zuckerman

The following Finance Committee Members did not attend:

Hon. Fernando Ferrer, Vice Chair  
Hon. Mitchell H. Pally  
Hon. Veronica Vanterpool

The following Board Members were also present:

Hon. Susan G. Metzger

The following MTA Agency Presidents attended:

Andy Byford, President, NYCT  
Phillip Eng, President, LIRR  
Cedrick T. Fulton, President, Bridges & Tunnels  
Darryl C. Irick, President, MTA Bus  
Janno Lieber, President, MTACC  
Catherine Rinaldi, President, Metro-North

The following MTA and agency staff attended:

Robert Foran, Chief Financial Officer, MTAHQ  
David Keller, Acting Director of Budget and Management, MTAHQ  
Robert Diehl, Senior Vice President, Safety and Security Department, NYCT  
Tim Mulligan, Senior Vice President, Operations Support, NYCT  
Jaibala Patel, Chief Financial Officer, Office of Management and Budget, NYCT  
Craig Cipriano, Executive Vice President, Business Strategies and Operations Support, MTA Bus  
Mark Young, Vice President and Chief Financial Officer, LIRR  
Steven Weiss, Executive Director, Management & Budget, Metro-North  
Mildred Chua, Vice President and Chief Financial Officer, B&T  
Andrew Ritchel, Deputy Director, HQ and Consolidated Services Budgets, MTAHQ

Chairman Schwartz called the Special Finance Committee meeting to order at 10:16 AM.

## **I. Public Comments**

There were six public speakers. Mr. Christopher Grief representing the New York City Transit Riders Council and people with disabilities expressed his support for the Fast Forward program and with the impending fare increase, the lower price for seniors and disabled should remain affordable. Ms. Rachael Fauss representing Reinvent Albany discussed transparency and requested that budget data be provided in spreadsheet format rather than PDF and noted that the State of New York provides an Open Budget website and the MTA should follow that example, also commenting that Reinvent Albany has requested this for several years. Mr. H.P Schrouer discussed his concern that veterans do not have discounts and requested having discounts for veterans of all ages, and the discount should mirror the seniors discount. Ms. Lisa Daglian, Executive Director of the Permanent Citizens Advisory Committee to the MTA, discussed several items including the need to fill funding gaps, finding the fairest alternative for any fare and toll increases, improving service and not cutting service or station improvements, fare evasion, the need for Amazon to provide funding support for transit infrastructure, support for the Fast Forward program and additional City funding, and encouraging a working group on transparency to provide online data resource for how funding is received, allocated, and budgeted. Mr. Paul Goebel, Transportation Policy Analyst, representing the Honorable Gale Brewer, Manhattan Borough President, discussed the Budget Reduction Programs and the borough's concern regarding the deferral of the M96 upgrade to Select Bus Service. Mr. Omar Vera discussed the biennial fare and toll increases and his opinion that they are not sustainable, and suggested having discounts for veterans.

## **II. MTA 2019 Final Proposed Budget November Financial Plan 2019-2022 (Budget Reduction Programs)**

All materials discussed for the Budget Reduction Programs (BRPs) are available under the Special Financial Committee on the website: <http://web.mta.info/mta/news/books/index.html>.

Mr. Robert Foran began the discussion on the November Financial Plan, specifically the BRPs, noting that when looking at the savings target compliance report, the MTA must achieve significant cost reductions, including \$264 million for 2018, \$539 million for 2019, \$518 million for 2020, and similar amounts later (see [http://web.mta.info/mta/news/books/docs/special-finance-committee/Savings\\_Target\\_Compliance-Data\\_and\\_Chart.pdf](http://web.mta.info/mta/news/books/docs/special-finance-committee/Savings_Target_Compliance-Data_and_Chart.pdf)). Mr. Foran noted that the recurring cost saving targets will not be achieved in 2018 and 2019 and the gap will be filled with one-shots reductions by delaying some projects. The agencies have been asked to find the least impactful cuts, but the cuts are still difficult to make. Mr. Foran further noted that the biggest challenge to the cost reductions is with NYCT, and the agency is doing its best to find reductions. The differences are handled by one-shots in the budget. Mr. Foran noted that the agency presidents will provide additional insight into their agency BRPs and that the information is available online as well as was initially provided in Volume II of the November Financial Plan (see <http://web.mta.info/news/pdf/MTA-2019-Final-Proposed-Budget-Nov-Financial-Plan-2019-2022-Vol2.pdf>).

### **A. NYCT BRPs**

Mr. Andy Byford presented regarding the NYCT BRPs (for the list of NYCT BRPs see

<http://web.mta.info/mta/news/books/docs/special-finance-committee/NYCT-BRPs.pdf>).

Mr. Byford reiterated that the exercise to find savings has not been easy especially because the proposed cuts coincide with the efforts of the agency to improve service and the customer experience. Mr. Byford reviewed the pages of the NYCT BRPs noting that there are administrative savings such as staffing reductions, hiring restrictions, reductions to wellness programs, and changes to mandated training. Mr. Byford emphasized that staff reviewed where cuts could be made throughout the agency, before making changes that affect service for customers. There are some BRPs that will affect customer service, but the aim was to limit the impact of the initiatives. Mr. Byford noted three scenarios for potential savings, and the only ones included in the BRPs are the level-one savings, which have the least impact to customers. Mr. Byford highlighted additional BRPs, including a delay of the elimination of police fare evasion overtime, utilizing the Track Geometry Car to run automated track inspections (providing an efficient method to see defects and requiring fewer people on the tracks), reducing terminal car cleaning to one terminal, and adjusting Eagle Team staffing assignments to borough-based coverage. Mr. Byford noted additional labor efficiencies which will be detailed later, but the agency has committed to the cost savings for that item. Mr. Byford commented that the adjustments to service guidelines are the most impactful to customers. An estimated \$30 million in annual net savings from bus service guidelines and \$10 million in subway service guidelines will provide savings, but may mean a little more crowding for certain riders.

**Discussion:** Mr. Albert inquired regarding the subway terminal cleaning and which factors will determine which lines have cleaning on both ends. Mr. Byford responded that several factors are involved (e.g. number of riders, conditions on the line, length of line) and there will be some science to the decisions to ensure reductions are made in the least impactful manner. Mr. Albert asked about the Eagle Team adjustments and whether those mean the teams will be less predictable to the riding public. Mr. Byford confirmed that is the intent as the best way to have a deterrent is to be an unpredictable rolling program of interventions (and make someone think twice of evading fare payment). Lastly, Mr. Albert asked about the adjustments to the service guidelines and whether ridership increases to the guidelines will not be used to provide extra service. Mr. Byford corrected him and noted that the service guidelines are meant to be dynamic so if there is a route with increased ridership, additional service may be provided, and if there is declining ridership, adjustments may be made to reduce service.

Mr. Moerdler discussed his views on several of the BRPs, including his view that service reductions are backward compared to non-service savings that can be made, such as reducing workers compensation payments. Mr. Moerdler additionally commented that he does not think that Eagle Teams are effective, noting that incidents of fare evasion have increased since the reduction in prosecutions of fare evasion. He further noted that the NYPD has done an excellent job in the subways and should be deployed to the buses, and increased enforcement is needed. Mr. Moerdler disagreed with the change in terminal cleaning, noting that it will be detrimental to customer experience. Mr. Moerdler asked whether NYCT has utilized automated track inspections via video before because he is concerned that safety is risked if the inspections are not effective. Additional comments by Mr. Moerdler included that the temperature adjustments in subway cars may be detrimental to customers, some overtime when used skillfully may be more cost effective than hiring employees, cameras at security posts are not effective. Mr. Moerdler questioned the wisdom of adjusting the mid-life overhaul of certain fleets and bus service reduction. Regarding workers compensation, Mr. Moerdler noted that savings could be achieved if a program that had

been previously administered was resurrected. This was a program in which payments to doctors and lawyers involved in workers compensation were reduced. Mr. Byford responded to Mr. Moerdler's comments emphasizing that any of the BRPs are not his choice, but he was trying to find the least impactful means to find savings without affecting customers. Mr. Byford commented that Eagle Teams are effective and other influences are affecting fare evasion. Regarding terminal cleaning, Mr. Byford reiterated his commitment to watching this adjustment closely and will choose scientifically where it is applied. Mr. Byford commented that the track inspection video car has been used and it is a standard practice at railways around the world. Regarding the temperature adjustments, Mr. Byford clarified that the savings will be from not heating or cooling if the systems do not need to be on, and being more cognizant of the ambient temperature. Mr. Byford noted that the mid-life overhaul will not materially affect the mean distance between failures because of newer and more modern buses. Mr. Byford noted he was not aware of the program to reduce workers compensation payments and he will explore that with Ms. Hakim.

Ms. Trottenberg discussed fare evasion and inquired whether the increase is in Manhattan only and if not then it does not appear to correlate to the decision by the Manhattan District Attorney to stop prosecuting fare evaders. Mr. Byford noted that the decision not to prosecute fare evasion is one factor of several factors that affect the increase observed, and that the Bronx and Staten Island have seen increases too. Ms. Trottenberg commented that Staten Island is an example where the District Attorney does not have the change in prosecution policy so she does not see think the two are correlated. Mr. Byford reiterated that it is a factor, but not the only factor. Ms. Trottenberg commented on the reduction in Eagle Teams and in her view the enforcement agents are revenue generators, not revenue losers. She further noted she would not want to reduce the ranks if they generate revenue and asked whether the data is available regarding the revenue. Mr. Byford noted they are revenue raisers if people pay the fines and noted that there will be two more teams, but the teams will be deployed in a more efficient manner. Ms. Trottenberg inquired about the percentage of people paying the fines. Mr. Foran noted that he will need to follow up with that information. Mr. Byford indicated he believes the percentage is approximately 50 percent.

Mr. Greenberg commented on the mid-life cycle maintenance change and asked why reliability will not be affected. Mr. Irick responded that the maintenance is moving away from a systems approach and more to one based on components. Mr. Irick further noted that the buses to be delivered are new buses so there should not be an impact on reliability. Mr. Greenberg asked about the change to mandated training and whether it creates a safety issue. Mr. Byford responded that it is mandated State training that can be done a less frequent cycle. Lastly, Mr. Greenberg asked about the service guideline changes. Mr. Byford noted there is maneuverability in the guidelines.

Mr. Weisbrod commented on the Budget, BRPs and the unidentified savings targets (\$123 million for 2019) and that the reliance on one-shots is not sustainable. He noted his concern that without finding additional revenue, there could be additional service cuts without having to come back to the Board for approval. Mr. Weisbrod further noted the deeper concerns from the public hearings were reliability and the unfairness when people pay the fares while others are evading the fares. Mr. Weisbrod noted his concern that fare evasion needs to be addressed. He asked about whether the terminal cleaning reduction and whether that cleaning initiative was part of the Subway Action Plan (SAP). Mr. Byford indicated he did not believe the terminal car cleaning was an element of SAP and he certainly does not want to reverse the SAP elements, so benefits achieved are not reversed. Mr. Foran commented on the unidentified savings targets mentioned by Mr. Weisbrod

noting that the amount is not recurring and is more reflective of one-shot needs (for example delaying an IT project). The \$123 million does not represent the exposure for recurring savings needs. Mr. Foran further noted that if a service change is not within the service guidelines, it must go to the Board and subject to public hearing. Mr. Weisbrod indicated his concern about voting for a budget with unidentified savings. Mr. Foran responded that the Board has approved budgets every year that include unidentified savings and that is the challenge to the staff and agencies to find new savings. He further reiterated that he said the recurring savings are becoming more challenging to find, but efficiencies are still there to be found, and that service cuts would have public hearings before any action. Mr. Foran additionally noted that the Budget includes approximately \$165 million in a General Reserve which is available, although there are no plans to use that yet.

Mr. Rechler commented on the deficit in the November Financial Plan which grows to \$991 million by 2022, even with the BRPs and fare and toll increase incorporated.

Mr. Brown commented on fare evasion and that weaker penalties may not deter some actions. He noted that at the first public hearing it seemed to be 10:1 of people complaining about fare evasion rather than indicating they agree with fare evaders. He asked about Enterprise Asset Management (EAM) and his concern that the decrease of 16 positions in 2018 and 36 positions in 2019 will reduce the ability of the EAM team to be able to do its productivity work. Ms. Jaibala Patel responded that the reduction is in the growth of the program, but there are still numerous positions, 107 in 2019 and 120 in 2020, on the EAM team, so the program is continued but at a slower growth rate.

## **B. MTA Bus BRPs**

Mr. Darryl Irick presented regarding the MTA Bus BRPs (for the list of MTA Bus BRPs see <http://web.mta.info/mta/news/books/docs/special-finance-committee/MTA-Bus-BRPs.pdf>).

Mr. Irick highlighted the MTA Bus BRPs noting that the agency's efforts of \$120 million in savings for the plan period reflects two major initiatives. The first is a rationalization of weekday and weekend express bus service to more closely align with customer demand. Express bus service represents approximately 6.4% of ridership, but 40% of fleet size. Mr. Irick noted most of the proposed rationalization converts express service routes to peak hours, peak direction traditional service when customer demand is at its highest. The second major initiative is to transition the mid-life overhaul schedule from four to eight years to a six-year schedule on newer buses. Mr. Irick noted the mid-life overhaul initiative leverages EAM analyses and in advanced vehicle monitoring systems that allow staff to track failures early and identify more accurate replacement cycles. Thus, it puts in place a more effective and efficient maintenance strategy. Mr. Irick further noted that the agency does not expect the change in overhaul cycle to affect reliability.

## **C. LIRR BRPs**

Mr. Phillip Eng presented regarding the LIRR BRPs (for the list of LIRR BRPs see <http://web.mta.info/mta/news/books/docs/special-finance-committee/LIRR-BRPs.pdf>).

Mr. Eng highlighted the LIRR BRPs noting that the November Financial Plan has \$330 million in savings from LIRR BRPs, with \$63 million of that in 2019. Mr. Eng emphasized that the agency

looked to find efficiencies without having service cuts. He noted that lot of the effort included deferring hiring, eliminating hiring of some positions, and scaling back the growth or acceleration of some work. For example, LIRR increased car cleaning, but the acceleration will be slower than originally projected. Mr. Eng commented that staff reviewed how LIRR Forward is being implemented and the agency is striving to focus its resources on addressing components that fail, while identifying where efforts can be more efficient for components that are not failing as frequently. Mr. Eng noted that the agency is being proactive regarding infrastructure work, tracks and signals, ensuring it tackles areas with problems, at the same time looking to find ways to reduce costs. He noted, for example, a new strategy related to repair and replacement is stocking materials in a timely manner rather than ordering too much in advance. Additionally, Mr. Eng said that the agency is looking for efficiencies in operations, such as find savings in its power consumption. Other savings include strategic deployment of help points, and finding efficiencies for event staffing and ticket sales.

**Discussion:** Mr. Greenberg commended LIRR for looking at the Passenger Rail Investment and Improvement Act (PRIAA) and finding savings in shared costs with Amtrak. Mr. Greenberg then asked about the estimates of fare evasion on LIRR. Mr. Eng responded that where there are areas identified for fare evasion, the agency deploys additional conductors to collect revenue. Mr. Mark Young noted that both railroads utilize MTA Audit to go undercover to spot check for fare evasion. Mr. Young further noted that at LIRR the audit observations indicate the rate of five percent so LIRR finance team need to make assumption about who of those have paid for monthly tickets. It is estimated that approximately \$20 million in revenue is lost to fare evaders, and the agency's strategy is to deploy extra collectors on crowded trains as well as roving collectors assigned to specific locations.

Mr. Moerdler discussed the potential to increase revenue by taking advantage of available air rights at LIRR facilities and along its track, as well as generating revenue via parking lots. Mr. Moerdler encouraged LIRR and Metro-North to explore opportunities to sell and use development rights.

#### **D. Metro-North BRPs**

Ms. Catherine Rinaldi presented regarding the Metro-North BRPs (for the list of Metro-North BRPs see <http://web.mta.info/mta/news/books/docs/special-finance-committee/MNR-BRPs.pdf>).

Ms. Rinaldi highlighted the Metro-North BRPs noting that the November Financial Plan has \$209 million in savings from Metro-North BRPs, with \$49 million of that in 2019. Ms. Rinaldi noted many of the savings relate to reductions in professional services and business expenses. Additionally, Metro-North is looking to reduce costs in materials based upon spending trends. Metro-North has made changes to maintenance cycles for rolling stock. For example, the agency has obtained from the Federal Railroad Administration (FRA) approval to extend the M8 airbrake maintenance cycle to six years from five years. There will be a deferral of replacing M8 seats for two years. Ms. Rinaldi noted that some ticket office closings at three stations will provide savings and is in part a result of the increase of the eTix program, which provides efficiency in ticket sales. In addition, five positions that were requested but not filled will be eliminated. Savings in cleaning cycles will be made by extending the extraordinary cleaning cycle from 92 to 184 days, but Ms. Rinaldi noted the ordinary clearing cycle will not change. Ms. Rinaldi commented that additional savings are being found in reducing power consumption as well.

**Discussion:** Mr. Zuckerman asked about how many people use the Brewster ticket window, because it is slated to be closed. Ms. Rinaldi responded that she will need to get that information to him as follow-up material. Mr. Zuckerman commented that they are difficult cuts, but they do not fill the projected deficit in the November Financial Plan (\$991 million by 2022). He further raised the concern about need to focus on that larger deficit, noting that for example, labor costs are increasing at a higher percentage than the 2% annual yield from the biennial fare and toll increase. Mr. Zuckerman noted that the costs savings BRPs discussion is akin to discussing how to slice up a pie that is shrinking, and asked whether achievable cost savings are close to an end. Mr. Foran responded that without additional revenues, there will be drastic action that will need to occur, such as personnel reductions or restructurings. Mr. Foran noted he believes there are savings to be found by increasing the efficiency of the MTA, while increasing the delivery of service, but any change would be dramatic.

Dr. Metzger commented that the BRPs do bring about efficiencies, but that cost savings will not be sufficient to fill the gaps and emphasized the need for new sustainable revenues. She inquired regarding the estimated loss of revenue on Metro-North due to fare evasion. Ms. Rinaldi responded that Metro-North has the MTA Audit spot checks, similar to LIRR, and that the focus has been on the non-commutation riders. The estimate is a range of 2.5 and 3.0% of fares not collected, which translates to approximately \$9.5 to \$11.5 million in lost revenue.

## **E. Bridges and Tunnels BRPs**

Mr. Cedrick Fulton presented regarding the B&T BRPs (for the list of B&T BRPs see <http://web.mta.info/mta/news/books/docs/special-finance-committee/BT-BRPs.pdf>).

Mr. Fulton highlighted the BRPs noting that cashless tolling is delivering the benefits anticipated, improving customer experience and providing efficiencies, and of the \$185 million in savings over the Plan period, \$137 million is directly related to cashless tolling. Mr. Fulton noted other savings were found in realigning major maintenance scheduling to maximize resources, and shaving administrative costs by unnecessary hiring. Mr. Fulton emphasized that customer service and safe roadways are critical, while protecting revenues and delivering on the capital program.

**Discussion:** Mr. Weisbrod commented regarding the prospective toll increase and asked whether regarding congestion pricing, this is the time to think about having time zone fares for trucks, such as lower tolls during non-business hours to reduce congestions, but to do so in a revenue neutral manner to B&T. Mr. Fulton responded that in the morning peak, 23% of the traffic is trucks, and in the evening peak, approximately 16%, and overall trucks represent approximately 6.7% of total traffic, and that during in the previous summer when work was being done on Penn Station, there was a discount for trucks during off peak hours to reduce the daytime traffic flow, but even with the 50% price reduction there was little change in truck traffic behavior. He further noted that there is data to support the notion of creating varying pricing structures that could have an impact on truck activity. Mr. Weisbrod commented that now is the time to consider congestion pricing an asked that an adjusted pricing structure for trucks be looked at in context to the proposed fare and toll increase, which will be up for a vote in January.

Mr. Brown commented regarding the one-way toll on the Verrazzano Bridge (which was federally mandated), and noted that truck behavior will likely not change because of their schedule

requirements. Mr. Brown commented about the concern that the one-way toll creates where drivers use the bridge in one direction without a toll and then utilize other means of returning that cause congestion throughout the boroughs, especially in Brooklyn. Mr. Fulton noted that the agency is getting ready to release a study that analyzed the impact of one-way travel on the Verrazzano Bridge and high-level results are that the imbalance is not as large as perceived with approximately 7,000 vehicles that head east (without the toll) and do not return via the bridge. Mr. Fulton noted that during the peak periods, there does not seem to be a change in traffic, but during the off-peak periods that is when there seems that there could be an adjustment if there were two-way tolls.

Ms. Trottenberg commented that she is interested in seeing the study because the City has the task of making improvements to the Brooklyn-Queens Expressway (BQE), and there is a lot of interest in reducing congestion as work is being done on that roadway. Ms. Trottenberg expressed hope that with a new Congress, and a change in the U.S. House Representative from Staten Island, that perhaps the two-way toll is viable and her office would be enthusiastic about supporting that effort.

## **F. MTAHQ BRPs**

Mr. Andrew Ritchel presented regarding the MTAHQ BRPs (for the list of MTAHQ BRPs see <http://web.mta.info/mta/news/books/docs/special-finance-committee/MTAHQ-BRPs.pdf>).

Mr. Ritchel highlighted the MTAHQ BRPs noting the \$164 million in savings over the Plan period. He noted that the savings were in three main categories, savings from efficiencies from right-sizing budget and spending restrictions, savings from hiring restrictions and elimination of vacancies, and savings from deployment of MTA police officers on regular time instead of overtime to interact with homeless in the commuter rail system. Mr. Ritchel noted some examples of areas where savings are being achieved, including elimination of travel, memberships, outside consultants, and reduction in software needs.

**Discussion:** Mr. Greenberg inquired regarding the State Bond Issuance Charge (BIC) and whether that is still being waived on MTA bond transactions. Mr. Foran confirmed that the BIC is being waived.

Mr. Zuckerman asked regarding the right-sizing of support for the sleep apnea awareness program, noting the fifth anniversary of the deadly Spuyten Duyvil train accident, and asked about the status of the sleep apnea program. Mr. Ritchel responded that the sleep apnea testing is not affected, the reduction is in the administrative costs of the program.

Chairman Schwartz made general comments about the November Financial Plan, noting the need for additional revenues is something that is recognized and he anticipates will be discussed at the State Legislature. Chairman Schwartz further noted that he believes additional savings and efficiencies can be found, while increasing productivity. He does not want a message to be sent that revenues will solve everything. He urged staff and agencies to continue to increase accountability, improve performance and productivity, and strive for efficiencies. Chairman Schwartz said that ideas and solutions must be implemented quickly, for example solutions to reduce fare evasion.

### **III. Fare Evasion Report**

Mr. Byford introduced the fare evasion report, which analyzes fare evasion at NYCT (see [http://web.mta.info/mta/news/books/docs/special-finance-committee/Fare-evasion-board-doc\\_181130.pdf](http://web.mta.info/mta/news/books/docs/special-finance-committee/Fare-evasion-board-doc_181130.pdf)).

Mr. Byford agreed with Chairman Schwartz that implementing and embedding solutions quickly is important and noted that when taking over an agency there are several due diligence items such as reviewing the prevailing safety culture and prevailing economic health of the organization and where efficiencies may be found. Fare evasion is an example of an early item that underwent scrutiny when Mr. Byford became NYCT President. He noted that actions are being taken, but more needs to be done. Mr. Byford discussed the first slide, discussing that fare evasion is up significantly in 2018, with a resulting revenue loss of approximately \$215 million. Mr. Byford noted the sharp increase in recent months from approximately 2% rate of fare evasion to 3.8%. Similarly, fare evasion on buses has seen an increase, and currently estimating 348,000 daily riders are not paying the fare. Mr. Byford noted that there was a regime change in terms of prosecutions of fare evaders and that NYCT is working closely with NYPD to get them back on the subway and are in regular dialogue with NYPD. They have increased officers working with Eagle Teams, and police officers are assigned to specific locations and are coordinating with the new Group Station Managers. Mr. Byford noted that with this coordination, officers know the community and the stations and know where fare evasion is occurring, so that helps more effective enforcement action. Also, there is increased video monitoring to determine where the problems occur and best coordinate enforcement. Mr. Byford noted that enforcement is utilizing the information to board buses to provide unpredictable inspections. Additionally, Mr. Byford noted that there will be a new report provided monthly to the Board that will provide accountability from the NYPD transit bureau indicating where the officers have been deployed, and how many tickets and summons have been issued. Mr. Byford noted that NYCT is reviewing best practices to best reduce fare evasion, and NYCT staff are standing near the gates to provide deterrence while providing customer service. NYCT is exploring the use of video monitoring and leveraging the existing CCTV systems. Signage has been placed at all the stations and will go on the buses so no one can say they were not aware of the fare. Mr. Byford emphasized that NYCT is taking fare evasion quite seriously and are striving towards reducing it.

Mr. Tim Mulligan presented the rest of the fare evasion report. Mr. Mulligan discussed the methodology used to measure fare evasion on subways and buses, including randomized quarterly sample of surveys for peak and non-peak and high and low volume stations, and all boroughs are represented. The process on SBS is different because the Eagle Teams are already present. Mr. Mulligan that the sampling methodology procures good estimates at a system-wide level, but is less reliable for trying to parse to individual routes and stations. Some limitations are due to the human element and observation, and sometimes the presence of field staff may deter fare evasion, so slightly skews the result. Mr. Mulligan noted that the bias may be toward an undercount of the problem. Mr. Mulligan discussed the relationship of fare evasion and its impact on lost paid ridership and revenue and noted the marginal change in ridership. So, for example, approximately 35% of lost ridership was a result of increased fare evasion. The remainder was fewer riders. Likewise, approximately 56% of lost ridership on buses is due to increased fare evasion. Mr. Mulligan highlighted that compared to transit peers, historically NYCT was had a lower average, but with the increase in fare evasion in 2018, NYCT is above the average for its peers. For buses, historically was above average, but now buses level of fare evasion is even higher

compared to peers. Mr. Mulligan reviewed how fare evasion occurs noting that the primary area for evasion on the subways is through the slam gates and for the buses is at the front door. He noted that fare evasion on the SBS has been effectively reduced by Eagle Teams. Mr. Mulligan discussed the trends in subway fare enforcement actions, noting the decline in arrests and summons shows correlations with the increases in fare evasion.

**Discussion:** Mr. Weisbrod asked if the under observation bias is known. Mr. Mulligan indicated that numerically it is not available and there is not a reliable method for testing it. Mr. Jones inquired about weekend fare evasion. Mr. Mulligan indicated that there is information and it reflects what might be expected, that there is more fare evasion during the off-peak hours. Mr. Mulligan noted the trend is less intuitive for the buses. Mr. Jones asked for the backup data reflecting those results and Mr. Mulligan indicated he will provide that to the Board. Mr. Albert inquired about the schedule for cameras deployed in the system. Mr. Mulligan noted that there are many cameras deployed, but additional ones will be added. Mr. Albert further inquired regarding the slam gates and whether locking them, except for emergencies, has been considered. Mr. Mulligan noted the gates are being monitored to ensure they are working, because they should be locked. Lastly, Mr. Albert asked whether the subway numbers include Staten Island Railway. Mr. Mulligan confirmed that the Staten Island Railway is not included and is a different system (where fares are not paid for parts of the system). Mr. Moerdler asked about who monitors the camera feeds. Mr. Robert Diehl responded that staff review the camera feeds to see if anyone is evading the fare and if so, at that point they send notifications to the NYPD. Mr. Moerdler noted that by the time the police are notified the fare evader would be gone. Mr. Diehl noted that they have observed that people who commit fare evasion are likely to do that more than once, so if they repeat, it is more likely to be able catch them. Mr. Albert asked whether the selling of MetroCard swipes is included in fare evasion numbers. Mr. Mulligan noted that the selling of swipes is a different problem, but is a small part of the fare evasion data.

Mr. Greenberg inquired about MTA Bus (which is not included in the report) and whether there are fare evasion numbers for MTA Bus. Mr. Irick responded that MTA Bus fare evasion is approximately 7% for its local services. Mr. Weisbrod asked whether the difference is geographic. Mr. Irick confirmed that fare evasion has increased notably in two boroughs, Staten Island and the Bronx. Mr. Albert asked about whether there is a correlation between where buses feed into a subway and fare evasion at that location. Mr. Mulligan noted again that the granularity of the sample does not allow for that level of detail on location.

Chairman Schwartz asked about the increase of fare evasion through the front door of buses. Mr. Irick responded that there is a concern for drivers engaging with fare evaders because of assaults on drivers and concern for employee safety, he noted that in 2008 there was a death of a driver for enforcing a fare. Chairman Schwartz noted that there should be increased criminal penalties for people who assault MTA employee and noted that there may be a way to signal the NYPD if someone evades the fare and asked for the agency to consider a program that addresses that issue. Mr. Byford noted that operators do have a "fare dispute" button to notify that there has been fare evasion on that route, so that enforcement can be deployed accordingly. Mr. Byford noted that it may be unfair to paying customers to have the bus stand still for a fare evasion standoff, so better to keep it moving and use the fare dispute button to notify police of the issue. Chairman Schwartz encouraged having the agency look to explore whether a driver could contact the radio car and have the police respond immediately. Mr. Byford confirmed that they do try to

have the police respond immediately if possible. Mr. Moerdler commented that the local union might be willing to work with the agency to address the issue as well.

Mr. Jones noted the concern that in 2013 police were deployed not on a system-wide level, but overwhelmingly to black and Latino communities and had he known about Staten Island and other areas showing increases in fare evasion, perhaps there could have been more equitable enforcement. He urged enforcement to be deployed equitably, and wants to ensure any enforcement is not race-based. Mr. Jones noted that the concern was raised to the Manhattan District Attorney, and the inequity may have laid the groundwork in the decision to stop prosecutions. Mr. Jones voiced a hope that the ½ price fare for lower income residents in the City will be helpful. Mr. Byford noted again that he is not blaming any individual, and that there is a correlation, but it is just statement of fact. Mr. Byford confirmed that he will discuss with the police chief that enforcement cannot be against any one demographic.

Mr. Moerdler proposed that the NYPD Transit Bureau go on the buses as well as the subways and crack down on recidivists. He further proposed that MTA have a prosecutor to handle enforcement actions and that there should be judges on the bench that will act on the issue. Mr. Weisbrod questioned the decision regarding Eagle Teams and asked why they are not being deployed more heavily on buses. He further noted that additional enforcement may be needed to reduce evasion and he is concerned about the message that fare evasion send to those riders who pay and it is incumbent on MTA to fix the problem. Mr. Byford discussed that a survey is being considered to better understand why it is happening. Mr. Greenberg asked about the process for enforcement. Mr. Diehl noted that the action was in 2013 in Staten Island, and that behavior modification was utilized. Mr. Greenberg noted that the goal to is to get people to pay the fare not throw people in jail, so he would be interested in knowing how other systems handle enforcement. Mr. Greenberg further noted there should be equity in how toll evaders and fare evaders are treated. Mr. Jones added that the preliminary data shows arrest rate in Staten Island is almost nil, and had concerns about how many people receiving summons can pay the fine because if they cannot afford the fare, how can they afford the fine. He again noted the need to ensure that there is equity in enforcement. Mr. Jones asked about the ½ fare payment program and how it will be implemented. Mr. Mulligan noted that the City chose the products for the program, and all products were available, but they are in continued discussions to fine tune the offering.

Chairman Schwartz thanked the Agency Presidents for their presentations and for the fare evasion report, noting that the information has been helpful. He noted that going forward he thinks there should be goals set by the agencies for reductions in fare evasion and there should be comparative statistics provided to the Board monthly. Additionally, Chairman Schwartz proposed looking at tying any fare and toll increase to measured achievements in fare evasion reduction goals.

#### **IV. Adjournment**

Upon motion duly made and seconded, the December 3, 2018 special meeting of the Finance Committee was adjourned at 12:54 PM.

Respectfully submitted,

Marcia Tannian  
Deputy Director, Finance

**[THIS PAGE INTENTIONALLY LEFT BLANK]**

# DRAFT 2019 Finance Committee Work Plan

---

## I. RECURRING AGENDA ITEMS

BudgetWatch  
FinanceWatch  
Approval of Minutes  
Procurements (if any)  
Action Items (if any)  
MTA Consolidated Reports

### Responsibility

MTA Div. Mgmt/Budget  
MTA Finance  
Board Secretary  
Procurement  
Agency  
MTA Budget

## II. SPECIFIC AGENDA ITEMS

### Responsibility

### January 2019

#### *Other:*

Special Report: Finance Department 2018 Year-End Review  
DRAFT MTA Financial Statements 3<sup>rd</sup> Quarter for the Nine-Months  
Ended September 2018

MTA Finance

MTA Comptroller

### February 2019

#### *Action Items:*

2018 TBTA Operating Surplus  
Mortgage Recording Tax – Escalation Payments to Dutchess,  
Orange and Rockland Counties

B&T/MTA

MTA Treasury, MTA  
Div. Mgmt/Budget

#### *Other:*

February Financial Plan 2019-2022

MTA Div. Mgmt/Budget

### March 2019

#### *Action Items:*

All-Agency Real Property Disposition Guidelines and All-Agency  
Personal Property Disposition Guidelines

MTA Real Estate/MTA  
Corporate Compliance

All-Agency Annual Procurement Report

MTA Proc., Agencies

#### *Other:*

MTA Prompt Payment Annual Report 2018  
Contract Change Order Report

MTA BSC

MTA Proc., Agencies

### April 2019

#### *Action Item:*

MTA 2018 Annual Investment Report

MTA Treasury

#### *Other:*

Annual Report on Variable Rate Debt  
DRAFT MTA Financial Statements Fiscal Year-End Twelve-Months  
Ended December 2018

MTA Finance

MTA Comptroller

**May 2019**

Other:

Station Maintenance Billings Approval	MTA Comptroller
Annual Pension Fund Report (Audit Committee Members to be invited)	MTA Labor
Annual FMTAC Meeting	MTA RIM
Annual FMTAC Investment Performance Report	MTA RIM

**June 2019**

*Action Item:*

PWEF Assessment	MTA Capital Program Mgmt/ MTA Div. Mgmt/Budget
-----------------	---

Other:

Update on IT Transformation	MTA Information Technology
Update on Procurement Consolidation	MTA Procurement
Contract Change Order Report	MTA Proc., Agencies
DRAFT MTA Financial Statements 1 <sup>st</sup> Quarter for the Three-Months Ended March 2019	MTA Comptroller

**July 2019**

2020 Preliminary Budget/July Financial Plan 2020-2023 (Joint Session with MTA Board)	MTA Div. Mgmt/Budget
---	----------------------

**September 2019**

2020 Preliminary Budget/July Financial Plan 2020-2023 (materials previously distributed)	MTA Div. Mgmt/Budget
---	----------------------

*Action Item:*

Resolution to Authorize the Execution, Filing and Acceptance of Federal Funds	MTA Grant Mgmt.
--	-----------------

Other:

Contract Change Order Report	MTA Proc., Agencies
DRAFT MTA Financial Statements 2 <sup>nd</sup> Quarter for the Six-Months Ended June 2019	MTA Comptroller

**October 2019**

2020 Preliminary Budget/July Financial Plan 2020-2023 (materials previously distributed)	MTA Div. Mgmt/Budget
---	----------------------

*Other:*

Update on the Business Service Center	MTA BSC
Annual Review of MTA's Derivative Portfolio - Including Fuel Hedge	MTA Finance
MTA 2019 Semi-Annual Investment Report	MTA Treasury

**November 2019**

2020 Final Proposed Budget/November Financial Plan 2020-2023 (Joint Session with MTA Board)	MTA Div. Mgmt/Budget
--	----------------------

*Other:*

Station Maintenance Billing Update	MTA Comptroller
Review and Assessment of the Finance Committee Charter	MTA CFO

**December 2019**

Adoption of 2020 Budget and 2020-2023 Financial Plan

MTA Div. Mgmt/Budget

*Action Items:*

Authorization to issue New Money Transportation Revenue Bonds, Dedicated Tax Fund Bonds, TBTA General Revenue Bonds, and TBTA Subordinated Revenue Bonds

MTA Finance

Approval of Supplemental Resolutions Authorizing Refunding Bonds MTA and TBTA Reimbursement Resolutions for Federal Tax Purposes

MTA Finance

MTA Treasury

*Other:*

Draft 2019 Finance Committee Work Plan  
Contract Change Order Report

MTA Div. Mgmt/Budget

MTA Proc., Agencies

**III. DETAILS**

**January 2019**

*Other:*

Special Report: Finance Department 2018 Year-End Review

The MTA Finance Department will present a report that summarizes financing activities for 2018.

DRAFT MTA Financial Statements for the Nine-Months Ended, September 2019

Included for information is a copy of the Independent Accountant's Review Report of MTA Financial Statements for the nine-months ended, September 30, 2019.

**February 2019**

*Action Items:*

2018 TBTA Operating Surplus

MTA Bridges and Runnels should be prepared to answer questions on a staff summary requesting (1) transfer of TBTA 2018 Operating Surplus and Investment Income, (2) advances of TBTA 2018 Operating Surplus, and (3) the deduction from 2018 TBTA Operating Revenue, funds which shall be paid into the Necessary Reconstruction Reserve.

Mortgage Recording Tax – Escalation Payments to Dutchess, Orange and Rockland Counties

By State statute, each of these counties is entitled to a share of MTA's MRT-2 tax receipts. The amount may be no less than they received in 1987 (even if the taxes collected fall below the 1987 levels), but there are proportional upward adjustments if taxes collected in the particular county exceed the 1987 totals. Such upward adjustments are expected to be required this year, based on the 2009 experience thus far. The MTA Budget and Treasury Division will be prepared to answer questions on the related Staff Summary authorizing the payments.

Other:

February Financial Plan 2019-2022

The MTA Division of Management and Budget will present for information purposes a revised 2019-2022 Financial Plan reflecting any technical adjustments from the Adopted Budget and the incorporation of certain “below-the-line” policy actions into the baseline.

**March 2019**

*Action Items:*

All-Agency Real Property Disposition Guidelines and All-Agency Personal Property Disposition Guidelines

Board approval of above guidelines as required annually by Public Authorities Law Sections 2895-2897. MTA Real Estate and MTA Corporate Compliance should be prepared to answer questions regarding these guidelines.

All-Agency Annual Procurement Report

The Agencies and the MTA Procurement Division should be prepared to answer questions on this voluminous State-required report.

*Other:*

MTA Annual Prompt Payment Status Report

The Senior Director of the MTA Business Service Center should be prepared to discuss a report, to be included in the Agenda materials, that reviews MTA-wide success in meeting mandated prompt-payment deadlines (including the interest penalties incurred as a result of late payment).

Contract Change Order Report

Change orders that would have required Board approval prior to the July 2013 Governance Committee measure increasing the approval threshold to \$750,000 are included in this quarterly report, for information only. All such contract change orders are reported to the Finance Committee; in addition, such capital contract change orders are reported to the CPOC Committee.

**April 2019**

Action Item:

MTA Annual Investment Report

The MTA Treasury Division should be prepared to answer questions on this State-required report.

*Other:*

Annual Report on Variable Rate Debt

The MTA Finance Department will present a report that summarizes the performance of the MTA's various variable-rate debt programs, including a discussion of the savings (compared to long-term rates) achieved through variable rate debt and a discussion on the current policy and limits on the use of variable rate debt.

## DRAFT MTA Financial Statements for the Twelve-Months Ended, December 2018

Included for information is a copy of the Independent Accountant's Audit Report of MTA Financial Statements for the Twelve-Months ended, December 31, 2018.

### **May 2019**

*Other:*

#### Station Maintenance Billings Approval

Under the Public Authorities Law, the Board is required to certify to the City and the counties in the Metropolitan Transportation District the total costs to MTA for operating and maintaining Commuter Railroad passenger stations. The City and county assessments are both now determined through a formula.

#### Annual Pension Fund Report

The MTA Labor Division, representatives of the various pension fund boards, and their pension consultants should be prepared to answer questions on a report, to be included in the Agenda materials, that reviews the 2018 investment performance and other experience of the various MTA pension funds. Among other matters, this report should (i) make recommendations on appropriate investment-earnings assumptions in light of the experience of the past three years; (ii) discuss the implications for asset allocations in light of such recommendations; (iii) discuss the effect on (under) funding of the systems in light of such performance and recommendation; (iv) provide appropriate comparisons with other public pension systems; and (v) solicit the opinions of the Board Operating Committees on these recommendations in light of their effects on Agency budgets.

#### Annual Meeting of the First Mutual Transportation Assurance Company

The MTA's Captive Insurance Company will hold its statutorily required annual meeting in which it will review the prior year's operations as well as submit its financial statements and actuarial report for final approval. The MTA Risk and Insurance Management Divisions, along with the FMTAC's outside investment managers, should be prepared to answer questions on reports.

### **June 2019**

*Action Item:*

#### PWEF Assessment

The MTA Division of Management and Budget, assisted by MTA Capital Program Management, should prepare the usual annual staff summary authorizing the payment of this assessment to the State. The State levies an assessment of the value of construction-contract awards to cover its cost of enforcing prevailing-wage legislation.

*Other:*

#### IT Transformation

IT Management will present progress made to date to promote IT Transformation. A general organizational overview will be provided and an outline of key milestones and project deliverables will be shared. Initiatives that have made IT more resilient will also be discussed.

#### Update on Procurement Consolidation

Procurement Management will present progress made to date to promote Non-Core Procurement Consolidation. A general organizational overview will be provided and an outline of key milestones and project deliverables will be shared.

#### Contract Change Order Report

Change orders that would have required Board approval prior to the July 2013 Governance Committee measure increasing the approval threshold to \$750,000 are included in this quarterly report, for information only. All such contract change orders are reported to the Finance Committee; in addition, such capital contract change orders are reported to the CPOC Committee.

#### DRAFT MTA Financial Statements for the Three-Months Ended, March 2019

Included for information is a copy of the Independent Accountant's Review Report of MTA Financial Statements for the Three-Months ended, March 31, 2019.

#### **July 2019**

##### 2020 Preliminary Budget/July Financial Plan 2020-2023 (JOINT Session with MTA Board)

The Chief Financial Officer and MTA Budget Division will present an updated forecast for 2019, a Preliminary Budget for 2020, and a Financial Plan for 2020-2023.

#### **September 2019**

##### 2020 Preliminary Budget/July Financial Plan 2020-2023

Public comment will be accepted on the 2020 Preliminary Budget.

#### *Action Item:*

##### Resolution to Authorize the Execution, Filing and Acceptance of Federal Funds

The MTA Office of Grant Management will hold a public hearing in accordance with Federal law and then request the Board's approval of a resolution that would authorize the Chairman or a designated officer to execute the applications and accept grants of financial assistance from the Federal government.

#### *Other:*

##### Contract Change Order Report

Change orders that would have required Board approval prior to the July 2013 Governance Committee measure increasing the approval threshold to \$750,000 are included in this quarterly report, for information only. All such contract change orders are reported to the Finance Committee; in addition, such capital contract change orders are reported to the CPOC Committee.

#### DRAFT MTA Financial Statements for the Six-Months Ended, June 2019

Included for information is a copy of the Independent Accountant's Review Report of MTA Financial Statements for the Six-Months ended, June 30, 2019.

## **October 2019**

### **2020 Preliminary Budget/July Financial Plan 2020-2023**

Public comment will be accepted on the 2020 Preliminary Budget.

*Other:*

### **Update on Business Service Center**

The Business Service Center will provide an update on its initiatives and upcoming project milestones. Operational performance metrics will also be shared.

### **Annual Review of MTA's Derivative Portfolio – Including Fuel Hedge**

The Finance Department will provide an update on MTA's portfolio of derivative contracts.

### **MTA 2019 Semi-Annual Investment Report**

The MTA Treasury Division should be prepared to answer questions on this report.

## **November 2019**

### **2020 Final Proposed Budget/November Financial Plan 2020-2023 (Joint Session with MTA Board)**

The Chief Financial Officer and MTA Budget Division will present an updated forecast for 2020, a Final Proposed Budget for 2020, and an updated Financial Plan for 2020-2023.

*Other:*

### **Station Maintenance Billing Update**

The MTA Comptroller Division will provide a report on the collection and audit status of station maintenance billings issued as of June 1, 2019.

### **Review and Assessment of the Finance Committee Charter**

MTA Chief Financial Officer will present the most updated Finance Committee Charter to the Finance Committee members for them to review and assess its adequacy. The annual assessment is required under the current Committee Charter.

## **December 2019**

### **Adoption of 2020 Budget and 2020-2023 Financial Plan**

The Committee will recommend action to the Board on the Final Proposed Budget for 2020 and 2020-2023 Financial Plan.

*Action Items:*

### **Approval of Supplemental Resolutions Authorizing New Money Bonds.**

Board approval to allow for the issuance of new money bonds to fund existing approved bond financed capital projects under the Transportation Revenue Bond Obligation Resolution, the Dedicated Tax Fund Obligation Resolution, and in the case of Bridge & Tunnel Capital Projects, the Triborough Bridge and Tunnel Authority Senior and Subordinate Obligation Resolutions.

Approval of Supplemental Resolutions Authorizing Refunding Bonds

Board action required to allow for the refunding to fixed-rate bonds from time to time provided that such refundings comply with the Board approved refunding policy.

Approval of MTA and TBTA Reimbursement Resolutions for Federal Tax Purposes.

Board approval required to allow for the reimbursement of capital expenditures at a later date from the proceeds of tax-exempt bond sales.

*Other:*

Draft 2020 Finance Committee Work Plan

The MTA Chief Financial Officer will present a proposed 2020 Finance Committee Work Plan that will address major issues, SBP and budget process issues, and reports required by statute.

Contract Change Order Report

Change orders that would have required Board approval prior to the July 2013 Governance Committee measure increasing the approval threshold to \$750,000 are included in this quarterly report, for information only. All such contract change orders are reported to the Finance Committee; in addition, such capital contract change orders are reported to the CPOC Committee.

# FinanceWatch

December 10, 2018

## **Financing Activity**

### **\$82,500,000 Triborough Bridge and Tunnel Authority General Revenue**

#### **Variable Rate Refunding Bonds, Subseries 2005B-4c**

On November 28, 2018, MTA effectuated a mandatory tender and remarketed \$43.800 million of Triborough Bridge and Tunnel Authority General Revenue Variable Rate Refunding Bonds, Subseries 2005B-4d and \$38.700 million of Triborough Bridge and Tunnel Authority General Revenue Variable Rate Refunding Bonds, Subseries 2005B-4c because their current interest rate periods are set to expire by their terms. Both the Subseries 2005B-4c and 2005B-4d Bonds will be combined into one series, Subseries 2005B-4c, and remarketed as Variable Interest Rate Obligations in Daily Mode supported by an irrevocable direct-pay Letter of Credit issued by U.S. Bank National Association. The LOC will expire on May 26, 2022. U.S. Bank Municipal Securities Group will serve as remarketing agent.

Orrick, Herrington & Sutcliffe LLP and Bryant Rabbino LLP served as co-bond counsel, and Public Resources Advisory Group and Rockfleet Financial Services, Inc. served as co-financial advisors.

## **Upcoming Transaction**

### **\$148,470,000 Triborough Bridge and Tunnel Authority**

#### **General Revenue Variable Rate Refunding Bonds, Series 2018E**

In December 2018, MTA will issue \$148.470 million of Triborough Bridge and Tunnel Authority General Revenue Variable Rate Refunding Bonds, Series 2018E. Proceeds from the transaction will be used to refund MTA Bridges and Tunnels Subordinate Revenue Bonds, Subseries 2013D-2a and Subseries 2013D-2b. The Series 2018E bonds will be issued as taxable Variable Interest Rate Obligations in Weekly Mode supported by an irrevocable direct-pay LOC issued by Bank of America, N.A. The LOC will expire on December 12, 2022. BofA Merrill Lynch will serve as remarketing agent.

Orrick, Herrington & Sutcliffe LLP and Bryant Rabbino LLP will serve as co-bond counsel, and Public Resources Advisory Group and Backstrom McCarley will serve as co-financial advisors.

## **Fuel Hedging Program**

### **\$5,808,468 Diesel Fuel Hedge**

On November 27, 2018, MTA executed a 3,023,197 gallon ultra-low sulfur diesel fuel hedge with Merrill Lynch Commodities, Inc. at an all-in price of \$1.9213/gallon. MTA's existing approved commodity counterparties participated in bidding on the transaction: Cargill Incorporated; Goldman, Sachs & Co./ J Aron; J.P. Morgan Ventures Energy Corporation; Macquarie Group; and Merrill Lynch Commodities, Inc. The hedge covers the period from November 2019 through October 2020.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - Adopted Budget**

**Debt Service**

**October 2018**

(\$ in millions)

	<b>Mid-Year Forecast</b>	<b>Actual</b>	<b>Variance</b>	<b>% Var</b>	<b>Explanation</b>
<i>Dedicated Tax Fund:</i>					
NYC Transit	\$11.5	\$6.7	\$4.7		
Commuter Railroads	2.5	1.4	1.1		
<b>Dedicated Tax Fund Subtotal</b>	<b>\$14.0</b>	<b>\$8.1</b>	<b>\$5.8</b>	<b>41.7%</b>	Timing of debt service deposits.
<i>MTA Transportation Revenue:</i>					
NYC Transit	\$78.9	\$114.2	(\$35.3)		Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
Commuter Railroads	51.9	74.3	(22.4)		
MTA Bus	2.1	1.0	1.1		
SIRTOA	0.1	0.1	0.1		
<b>MTA Transportation Revenue Subtotal</b>	<b>\$133.1</b>	<b>\$189.6</b>	<b>(\$56.5)</b>	<b>-42.5%</b>	
<i>2 Broadway COPs:</i>					
NYC Transit	\$0.6	\$0.3	\$0.3		
Bridges & Tunnels	0.1	0.1	0.0		
MTA HQ	0.0	0.0	0.0		
Commuter Railroads	0.2	0.1	0.1		
<b>2 Broadway COPs Subtotal</b>	<b>\$0.9</b>	<b>\$0.5</b>	<b>\$0.4</b>	<b>47.8%</b>	
<i>TBTA General Resolution (2):</i>					
NYC Transit	\$16.7	\$22.8	(\$6.1)		Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
Commuter Railroads	7.6	10.3	(2.7)		
Bridges & Tunnels	22.2	29.7	(7.5)		
<b>TBTA General Resolution Subtotal</b>	<b>\$46.5</b>	<b>\$62.7</b>	<b>(\$16.3)</b>	<b>-35.1%</b>	
<i>TBTA Subordinate (2):</i>					
NYC Transit	\$5.7	\$7.7	(\$1.9)		Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
Commuter Railroads	3.0	4.0	(1.0)		
Bridges & Tunnels	1.4	1.9	(0.5)		
<b>TBTA Subordinate Subtotal</b>	<b>\$10.2</b>	<b>\$13.6</b>	<b>(\$3.5)</b>	<b>-34.0%</b>	
<b>Total Debt Service</b>	<b>\$204.6</b>	<b>\$274.6</b>	<b>(\$70.0)</b>	<b>-34.2%</b>	
<i>Debt Service by Agency:</i>					
NYC Transit	\$113.5	\$151.7	(\$38.3)		
Commuter Railroads	65.2	90.1	(25.0)		
MTA Bus	2.1	1.0	1.1		
SIRTOA	0.1	0.1	0.1		
Bridges & Tunnels	23.7	31.7	(8.0)		
MTAHQ	0.0	0.0	0.0		
<b>Total Debt Service</b>	<b>\$204.6</b>	<b>\$274.6</b>	<b>(\$70.0)</b>	<b>-34.2%</b>	

**Notes:**

(1) Forecasted debt service is calculated based upon projected monthly deposits from available pledged revenues into debt service accounts. Actual payments to bondholders are made from the debt service accounts when due as required for each series of bonds and do not conform to this schedule.

(2) Generally, the calendarization of monthly debt service deposits is calculated by dividing projected annual debt service by 12. Month to month variations ("timing differences") on the existing debt portfolio can occur based upon, among other things, (a) for all bonds, the date when income from the securities in which the debt service accounts are invested becomes available varies, (b) for variable rate financings, differences between (i) the budgeted interest rate and the actual interest rate, (ii) projected interest payment dates to bondholders and actual interest payment dates to bondholders, and (iii) projected monthly funding dates for accrued debt service and actual funding dates, (c) for transactions with swaps, the difference between when MTA/TBTA funds debt service and the receipt of the corresponding swap payment by the counterparty, and difference between rates received and rates paid and (d) for commercial paper, the interest payment date is the date of the maturity of the commercial paper and the dealers set the term of the commercial paper from 1 to 270 days, which is not foreseeable at the time the annual debt service budgets are prepared.

(3) Debt service is allocated among Transit, Commuter, MTA Bus, and TBTA categories based on actual spending of bond proceeds for approved capital projects. Allocation of 2 Broadway COPs is based on occupancy.

Totals may not add due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**JULY FINANCIAL PLAN - Adopted Budget**  
**Debt Service**  
**October 2018 Year-to-Date**  
(\$ in millions)

	Mid-Year Forecast	Actual	Variance	% Var	Explanation
<i>Dedicated Tax Fund:</i>					
NYC Transit	\$274.6	\$274.3	\$0.3		
Commuter Railroads	58.2	57.1	1.1		
<b>Dedicated Tax Fund Subtotal</b>	<b>\$332.8</b>	<b>\$331.4</b>	<b>\$1.4</b>	<b>0.4%</b>	Timing of debt service deposits.
<i>MTA Transportation Revenue:</i>					
NYC Transit	\$764.7	\$804.2	(\$39.6)		
Commuter Railroads	495.5	515.0	(19.6)		
MTA Bus	14.4	8.0	6.4		
SIRTOA	1.0	0.9	0.2		
<b>MTA Transportation Revenue Subtotal</b>	<b>\$1,275.6</b>	<b>\$1,328.1</b>	<b>(\$52.5)</b>	<b>-4.1%</b>	Timing of debt service deposits.
<i>2 Broadway COPs:</i>					
NYC Transit	\$5.0	\$3.4	\$1.6		
Bridges & Tunnels	0.8	0.5	0.2		
MTA HQ	0.0	0.0	0.0		
Commuter Railroads	1.5	1.0	0.5		
<b>2 Broadway COPs Subtotal</b>	<b>\$7.3</b>	<b>\$4.9</b>	<b>\$2.4</b>	<b>32.3%</b>	
<i>TBTA General Resolution (2):</i>					
NYC Transit	\$162.4	\$167.4	(\$5.0)		
Commuter Railroads	73.4	75.7	(2.2)		
Bridges & Tunnels	213.2	217.7	(4.5)		
<b>TBTA General Resolution Subtotal</b>	<b>\$449.1</b>	<b>\$460.8</b>	<b>(\$11.7)</b>	<b>-2.6%</b>	
<i>TBTA Subordinate (2):</i>					
NYC Transit	\$58.1	\$58.7	(\$0.6)		
Commuter Railroads	29.0	29.3	(0.3)		
Bridges & Tunnels	17.0	17.1	(0.1)		
<b>TBTA Subordinate Subtotal</b>	<b>\$104.0</b>	<b>\$105.0</b>	<b>(\$1.0)</b>	<b>-1.0%</b>	
<b>Total Debt Service</b>	<b>\$2,168.8</b>	<b>\$2,230.2</b>	<b>(\$61.4)</b>	<b>-2.8%</b>	
<i>Debt Service by Agency:</i>					
NYC Transit	\$1,264.8	\$1,307.9	(\$43.1)		
Commuter Railroads	657.6	678.1	(20.5)		
MTA Bus	14.4	8.0	6.4		
SIRTOA	1.0	0.9	0.2		
Bridges & Tunnels	230.9	235.3	(4.4)		
MTAHQ	0.0	0.0	0.0		
<b>Total Debt Service</b>	<b>\$2,168.8</b>	<b>\$2,230.2</b>	<b>(\$61.4)</b>	<b>-2.8%</b>	

**Notes:**

(1) Forecasted debt service is calculated based upon projected monthly deposits from available pledged revenues into debt service accounts. Actual payments to bondholders are made from the debt service accounts when due as required for each series of bonds and do not conform to this schedule.

(2) Generally, the calendarization of monthly debt service deposits is calculated by dividing projected annual debt service by 12. Month to month variations ("timing differences") on the existing debt portfolio can occur based upon, among other things, (a) for all bonds, the date when income from the securities in which the debt service accounts are invested becomes available varies, (b) for variable rate financings, differences between (i) the budgeted interest rate and the actual interest rate, (ii) projected interest payment dates to bondholders and actual interest payment dates to bondholders, and (iii) projected monthly funding dates for accrued debt service and actual funding dates, (c) for transactions with swaps, the difference between when MTA/TBTA funds debt service and the receipt of the corresponding swap payment by the counterparty, and difference between rates received and rates paid and (d) for commercial paper, the interest payment date is the date of the maturity of the commercial paper and the dealers set the term of the commercial paper from 1 to 270 days, which is not foreseeable at the time the annual debt service budgets are prepared.

(3) Debt service is allocated among Transit, Commuter, MTA Bus, and TBTA categories based on actual spending of bond proceeds for approved capital projects. Allocation of 2 Broadway COPs is based on occupancy.

Totals may not add due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY  
VARIABLE RATE: WEEKLY MODE  
RATE RESETS REPORT (Trailing 6-Weeks)**

Issue		TRB 2005E-1	TRB 2005E-2	TRB 2005E-3	TRB 2005D-1	TRB 2002G-1g					
Remarketing Agent		PNC Capital	BofA Merrill	PNC Capital	BofA Merrill	Goldman					
Liquidity Provider		PNC	BofA Merrill	PNC	Helaba	TD Bank					
Liquidity/Insurer		LoC	LoC	LoC	LoC	LoC					
Par Outstanding (\$m)		95.18	71.39	71.39	137.18	42.55					
Swap Notional (\$m)		57.11	42.83	42.83	137.18	38.25					
Date	SIFMA	Spread to		Spread to		Spread to		Spread to		Spread to	
		Rate	SIFMA	Rate	SIFMA	Rate	SIFMA	Rate	SIFMA	Rate	SIFMA
10/24/2018	1.60%	1.60%	0.00%	1.60%	0.00%	1.60%	0.00%	1.62%	0.02%	1.56%	-0.04%
10/31/2018	1.61%	1.63%	0.02%	1.58%	-0.03%	1.63%	0.02%	2.16%	0.55%	1.56%	-0.05%
11/7/2018	1.62%	1.62%	0.00%	1.59%	-0.03%	1.62%	0.00%	2.19%	0.57%	1.56%	-0.06%
11/14/2018	1.66%	1.64%	-0.02%	1.64%	-0.02%	1.64%	-0.02%	2.19%	0.53%	1.60%	-0.06%
11/21/2018	1.69%	1.69%	0.00%	1.66%	-0.03%	1.69%	0.00%	2.19%	0.50%	1.62%	-0.07%
11/28/2018	1.69%	1.67%	-0.02%	1.70%	0.01%	1.67%	-0.02%	Now a LIBOR FRN		1.61%	-0.08%

**Transportation Revenue Bonds**

**Dedicated Tax Fund Bonds**

Issue		TRB 2012G-2	TRB 2015E-4	DTF 2002B-1			
Remarketing Agent		TD Securities	PNC Capital	US Bank			
Liquidity Provider		TD Bank	PNC	Tokyo Mitsubishi			
Liquidity/Insurer		LoC	LoC	LoC			
Par Outstanding (\$m)		125.00	70.35	150.00			
Swap Notional (\$m)		125.00	None	None			
Date	SIFMA	Spread to		Spread to		Spread to	
		Rate	SIFMA	Rate	SIFMA	Rate	SIFMA
10/24/2018	1.60%	1.60%	0.00%	1.60%	0.00%	1.60%	0.00%
10/31/2018	1.61%	1.60%	-0.01%	1.63%	0.02%	1.60%	-0.01%
11/7/2018	1.62%	1.60%	-0.02%	1.62%	0.00%	1.62%	0.00%
11/14/2018	1.66%	1.64%	-0.02%	1.64%	-0.02%	1.66%	0.00%
11/21/2018	1.69%	1.66%	-0.03%	1.69%	0.00%	1.68%	-0.01%
11/28/2018	1.69%	1.65%	-0.04%	1.67%	-0.02%	1.68%	-0.01%

**TBTA General Revenue Bonds**

Issue		TBTA 2005A	TBTA SUB 2013D-2a	TBTA SUB 2013D-2b			
Remarketing Agent		TD Securities	BofA Merrill	BofA Merrill			
Liquidity Provider		TD Bank	BofA Merrill	BofA Merrill			
Liquidity/Insurer		LoC	LoC (Taxable)	LoC (Taxable)			
Par Outstanding (\$m)		110.71	58.02	90.45			
Swap Notional (\$m)		22.65	None	None			
Outstanding (\$m)	SIFMA	Spread to		Spread to		Spread to	
		Rate	SIFMA	Rate	SIFMA	Rate	SIFMA
10/23/2018	1.60%	1.58%	-0.02%	2.19%	0.59%	2.19%	0.59%
10/30/2018	1.61%	1.60%	-0.01%	2.21%	0.60%	2.21%	0.60%
11/6/2018	1.62%	1.59%	-0.03%	2.22%	0.60%	2.22%	0.60%
11/13/2018	1.66%	1.65%	-0.01%	2.22%	0.56%	2.22%	0.56%
11/20/2018	1.69%	1.66%	-0.03%	2.24%	0.55%	2.24%	0.55%
11/27/2018	1.69%	1.64%	-0.05%	2.25%	0.56%	2.25%	0.56%

Report Date 11/27/2018

**METROPOLITAN TRANSPORTATION AUTHORITY  
VARIABLE RATE: FLOATING RATE NOTES (SIFMA)  
RATE RESETS REPORT (Trailing 6-Weeks)**

**Transportation Revenue Bonds**

Issue		TRB 2012A-2	TRB 2012A-3	TRB 2014D-2	TRB 2015A-2				
Remarketing Agent		N/A	N/A	N/A	N/A				
Initial Purchase Date		06/01/19	04/01/19	11/15/2022	6/1/2020				
Liquidity/Insurer		None	None	None	None				
Par Outstanding (\$m)		50.00	50.00	165.00	250.00				
Swap Notional (\$m)		None	None	None	None				
Date	SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA
10/24/2018	1.60%	2.18%	0.58%	2.10%	0.50%	2.05%	0.45%	2.18%	0.58%
10/31/2018	1.61%	2.19%	0.58%	2.11%	0.50%	2.06%	0.45%	2.19%	0.58%
11/7/2018	1.62%	2.20%	0.58%	2.12%	0.50%	2.07%	0.45%	2.20%	0.58%
11/14/2018	1.66%	2.24%	0.58%	2.16%	0.50%	2.11%	0.45%	2.24%	0.58%
11/21/2018	1.69%	2.27%	0.58%	2.19%	0.50%	2.14%	0.45%	2.27%	0.58%
11/28/2018	1.69%	2.27%	0.58%	2.19%	0.50%	2.14%	0.45%	2.27%	0.58%

**Dedicated Tax Fund Bonds**

Issue		DTF 2002B-3b	DTF 2002B-3c	DTF 2002B-3d			
Remarketing Agent		N/A	N/A	N/A			
Initial Purchase Date		11/01/18	11/01/19	11/01/20			
Liquidity/Insurer		None	None	None			
Par Outstanding (\$m)		48.60	50.70	15.90			
Swap Notional (\$m)		None	None	None			
Date	SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA
10/24/2018	1.60%	2.50%	0.90%	2.55%	0.95%	2.60%	1.00%
10/31/2018	1.61%	2.51%	0.90%	2.56%	0.95%	2.61%	1.00%
11/7/2018	1.62%			2.57%	0.95%	2.62%	1.00%
11/14/2018	1.66%	Matured on 11/1/2018		2.61%	0.95%	2.66%	1.00%
11/21/2018	1.69%			2.64%	0.95%	2.69%	1.00%
11/28/2018	1.69%			2.64%	0.95%	2.69%	1.00%

Issue		DTF 2008A-2a	DTF 2008A-2b	DTF 2008B-3c			
Remarketing Agent		N/A	N/A	N/A			
Initial Purchase Date		06/01/22	11/01/19	11/01/19			
Liquidity/Insurer		None	None	None			
Par Outstanding (\$m)		81.37	84.86	44.74			
Swap Notional (\$m)		79.96	83.47	None			
Date	SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA
10/24/2018	1.60%	2.05%	0.45%	2.18%	0.58%	2.05%	0.45%
10/31/2018	1.61%	2.06%	0.45%	2.19%	0.58%	2.06%	0.45%
11/7/2018	1.62%	2.07%	0.45%	2.20%	0.58%	2.07%	0.45%
11/14/2018	1.66%	2.11%	0.45%	2.24%	0.58%	2.11%	0.45%
11/21/2018	1.69%	2.14%	0.45%	2.27%	0.58%	2.14%	0.45%
11/28/2018	1.69%	2.14%	0.45%	2.27%	0.58%	2.14%	0.45%

**TBTA General Revenue Bonds**

Issue		TBTA SUB 2000ABCD-5	
Remarketing Agent		N/A	
Initial Purchase Date		1/1/2019	
Liquidity/Insurer		None	
Par Outstanding (\$m)		18.85	
Swap Notional (\$m)		11.15	
Date	SIFMA	Rate	Spread to SIFMA
10/24/2018	1.60%	2.04%	0.44%
10/31/2018	1.61%	2.05%	0.44%
11/7/2018	1.62%	2.06%	0.44%
11/14/2018	1.66%	2.10%	0.44%
11/21/2018	1.69%	2.13%	0.44%
11/28/2018	1.69%	2.13%	0.44%

Report Date 11/27/2018

**METROPOLITAN TRANSPORTATION AUTHORITY  
VARIABLE RATE: FLOATING RATE NOTES (LIBOR)  
RATE RESETS REPORT (Trailing 6-Weeks)**

**Transportation Revenue Bonds**

Issue		TRB 2002D-2a-1	TRB 2002D-2a-2	TRB 2002D-2b			
Remarketing Agent		N/A	N/A	N/A			
Initial Purchase Date		4/6/2020	4/6/2021	4/1/2021			
Liquidity/Insurer		None	None	None			
Par Outstanding (\$m)		50.00	50.00	100.00			
Swap Notional (\$m)		50.00	50.00	100.00			
Date	69% of 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR
10/24/2018	1.56%	2.13%	0.57%	2.24%	0.68%	1.86%	0.30%
10/31/2018	1.56%	2.16%	0.60%	2.27%	0.71%	1.89%	0.33%
11/7/2018	1.59%	2.16%	0.57%	2.27%	0.68%	1.89%	0.30%
11/14/2018	1.59%	2.16%	0.57%	2.27%	0.68%	1.89%	0.30%
11/21/2018	1.59%	2.16%	0.57%	2.27%	0.68%	1.89%	0.30%
11/28/2018	1.59%	2.16%	0.57%	2.27%	0.68%	1.89%	0.30%

Issue		TRB 2002G-1f	TRB 2002G-1h	TRB 2005D-1	TRB 2011B				
Remarketing Agent		N/A	N/A	N/A	N/A				
Initial Purchase Date		7/1/2021	2/1/2022	7/1/2021	11/1/2022				
Liquidity/Insurer		None	None	None	None				
Par Outstanding (\$m)		38.27	56.89	137.18	99.56				
Swap Notional (\$m)		38.27	51.14	137.18	69.59				
Date	67% of 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR
10/24/2018	1.51%	1.99%	0.48%	2.33%	0.82%	WAS IN WEEKLY MODE		2.06%	0.55%
10/31/2018	1.51%	2.16%	0.65%	2.36%	0.85%	2.16%	0.65%	2.09%	0.58%
11/7/2018	1.54%	2.19%	0.65%	2.36%	0.82%	2.19%	0.65%	2.09%	0.55%
11/14/2018	1.54%	2.19%	0.65%	2.36%	0.82%	2.19%	0.65%	2.09%	0.55%
11/21/2018	1.54%	2.19%	0.65%	2.36%	0.82%	2.19%	0.65%	2.09%	0.55%
11/28/2018	1.54%	2.19%	0.65%	2.36%	0.82%	2.19%	0.65%	2.09%	0.55%

Issue		TRB 2012G-1	TRB 2012G-3	TRB 2012G-4			
Remarketing Agent		N/A	N/A	N/A			
Initial Purchase Date		11/1/2019	2/1/2020	11/1/2022			
Liquidity/Insurer		None	None	None			
Par Outstanding (\$m)		84.45	75.00	72.70			
Swap Notional (\$m)		84.45	75.00	72.70			
Date	67% of 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR
10/24/2018	1.51%	1.81%	0.30%	2.21%	0.70%	2.06%	0.55%
10/31/2018	1.51%	1.84%	0.33%	2.24%	0.73%	2.09%	0.58%
11/7/2018	1.54%	1.84%	0.30%	2.24%	0.70%	2.09%	0.55%
11/14/2018	1.54%	1.84%	0.30%	2.24%	0.70%	2.09%	0.55%
11/21/2018	1.54%	1.84%	0.30%	2.24%	0.70%	2.09%	0.55%
11/28/2018	1.54%	1.84%	0.30%	2.24%	0.70%	2.09%	0.55%

**TBTA General Revenue Bonds**

Issue		TBTA 2005B-4a	TBTA 2005B-4c	TBTA 2005B-4d			
Remarketing Agent		N/A	N/A	N/A			
Initial Purchase Date		2/1/2021	2/1/2019	12/1/2018			
Liquidity/Insurer		None	None	None			
Par Outstanding (\$m)		107.80	38.70	43.80			
Swap Notional (\$m)		107.80	38.70	43.80			
Date	67% of 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR
10/24/2018	1.51%	2.21%	0.70%	1.91%	0.40%	2.09%	0.58%
10/31/2018	1.51%	2.21%	0.70%	1.91%	0.40%	2.09%	0.58%
11/7/2018	1.54%	2.24%	0.70%	1.94%	0.40%	2.12%	0.58%
11/14/2018	1.54%	2.24%	0.70%	1.94%	0.40%	2.12%	0.58%
11/21/2018	1.54%	2.24%	0.70%	1.94%	0.40%	2.12%	0.58%
11/28/2018	1.54%	2.24%	0.70%	Now in Daily Mode		Now TBTA 2005B-4c	

Issue		TBTA 2003B-2	TBTA 2008B-2		
Remarketing Agent		N/A	NA		
Initial Purchase Date		12/3/2019	11/15/2021		
Liquidity/Insurer		None	None		
Par Outstanding (\$m)		46.05	63.65		
Swap Notional (\$m)		18.75	None		
Date	67% of 1M LIBOR	Rate	Spread to 1M LIBOR	Rate	Spread to 1M LIBOR
10/24/2018	1.51%	1.86%	0.35%	2.01%	0.50%
10/31/2018	1.51%	1.86%	0.35%	2.01%	0.50%
11/7/2018	1.54%	1.89%	0.35%	2.04%	0.50%
11/14/2018	1.54%	1.89%	0.35%	2.04%	0.50%
11/21/2018	1.54%	1.89%	0.35%	2.04%	0.50%
11/28/2018	1.54%	1.89%	0.35%	2.04%	0.50%

Report Date 11/27/2018

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**VARIABLE RATE: DAILY MODE**  
**RATE RESETS REPORT (Trailing 10 Days)**

**Transportation Revenue Bonds**

**TBTA General Revenue Bonds**

Issue		TRB 2005D-2	TRB 2015E-1	TRB 2015E-3	TBTA 2001C	TBTA 2002F					
Dealer		Morgan Stanley	US Bancorp	BofA Merrill	Goldman	Citigroup					
Liquidity Provider		Helaba	US Bank	BofA Merrill	State Street	Citibank					
Type of Liquidity		LoC	LoC	LoC	LoC	LoC					
Par Outstanding (\$m)		95.18	72.43	154.85	107.28	163.00					
Swap Notional (\$m)		95.18	None	None	40.28	163.00					
Date	SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA
11/21/2018	1.69%	1.76%	0.07%	1.71%	0.02%	1.72%	0.03%	1.71%	0.02%	1.71%	0.02%
11/22/2018	1.69%	1.76%	0.07%	1.71%	0.02%	1.72%	0.03%	1.71%	0.02%	1.71%	0.02%
11/23/2018	1.69%	1.73%	0.04%	1.71%	0.02%	1.73%	0.04%	1.72%	0.03%	1.71%	0.02%
11/24/2018	1.69%	1.73%	0.04%	1.71%	0.02%	1.73%	0.04%	1.72%	0.03%	1.71%	0.02%
11/25/2018	1.69%	1.73%	0.04%	1.71%	0.02%	1.73%	0.04%	1.72%	0.03%	1.71%	0.02%
11/26/2018	1.69%	1.70%	0.01%	1.71%	0.02%	1.75%	0.06%	1.71%	0.02%	1.70%	0.01%
11/27/2018	1.69%	1.70%	0.01%	1.70%	0.01%	1.72%	0.03%	1.70%	0.01%	1.68%	-0.01%
11/28/2018	1.69%	1.71%	0.02%	1.70%	0.01%	1.72%	0.03%	1.71%	0.02%	1.69%	0.00%
11/29/2018	1.69%	1.72%	0.03%	1.71%	0.02%	1.71%	0.02%	1.72%	0.03%	1.69%	0.00%
11/30/2018	1.69%	1.72%	0.03%	1.71%	0.02%	1.72%	0.03%	1.72%	0.03%	1.69%	0.00%

**TBTA General Revenue Bonds**

**Dedicated Tax Fund Bonds**

Issue		TBTA 2003B-1	TBTA 2005B-2	TBTA 2005B-3	TBTA 2005B-4c	DTF 2008A-1					
Dealer		BofA Merrill	Citigroup	Jefferies	US Bancorp	TD Securities					
Liquidity Provider		BofA Merrill	Citibank	State Street	US Bank	TD Bank					
Type of Liquidity		LoC	LoC	LoC	LoC	LoC					
Par Outstanding (\$m)		122.64	190.30	190.30	82.50	166.23					
Swap Notional (\$m)		122.64	190.30	190.30	82.50	163.43					
Date	SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA	Rate	Spread to SIFMA
11/21/2018	1.69%	1.72%	0.03%	1.71%	0.02%			1.70%	0.01%		
11/22/2018	1.69%	1.72%	0.03%	1.71%	0.02%			1.70%	0.01%		
11/23/2018	1.69%	1.73%	0.04%	1.71%	0.02%			1.70%	0.01%		
11/24/2018	1.69%	1.73%	0.04%	1.71%	0.02%			1.70%	0.01%		
11/25/2018	1.69%	1.73%	0.04%	1.71%	0.02%			1.70%	0.01%		
11/26/2018	1.69%	1.75%	0.06%	1.70%	0.01%			1.70%	0.01%		
11/27/2018	1.69%	1.72%	0.03%	1.68%	-0.01%			1.70%	0.01%		
11/28/2018	1.69%	1.72%	0.03%	1.69%	0.00%			1.70%	0.01%		
11/29/2018	1.69%	1.72%	0.03%	1.69%	0.00%			1.70%	0.01%		
11/30/2018	1.69%	1.73%	0.04%	1.69%	0.00%			1.70%	0.01%		
						Was in FRN Mode					
								1.72%	0.03%		
								1.71%	0.02%		
								1.71%	0.02%		

Report Date 11/30/2018

**METROPOLITAN TRANSPORTATION AUTHORITY  
 VARIABLE RATE: TERM RATE MODE (SOFR)  
 RATE RESETS REPORT (Trailing 10 Days)**

**TBTA General Revenue Bonds**

Issue		TBTA 2001B		TBTA 2018D	
Dealer		U.S. Bank		U.S. Bank	
Liquidity Provider		None		None	
Type of Liquidity		FRN		FRN	
Par Outstanding (\$m)		107.28		125.00	
Swap Notional (\$m)		None		None	
Date	67% of SOFR	Spread to		Spread to	
		Rate	SOFR	Rate	SIFMA
11/21/2018	1.46%	1.89%	0.43%	1.96%	0.50%
11/22/2018	1.46%	1.89%	0.43%	1.96%	0.50%
11/23/2018	1.49%	1.92%	0.43%	1.99%	0.50%
11/24/2018	1.49%	1.92%	0.43%	1.99%	0.50%
11/25/2018	1.49%	1.92%	0.43%	1.99%	0.50%
11/26/2018	1.47%	1.90%	0.43%	1.97%	0.50%
11/27/2018	1.47%	1.90%	0.43%	1.97%	0.50%
11/28/2018	1.47%	1.90%	0.43%	1.97%	0.50%
11/29/2018	1.50%	1.93%	0.43%	2.00%	0.50%
11/30/2018	1.50%	1.93%	0.43%	2.00%	0.50%

Report Date 11/30/2018

MTA DEBT OUTSTANDING (\$ in Millions)

11/30/2018

Type of Credit	Underlying Ratings (Moody's /S&P / Fitch/ Kroll)	Series	BPA Sale Date	Series Original Final Maturity	Principal Iss. Amount	Outstanding			Total Outstanding	TIC <sup>1</sup>	Notes
						Fixed Amount	Variable Amount	Synthetic Fixed Amount			
MTA Transportation Revenue Bonds (A1/A/AA-/AA+)		2002D	5/30/02	11/1/2032	400.000	174.725	-	200.000	374.725	4.38	
		2002G	11/20/02	11/1/2026	400.000	-	-	127.660	127.660	4.17	
		2003A	5/14/03	11/15/2032	475.340	86.330	-	-	86.330	4.49	
		2003B	8/13/03	11/15/2032	751.765	71.080	-	-	71.080	5.10	
		2005A	2/15/05	11/15/2035	650.000	-	-	-	-	0.00	
		2005B	7/1/05	11/15/2035	750.000	143.735	-	-	143.735	4.80	
		2005D	11/2/05	11/1/2035	250.000	-	-	228.650	228.650	4.39	
		2005E	11/2/05	11/1/2035	250.000	-	91.465	137.210	228.675	3.27	
		2005G	12/7/05	11/1/2026	250.000	40.235	-	-	40.235	4.34	
		2006B	12/20/06	11/15/2036	717.730	72.645	-	-	72.645	4.52	
		2008A	2/21/08	11/15/2038	512.470	-	-	-	-	0.00	
		2008B	2/21/08	11/15/2030	487.530	226.590	-	-	226.590	3.11	
		2008C	10/23/08	11/15/2028	550.000	-	-	-	-	0.00	
		2009A	10/15/09	11/15/2039	502.320	391.705	-	-	391.705	3.79	
		2010A	1/13/10	11/15/2039	363.945	363.945	-	-	363.945	4.44	
		2010B	2/11/10	11/15/2039	656.975	598.395	-	-	598.395	4.29	
		2010C	7/7/10	11/15/2040	510.485	434.555	-	-	434.555	4.27	
		2010D	12/7/10	11/15/2040	754.305	34.285	-	-	34.285	5.15	
		2010E	12/29/10	11/15/2040	750.000	750.000	-	-	750.000	4.57	
		2011A	7/20/11	11/15/2046	400.440	19.820	-	-	19.820	4.95	
		2011B	9/14/11	11/1/2041	99.560	-	29.970	69.590	99.560	3.01	
		2011C	11/10/11	11/15/2028	197.950	117.960	-	-	117.960	3.99	
		2011D	12/7/11	11/15/2046	480.165	44.360	-	-	44.360	4.57	
		2012A	3/15/12	11/15/2042	150.000	50.000	100.000	-	150.000	1.98	
		2012B	3/15/12	11/15/2039	250.000	196.840	-	-	196.840	3.85	
		2012C	5/3/12	11/15/2047	727.430	400.290	-	-	400.290	4.22	
		2012D	8/20/12	11/15/2032	1,263.365	818.540	-	-	818.540	3.51	
		2012E	7/20/12	11/15/2042	650.000	300.500	-	-	300.500	3.91	
		2012F	9/28/12	11/15/2030	1,268.445	924.690	-	-	924.690	3.17	
		2012G	11/13/12	11/1/2032	359.450	-	-	356.775	356.775	4.13	
		2012H	11/15/12	11/15/2042	350.000	213.800	-	-	213.800	3.70	
		2013A	1/24/13	11/15/2043	500.000	282.085	-	-	282.085	3.79	
		2013B	4/2/13	11/15/2043	500.000	300.900	-	-	300.900	4.08	
		2013C	6/11/13	11/15/2043	500.000	303.895	-	-	303.895	4.25	
		2013D	7/11/13	11/15/2043	333.790	196.065	-	-	196.065	4.63	
		2013E	11/15/13	11/15/2043	500.000	333.350	-	-	333.350	4.64	
		2014A	2/28/14	11/15/2044	400.000	210.295	-	-	210.295	4.31	
		2014B	4/17/14	11/15/2044	500.000	397.545	-	-	397.545	4.38	
		2014C	6/26/2014	11/15/2036	500.000	332.065	-	-	332.065	3.32	
		2014D	11/4/2014	11/15/2044	500.000	295.455	165.000	-	460.455	3.10	
		2015A	1/22/2015	11/15/2045	850.000	541.315	250.000	-	791.315	2.94	
		2015B	3/19/2015	11/15/2055	275.055	257.730	-	-	257.730	4.29	
	2015C	8/18/2015	11/15/2035	550.000	550.000	-	-	550.000	3.68		
	2015D	9/17/2015	11/15/2035	407.695	407.695	-	-	407.695	3.61		
	2015E	9/10/2015	11/15/2050	650.000	-	496.190	-	496.190	1.33		
	2015F	12/17/2015	11/15/2036	330.430	309.655	-	-	309.655	3.21		
	2016A	2/25/2016	11/15/2056	782.520	747.850	-	-	747.850	3.54		
	2016B	6/30/2016	11/15/2037	673.990	654.705	-	-	654.705	2.90		
	2016C	7/28/2016	11/15/2056	863.860	854.015	-	-	854.015	3.52		
	2015X-1 (RRIF LOAN - PTC)	9/20/2016	11/15/2037	146.472	140.669	-	-	140.669	2.38		
	2016D	10/26/2016	11/15/2035	645.655	600.725	-	-	600.725	2.87		
	2017A	3/16/2017	11/15/2057	325.585	322.105	-	-	322.105	3.78		
	2017B	9/28/2017	11/15/2028	662.025	662.025	-	-	662.025	1.98		
	2017C BANS	10/25/2017	5/15/2019	1,000.000	1,000.000	-	-	1,000.000	1.15		
	2017C	12/14/2017	11/15/2040	2,021.462	2,172.935	-	-	2,172.935	3.12		
	2017D	12/21/2017	11/15/2047	643.095	643.095	-	-	643.095	3.51		
	2018A BANS	1/23/2018	8/15/2019	500.000	500.000	-	-	500.000	1.74		
	2018A	1/23/2018	11/15/2048	472.310	472.310	-	-	472.310	1.91		
	2018B BANS	6/19/2018	5/15/2021	1,600.000	1,600.000	-	-	1,600.000	1.95		
	2018B	8/23/2018	11/15/2028	207.220	207.220	-	-	207.220	2.71		
	2018C BANS	10/10/2018	9/1/2021	900.000	900.000	-	-	900.000	2.29		
			Total	34,920.834	22,670.729	1,132.625	1,119.885	24,923.239	3.23		
									WATIC		
TBTA General Revenue Bonds (Aa3/AA-/AA-/AA)		2001B	12/19/01	1/1/2032	148.200	-	107.280	-	107.280	1.81	
		2001C	12/1/01	1/1/2032	148.200	-	67.000	40.275	107.275	2.81	
		2002F	11/13/02	11/1/2032	246.480	-	-	162.995	162.995	3.60	
		2003B	12/10/03	1/1/2033	250.000	-	149.940	18.745	168.685	1.93	
		2005A	5/11/05	11/1/2035	150.000	-	83.845	22.650	106.495	2.41	
		2005B	7/7/05	1/1/2032	800.000	-	-	570.900	570.900	3.92	
	2008A	3/27/08	11/15/2038	822.770	-	-	-	-	0.00		

MTA DEBT OUTSTANDING (\$ in Millions)

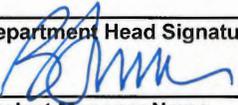
11/30/2018

Type of Credit	Underlying Ratings (Moody's /S&P / Fitch/ Kroll)	Series	BPA Sale Date	Series Original Final Maturity	Principal Iss. Amount	Outstanding			Total Outstanding	TIC <sup>1</sup>	Notes
						Fixed Amount	Variable Amount	Synthetic Fixed Amount			
		2008B	3/27/08	11/15/2038	252.230	103.120	63.650	-	166.770	3.36	
		2008C	7/30/08	11/15/2038	629.890	-	-	-	-	0.00	
		2009A	2/18/09	11/15/2038	475.000	68.395	-	-	68.395	3.25	
		2009B	9/17/09	11/15/2039	200.000	200.000	-	-	200.000	3.63	
		2010A	10/28/10	11/15/2040	346.960	296.225	-	-	296.225	3.45	
		2011A	10/13/11	1/1/2028	609.430	94.875	-	-	94.875	3.59	
		2012A	6/6/12	11/15/2042	231.490	171.875	-	-	171.875	3.69	
		2012B	8/23/12	11/15/2032	1,236.898	1,089.605	-	-	1,089.605	2.66	
		2013B	1/29/13	11/15/2030	257.195	257.195	-	-	257.195	2.25	
		2013C	4/18/13	11/15/2043	200.000	149.925	-	-	149.925	3.71	
		2014A	2/6/14	11/15/2044	250.000	195.825	-	-	195.825	4.28	
		2015A	5/15/15	11/15/2050	225.000	195.990	-	-	195.990	4.18	
		2015B	11/16/2015	11/15/2045	65.000	61.510	-	-	61.510	3.88	
		2016A	1/28/2016	11/15/2046	541.240	512.350	-	-	512.350	3.24	
		2017A	1/19/2017	11/15/2047	300.000	300.000	-	-	300.000	3.71	
		2017B	1/19/2017	11/15/2038	902.975	902.975	-	-	902.975	3.48	
		2017C	11/17/2017	11/15/2042	720.990	720.990	-	-	720.990	2.81	
		2018A	2/1/2018	11/15/2048	351.930	351.930	-	-	351.930	3.84	
		2018B	8/30/2018	11/15/2031	270.090	270.090	-	-	270.090	2.75	
		2018C	8/30/2018	11/15/2038	159.280	159.280	-	-	159.280	3.66	
		2018D	10/4/2018	11/15/2038	125.000	-	125.000	-	125.000	1.97	
				Total	10,916.248	6,102.155	596.715	815.565	7,514.435	3.22	
											WATIC
<b>TBTA Subordinate</b>		2000ABCD	11/02/00	1/1/2019	263.000	-	7.700	11.150	18.850	4.64	
<b>Revenue Bonds</b>		2002E	11/13/02	11/15/2032	756.095	115.040	-	-	115.040	5.34	
<b>(A1/A+/A+/AA-)</b>		2008D	7/30/08	11/15/2028	491.110	-	-	-	-	0.00	
		2013A	1/29/13	11/15/2032	653.965	736.195	-	-	736.195	3.13	
		2013D Taxable	12/19/2013	11/15/2032	313.975	151.540	148.470	-	300.010	2.55	
				Total	2,478.145	1,002.775	156.170	11.150	1,170.095	3.22	
											WATIC
<b>MTA Dedicated</b>		2002B	9/5/02	11/1/2022	440.000	-	216.600	-	216.600	2.00	
<b>Tax Fund Bonds</b>		2004A	3/10/04	11/15/2018	250.000	-	-	-	-	0.00	
<b>(NAF/AA/AA/NAF)</b>		2004B	3/10/04	11/15/2028	500.000	48.910	-	-	48.910	4.51	
		2004C	12/21/04	11/15/2018	120.000	-	-	-	-	0.00	
		2008A	6/25/08	11/1/2031	352.915	-	5.285	324.670	329.955	4.17	
		2008B	8/7/08	11/1/2034	348.175	228.700	44.740	-	273.440	2.96	
		2009B	4/30/09	11/15/2030	500.000	10.440	-	-	10.440	5.00	
		2009C	4/30/09	11/15/2039	750.000	750.000	-	-	750.000	4.89	
		2010A	3/25/10	11/15/2040	502.990	433.265	-	-	433.265	3.91	
		2011A	3/31/11	11/15/2021	127.450	23.150	-	-	23.150	2.99	
		2012A	10/25/12	11/15/2032	959.466	959.585	-	-	959.585	3.07	
		2016A	3/10/16	11/15/2036	579.955	569.940	-	-	569.940	2.98	
		2016B	5/26/16	11/15/2056	588.305	578.850	-	-	578.850	3.37	
		2017A	2/23/17	11/15/2047	312.825	309.880	-	-	309.880	3.97	
		2017B	5/17/17	11/15/2057	680.265	679.765	-	-	679.765	3.56	
				Total	7,012.346	4,592.485	266.625	324.670	5,183.780	3.58	
											WATIC
		<b>All MTA Total</b>			<b>55,327.572</b>	<b>34,368.144</b>	<b>2,152.135</b>	<b>2,271.270</b>	<b>38,791.549</b>	<b>3.27</b>	
<b>MTA Special Obligation Bonds</b>		2014 Taxable	8/14/14	7/1/2026	348.910	246.410	-	-	246.410	2.66	
<b>Aaa</b>					348.910	246.410	-	-	246.410	2.66	
											WATIC
<b>MTA Hudson Rail Yards Trust Obligations<sup>2</sup></b>		2016A	9/22/16	11/15/2056	1,057.430	1,057.430	-	-	1,057.430	4.28	
<b>(A2/NAF/NAF/A-)</b>					1,057.430	1,057.430	-	-	1,057.430	4.28	
											WATIC
		<b>Grand Total</b>			<b>56,733.912</b>	<b>35,671.984</b>	<b>2,152.135</b>	<b>2,271.270</b>	<b>40,095.389</b>	<b>3.30</b>	

Notes

- (1) Fixed Rate TICs calculated as of issuance of Fixed Rate Bonds. Floating Rate TICs calculated from inception including fees. Any Unhedged Variable Rate Bonds that have been fixed to maturity are carried at the new Fixed Rate TIC. Synthetic Fixed Rate TICs include average swap rates plus current variable rate fees and estimated basis adjustments for life of swap. Synthetic Fixed Rate TICs do not include benefit of any upfront payments received by MTA. Variable Rate TICs include average remarketed plus current variable rate fees.
- (2) Assumes that no fee purchase options are exercised thru maturity. If all of the fee purchase options are exercised within 10 years, the All-in TIC would be 2.74%.

# Staff Summary

<b>Subject</b> Authorization to Issue New Money Transportation Revenue Bonds and Bond Anticipation Notes, Dedicated Tax Fund Bond Anticipation Notes, Dedicated Tax Fund Bonds, and Triborough Bridge and Tunnel Authority General Revenue and Subordinate Revenue Bonds and Bond Anticipation Notes
<b>Department</b> Finance
<b>Department Head Name</b> Robert E. Foran, Chief Financial Officer
<b>Department Head Signature</b> 
<b>Project Manager Name</b> Patrick J. McCoy, Director, Finance 

<b>Date</b> December 12, 2018
<b>Vendor Name</b>
<b>Contract Number</b>
<b>Contract Manager Name</b>
<b>Table of Contents Ref #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance Comm.	12/10	X		
2	Board	12/12	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal 	2	Chief of Staff 

**PURPOSE:**

The MTA Finance Department is seeking MTA and TBTA Board authorization and approval of the necessary documentation to issue new money bond anticipation notes (BANs) and bonds to finance up to \$3.0 billion of capital projects set forth in approved transit and commuter capital programs, and to issue up to \$350 million of new money bonds and BANs to finance capital projects set forth in approved MTA Bridges & Tunnels capital programs. The MTA Finance Department will report to the Board on the status of the proposed debt issuance schedule, the results of each note and bond issue and planned note and bond issues.

**DISCUSSION:**

MTA and TBTA Board approval is sought for the following resolutions, documents and activities in connection with the issuance of bonds and/or bond anticipation notes in an aggregate principal amount necessary to finance up to \$3.35 billion of capital projects of the transit and commuter systems and MTA Bridges & Tunnels set forth in approved capital programs:

- Separate Supplemental Resolutions authorizing Transportation Revenue Bonds (TRB Bonds) and Transportation Revenue BANs (TRB BANs), including providing for the following:
  - The issuance of TRB BANs and TRB Bonds under the General Resolution Authorizing Transportation Revenue Obligations (the TRB Resolution), in one or more series from time to time, in an amount sufficient to produce net proceeds of up to \$3.0 billion (reduced by Dedicated Tax Fund (DTF) Bonds or DTF BANs) necessary to finance transit or commuter capital programs, plus applicable issuance costs and any original issue discount,
  - Issuance of such TRB BANs or TRB Bonds in competitive or negotiated public sales, by direct placement or in connection with a revolving credit or other loan agreement, and
  - The issuance of TRB Bonds under the TRB Resolution in an amount sufficient to (i) retire the TRB BANs or DTF BANs when due and (ii) to finance transit or commuter capital programs, in each case plus accrued interest and applicable issuance costs and any original issue discount.
  
- Separate Supplemental Resolutions authorizing DTF Bonds and DTF BANs, including providing for the following:

- o The issuance of DTF BANs under the Dedicated Tax Fund Obligation Resolution (the DTF Resolution), in one or more series from time to time, in an amount sufficient to produce net proceeds of up to \$3.0 billion (reduced by TRB Bonds or TRB BANs) necessary to finance transit or commuter capital programs, plus applicable issuance costs and any original issue discount,
  - o Issuance of such DTF BANs or DTF Bonds in competitive or negotiated public sales, by direct placement or in connection with a revolving credit or other loan agreement, and
  - o The issuance of DTF Bonds under the DTF Resolution in an amount sufficient to (i) retire the DTF BANs or TRB BANs when due and (ii) to finance transit or commuter capital programs, in each case plus accrued interest and applicable issuance costs and any original issue discount.
- Multiple Series 2019 Supplemental Resolution authorizing Triborough Bridge and Tunnel Authority General Revenue Obligations, including providing for the issuance of the following:
    - o An aggregate principal amount of up to \$350 million of Triborough Bridge and Tunnel Authority General Revenue Obligations (reduced by any bonds issued under the Triborough Bridge and Tunnel Authority Subordinate Resolution) in one or more series necessary to finance capital projects of TBTA as set forth in existing MTA Bridges & Tunnels capital programs, plus applicable issuance costs and any original issue discount, and
    - o Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the General Revenue Obligations.
  - Multiple Series 2001 Subordinate Revenue Bond Supplemental Resolution authorizing Triborough Bridge and Tunnel Authority Subordinate Revenue Obligations, including providing for the issuance of the following:
    - o An aggregate principal amount of up to \$350 million of Triborough Bridge and Tunnel Authority Subordinate Revenue Obligations (reduced by any bonds issued under the Triborough Bridge and Tunnel Authority General Revenue Bond Resolution) in one or more series necessary to finance capital projects of TBTA, as set forth in existing MTA Bridges & Tunnels capital programs plus applicable issuance costs and any original issue discount, and
    - o Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the Subordinate Revenue Obligations.
  - A Supplemental Resolution authorizing Triborough Bridge and Tunnel Authority General Revenue BANs (TBTA BANs), including providing for the following:
    - o The issuance of TBTA BANs under the Triborough Bridge and Tunnel Authority General Revenue Bond Resolution (the Resolution), in one or more series from time to time, in an amount sufficient to produce net proceeds of up to \$350 million necessary to finance capital projects of MTA Bridges & Tunnels, plus applicable issuance costs and any original issue discount,
    - o Issuance of such TBTA BANs in competitive or negotiated public sales, by direct placement or in connection with a revolving credit or other loan agreement, and
    - o The issuance of TBTA Bonds in an amount sufficient to (i) retire the TBTA BANs when due and (ii) to finance capital projects of MTA Bridges & Tunnels, in each case plus accrued interest and applicable issuance costs and any original issue discount.

With respect to the above-referenced financial transactions, MTA and TBTA Board approval, as applicable, is sought:

(a) delegating authority to the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of MTA to award the obligations either pursuant to competitive bid or to members (or entities related to such firms) of the Board-approved MTA underwriting syndicate and to execute and/or deliver in each case, where appropriate:

- o Notices of Sale and bid forms,
- o Purchase Agreements with underwriters,
- o Direct Purchase Agreements,
- o Revolving Credit Agreements or other Loan Agreements,
- o Official Statements and other disclosure documents,
- o Continuing Disclosure Agreements and related filings,

- o Remarketing Agreements and Firm Remarketing Agreements,
- o Dealer and Broker/Dealer Agreements,
- o Issuing and Paying Agent and Tender Agent Agreements,
- o Credit Facilities and related Parity Reimbursement Obligations and Parity Debt,
- o Related Subordinated Contract Obligations, and
- o Investment Agreements.

Any such documents will be in substantially the form of any document previously entered into by MTA or TBTA for previous issues, with such changes as approved by any one or more of the foregoing officers.

(b) authorizing such officers to terminate, amend, supplement, replace or extend any such documents, including Credit Facilities (and related Parity Reimbursement Obligations and Parity Debt), as they shall deem advisable, and to take such other actions as may be necessary or desirable to effectuate the issuance of the new money bonds and BANs and other financial transactions set forth above, on behalf of MTA, TBTA or other MTA subsidiaries and affiliates.

**ALTERNATIVES:**

There are no viable funding alternatives to the bond funded portion of existing approved capital programs.

**RECOMMENDATION:**

The MTA and TBTA Boards approve the above-referenced resolutions and documents and all other actions described above, including the execution and delivery of such other documents, and the taking of all other actions, from time to time deemed necessary or desirable by such officers in connection therewith. The authorization to issue the bonds and bond anticipation notes and take other related actions hereunder shall continue in effect without any further action by the MTA and TBTA Boards until the adoption by the MTA and TBTA Boards of subsequent bond supplemental resolutions relating to 2020 note and bond issues (except that bonds may still be issued to refinance 2019 BANs outstanding at any time) unless (a) the MTA and TBTA Boards shall have confirmed the effectiveness of this authorization for an additional period, or (b) the MTA and TBTA Boards shall have modified or repealed this authorization.

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES 2019  
TRANSPORTATION REVENUE BOND SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

**MULTIPLE SERIES 2019  
TRANSPORTATION REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01. Supplemental Resolution.** This Multiple Series 2019 Transportation Revenue Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “General Resolution Authorizing Transportation Revenue Obligations”, as heretofore supplemented (the “Resolution”).

**Section 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Series 2019 Bonds” shall mean the Transportation Revenue Bonds authorized by Article II of this Supplemental Resolution, subject to redesignation as hereinafter provided.

“Series 2019 Notes” shall mean the Transportation Revenue Bond Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to a Supplemental Resolution of the Issuer adopted as of the date that this Supplemental Resolution is adopted.

**Section 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF SERIES 2019 BONDS

**Section 2.01. Principal Amount, Designation and Series.** Pursuant to the Resolution and in order to finance Capital Costs, Transportation Revenue Bonds, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Bonds), the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Bonds), shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that the Series 2019 Bonds issued to finance Capital Costs shall not exceed \$3.0 billion at any one time Outstanding reduced by the sum of (1) the amount of Series 2019 Notes issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, (2) the amount of bonds (the “DTF Series 2019 Bonds”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018, and (3) the amount of bond anticipation notes (the “DTF Series 2019 Notes”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any Series 2019 Bonds, Series 2019 Notes, DTF Series 2019 Notes or DTF Series 2019 Bonds issued to refinance Series 2019 Notes or DTF Series 2019 Notes).

Series 2019 Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title “Transportation Revenue Bonds, Series 2019” or such other title or titles set forth in one or more Certificates of Determination.

The authority to issue the Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Bonds shall continue in effect until the adoption by the Issuer Board of a subsequent new money bond issuance supplemental resolution relating to 2020 new money financings,

provided, however, the authorization to issue the Series 2019 Bonds to refinance the Series 2019 Notes shall continue in effect until all of such Series 2019 Notes have been refinanced by Series 2019 Bonds.

**Section 2.02. Purposes.** The purposes for which the Series 2019 Bonds are issued shall be set forth in one or more Certificates of Determination and may include (i) the payment of all or any part of the Capital Costs, and (ii) the payment of principal of and redemption premium, if any, and interest on Outstanding Series 2019 Notes.

**Section 2.03. Dates, Maturities, Principal Amounts and Interest.** The Series 2019 Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04. Interest Payments.** The Series 2019 Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**Section 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Bonds shall be numbered and lettered as provided in the related Certificate of Determination.

**Section 2.06. Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Bonds shall be payable to the registered owner of each Series 2019 Bond when due upon presentation of such Series 2019 Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07. Sinking Fund Installments.** The Series 2019 Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption in part, by lot, or otherwise as determined in accordance with Section A-404 of the Resolution, on each date in the year or years determined in the related Certificate of Determination at the principal amount

thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Series 2019 Bonds.

**Section 2.08. Redemption Prices and Terms.** The Series 2019 Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Series 2019 Bonds, if set forth in the Certificate of Determination, the taxable Series 2019 Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Bonds:

(a) to determine whether and when to issue any Series 2019 Bonds constituting Capital Cost Obligations, the amount of the Series 2019 Bonds to be applied to finance Capital Costs or other uses as provided in Section 2.02 hereof, and the amount of the proceeds of the Series 2019 Bonds estimated to be necessary to pay the Costs of Issuance of the Series 2019 Bonds and capitalized interest, if any;

(b) to determine the purpose or purposes for which the Series 2019 Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Series 2019 Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Series 2019 Bonds, which principal amounts (and the aggregate of all such Series and subseries) shall not exceed the principal amounts permitted by Section 2.01 of this Supplemental Resolution, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Series 2019 Bonds shall be dated and the interest rate or rates of the Series 2019 Bonds or the manner of determining such interest rate or rates; provided, however, that any Series 2019 Bonds issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Series 2019 Bonds issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a

maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Bonds; provided, however, that if the Series 2019 Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine whether the sale of the Series 2019 Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Series 2019 Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, the purchase price for the Series 2019 Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale (as hereinafter defined), in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that, in the case of Series 2019 Bonds sold on a negotiated basis, the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Bonds;

(h) to take all actions required for the Series 2019 Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Series 2019 Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Series 2019 Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Series 2019 Bonds, (ii) the selection of remarketing agents, tender agents, calculation agents, auction agents, dealers, bidding agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof and to

determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to obtain or implement a Credit Facility with respect to the Series 2019 Bonds, and to make any changes in connection therewith;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine such other matters specified in or permitted by (i) Sections 202, 203, and A-201 of the Resolution or (ii) this Supplemental Resolution, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Bonds; if any Series 2019 Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more

subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10. Sale of Series 2019 Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Bonds; (ii) to sell and award all or any portion of the Series 2019 Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Series 2019 Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a “Purchase Agreement”). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the “Notice of Sale”), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such

competitive sale of the Series 2019 Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any direct or private placement of the Series 2019 Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Series 2019 Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of the Series 2019 Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Series 2019 Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker dealer agreements, tender agent agreements, or auction agency agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement

or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of the Series 2019 Bonds and for implementing the terms of the Series 2019 Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11. Forms of Series 2019 Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Series 2019 Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or the related Certificate of Determination.

**Section 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by any Certificate of Determination, The Bank of New York Mellon, as successor in interest to JPMorgan Chase Bank, N.A., shall be the Trustee under the Resolution and the Paying Agent for the Series 2019 Bonds.

### ARTICLE III

#### DISPOSITION AND ALLOCATION OF SERIES 2019 BOND PROCEEDS

**Section 3.01. Disposition and Allocation of Series 2019 Bond Proceeds.** Any proceeds of the sale of the Series 2019 Bonds, other than accrued interest and capitalized interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Series 2019 Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination, as follows:

1. such proceeds shall be (i) deposited in the Series 2019 Bond Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Capital Costs or the payment of principal of and redemption premium, if any, and interest on the Series 2019 Notes or (ii) otherwise applied to the payment of such amounts; and

2. the balance of such proceeds shall be (i) deposited in the Series 2019 Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

**Section 3.02.** Unless otherwise provided in the related Certificate of Determination, the accrued interest and capitalized interest, if any, received on the sale of the Series 2019 Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANT PROVISIONS AND DEFEASANCE

**Section 4.01. Tax Covenants Relating to the Series 2019 Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any “Arbitrage and Use of Proceeds Certificate” or “Tax Certificate” to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer’s failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Series 2019 Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Series 2019 Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer’s failure to observe, or refusal to comply with, the above covenant.

**Section 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Series 2019 Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES  
AND RELATED SUBORDINATED INDEBTEDNESS  
TRANSPORTATION REVENUE BOND SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES AND  
RELATED SUBORDINATED INDEBTEDNESS  
TRANSPORTATION REVENUE BOND SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I  
DEFINITIONS AND STATUTORY AUTHORITY**

**SECTION 1.01. Supplemental Resolution.** This Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Transportation Revenue Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “General Resolution Authorizing Transportation Revenue Obligations”, as heretofore supplemented (the “Resolution”).

**SECTION 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Noteholder”, “Holder” or “Holder of Notes”, or any similar term, means any person who shall be the registered owner of any Outstanding Series 2019 Note or Notes.

“Notice of Sale” shall mean the form of Notice of Sale to be distributed with the Preliminary Official Statement, hereinafter defined, and published in the event of a competitive sale of the Series 2019 Notes.

“Series 2019 Bonds” shall mean the Transportation Revenue Bonds, Series 2019, authorized by Article II of the Resolution and pursuant to a resolution of the Issuer adopted as of the date that this resolution is adopted.

“Series 2019 Notes” shall mean the Transportation Revenue Bond Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to this Supplemental Resolution, subject to redesignation as hereinafter provided.

**SECTION 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## **ARTICLE II AUTHORIZATION OF SERIES 2019 NOTES**

**SECTION 2.01. Principal Amount, Designation and Series.** Pursuant to the Resolution, Transportation Revenue Bond Anticipation Notes constituting Obligation Anticipation Notes under the Resolution, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Notes), the amount to be deposited in the Series 2019 Note Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Notes), shall not exceed \$3.0 billion at any one time Outstanding reduced by the sum of (1) the amount of Series 2019 Bonds issued under the Metropolitan Transportation Authority Multiple Series 2019 Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, (2) the amount of bonds (the “DTF Series 2019 Bonds”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018, and (3) the amount of bond anticipation notes (the “DTF Series 2019 Notes”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any Series 2019 Notes, Series 2019 Bonds, DTF Series 2019 Bonds or DTF Series 2019 Notes issued to refinance Series 2019 Notes or DTF Series 2019 Notes). The Series 2019 Notes may be issued in the form of a loan agreement, line of credit, revolving credit agreement or similar facility (each, a “Loan Facility”). For all purposes of this Section such Transportation Revenue Bond Anticipation Notes shall be designated as, and shall be distinguished from the Transportation Revenue Bond Anticipation Notes of all other Series by the title, “Transportation Revenue Bond Anticipation Notes, Series 2019”, with such further or different designations as may be provided in any Certificate of Determination.

The authority to issue Obligation Anticipation Notes and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization

to issue the Series 2019 Notes shall continue in effect until the adoption by the Issuer's Board of a subsequent new money note issuance supplemental resolution relating to 2020 new money financings, provided, however, the authorization to issue the Series 2019 Bonds to refinance the Series 2019 Notes shall continue in effect until all of such Series 2019 Notes have been refinanced by Series 2019 Bonds.

**SECTION 2.02. Use of Proceeds.** The proceeds of the Series 2019 Notes shall be used only for the purposes set forth in one or more Certificates of Determination and may include (i) the payment of all or any part of the Capital Costs, including Costs of Issuance related to the Series 2019 Notes and (ii) the payment of the principal and interest of Outstanding Series 2019 Notes.

**SECTION 2.03. Dates, Maturities, Principal Amounts and Interest; Redemption.** The Series 2019 Notes shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Notes shall mature on the date or dates and in the year or years and in the principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, the Series 2019 Notes shall not be subject to redemption prior to maturity.

**SECTION 2.04. Interest Payments.** The Series 2019 Notes shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Notes shall be computed on the basis of twelve 30-day months and a 360-day year.

**SECTION 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in any Certificate of Determination, the Series 2019 Notes shall be issuable in fully registered form in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Notes shall be numbered and lettered as provided in the related Certificate of Determination.

**SECTION 2.06. Places of Payment and Paying Agents.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Notes shall be payable to the registered owner of each Series 2019 Note when due upon presentation of such Series 2019 Note at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Notes will be paid by check or draft mailed on the interest payment date by the Paying Agent to the registered owner at his address as it appears on the registration books or, at the option of any Holder of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Notes, by wire transfer in immediately available funds on each interest payment date to such Holder thereof upon written notice from such Holder to the Trustee, at such address as the Trustee may from time to time notify such Holder, containing the wire transfer address (which shall be in the continental United States) to which such Holder wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

## **SECTION 2.07. Sources of Payment**

1. The principal of and interest on the Series 2019 Notes may be payable solely from (i) the proceeds of any other Series 2019 Notes, (ii) the proceeds of the Series 2019 Bonds, and (iii) the proceeds of notes or other evidences of indebtedness or any other amounts (which other amounts are not pledged under the Resolution), in each case if and to the extent such amounts may lawfully be used to make such payments. The interest on the Series 2019 Notes may also be payable from amounts available for transfer pursuant to Section 504(b) and Section 505.3 of the Resolution for the payment of Subordinated Indebtedness.

2. There are hereby pledged to the payment of principal and interest on the Series 2019 Notes (i) the proceeds of other Series 2019 Notes issued to refinance such Series 2019 Notes, and (ii) the proceeds of the Series 2019 Bonds issued to refinance such Series 2019 Notes, and such pledge has priority over any other pledge thereof created by the Resolution, including Section 501. There is also hereby pledged to the payment of interest on the Series 2019 Notes amounts available for transfer pursuant to Section 504(b) and Section 505.3 of the Resolution for the payment of Subordinated Indebtedness in accordance with and subject to the limitations contained in Section 506 of the Resolution. Proceeds and amounts described in clause (iii) of Section 2.07(1) hereof may be pledged to the payment of principal and interest on the Series 2019 Notes to the extent set forth in a Certificate of Determination.

## **SECTION 2.08. Delegation to an Authorized Officer.**

1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Notes:

(a) to determine whether and when to issue any Series 2019 Notes, the amount of the Series 2019 Notes to be applied to finance Capital Costs or other uses as provided in Section 2.02 of this Supplemental Resolution and the amount of the proceeds of the Series 2019 Notes estimated to be necessary to pay the Costs of Issuance of the Series 2019 Notes;

(b) to determine the purpose or purposes for which the Series 2019 Notes are being issued, which shall be one or more of the purposes set forth in Section 2.02 hereof;

(c) to determine the principal amount of the Series 2019 Notes to be issued, which principal amount shall not exceed the amount described in Section 2.01 of this Supplemental Resolution, and whether such Series 2019 Notes shall be issued in one or more Series or subseries;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Notes; provided that the Series 2019 Notes shall mature no later than five years after the date of issuance of such Series 2019 Notes;

(e) to determine the date or dates which the Series 2019 Notes shall be dated and the interest rate or rates of the Series 2019 Notes, provided that the true interest cost (as calculated by the officers of the Issuer executing any Certificate of Determination, which calculation shall be conclusive) on the Series 2019 Notes bearing a fixed rate of

interest shall not exceed 4.00% per annum and for Series 2019 notes bearing interest at a variable interest rate shall not exceed a rate equal to SIFMA or one-month or three-month LIBOR or any short-term index generally accepted in the marketplace, in each case, plus 4.00% and any default rate or equivalent rate shall not exceed the sum of 4.00% plus either a specified prime rate or the federal funds rate;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Notes; provided, however, that if the Series 2019 Notes are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Notes) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Notes to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Notes the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine the advisability of conducting the sale of all or any portion of the Series 2019 Notes through competitive bidding or through a negotiated sale or a direct purchase transaction, and to determine the purchase price for the Series 2019 Notes to be paid by the purchasers pursuant to either a competitive bid process or by the purchasers referred to in the Purchase Agreement described in Section 2.09 of this Supplemental Resolution in the event the Series 2019 Notes are sold, in such officer's discretion, through a negotiated sale or a direct purchase transaction, which may include such original premium and original issue discount as shall be determined in the related Certificate of Determination, provided, however, that in the case of a negotiated transaction, underwriters' discount reflected in such purchase price shall not exceed \$3.50 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Notes;

(h) to determine the advisability, as compared to an unenhanced transaction, of obtaining municipal bond insurance or any other credit or liquidity facility, to determine and accept the terms and provisions and price thereof, to determine the items to be pledged to the Series 2019 Notes from those permitted by Section A-203 of the Resolution, and to determine such other matters as the officer executing any Certificate of Determination shall consider necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by bond insurers or the provider of any other credit or liquidity facility, if any, or required by the bond rating agencies in order to attain or maintain specific ratings on the Series 2019 Notes, or relating to the mechanism for the payment of insurance premium, credit or liquidity facility fees or direct purchase fees, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to implement an insurance policy or any other credit or liquidity facility with respect to the Series 2019 Notes, and to make any changes in connection therewith. Such changes may include, but are not limited to, the making of any additional covenants with Holders or other parties deemed necessary or appropriate by the officer executing any Certificate of Determination;

(i) to take all actions required for the Series 2019 Notes to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form letter of

representation with, or other form of document required by, DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in any Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Notes issuable in fully registered form; and

(j) to determine whether to issue all or any part of the Series 2019 Notes as Tax-Exempt Obligations or Taxable Obligations;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Notes;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine any other matters provided for herein, including the matters set forth in Sections 2.11 and 2.12 hereof.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Notes are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Notes by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Notes, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Notes; if any Series 2019 Notes shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Notes consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Notes, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the

form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein..

**SECTION 2.09. Sale of Series 2019 Notes.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Notes through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Notes; (ii) to sell and award all or any portion of the Series 2019 Notes through a negotiated sale to the purchasers who are referred to in the note purchase agreement and who shall be selected from the then current list of approved underwriters; (iii) to sell and award all or any portion of the Series 2019 Notes through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement; or (iv) to issue all or any portion of the Series 2019 Notes in the form of a Loan Facility to any financial institution or institutions selected by the Authorized Officer. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Notes to the purchasers referred to in the preceding sentence in the case of a note purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a Loan Facility or a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the requirement that the Loan Facility issuer or direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Notes as may be approved by the Authorized Officer executing the note purchase, Loan Facility, continuing covenant or similar agreement (each, a “Purchase Agreement”). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Notes shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Notes on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the “Notice of Sale”), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Notes in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority’s financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize the use and distribution by said purchasers of a Preliminary Official Statement (the "Preliminary Official Statement"), in connection with the public offering of the Series 2019 Notes, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations of the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, said distribution being conclusive evidence of the approval of such changes, omissions, insertions and revisions. The Issuer authorizes any of said officers to deliver a certification to the effect that the Preliminary Official Statement, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of the Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of the Series 2019 Notes, said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Notwithstanding the preceding two paragraphs, however, each Authorized Officer may make public and authorize the use and distribution of a final Official Statement in connection with the public offering of the Series 2019 Notes meeting the requirements of the preceding two paragraphs and may deem such Official Statement final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute and deliver any and all documents and instruments and to do and cause to be done any and all acts necessary or proper for carrying out the Notice of Sale, the Purchase Agreement, the Continuing Disclosure Agreement, the terms of any municipal bond insurance or any other credit or liquidity facility, and the issuance, sale and delivery of the Series 2019 Notes, and for implementing the terms of the Series 2019 Notes and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**SECTION 2.10. Forms of Series 2019 Notes and Authentication Certificate.**

The form of registered Series 2019 Notes, and the certificate of authentication, shall be of substantially the form and tenor provided in any Certificate of Determination.

**SECTION 2.11. Appointment of Trustee, Paying Agent and other Agents.**

There is hereby delegated to any Authorized Officer executing any Certificate of Determination the right and authority to appoint any trustee, paying agent, fiscal agent or other agent with respect to the Series 2019 Notes deemed advisable by such Authorized Officer and to determine the terms and provisions of any arrangements with any such parties.

**SECTION 2.12. General Provisions.**

As and to the extent provided in any Certificate of Determination, the provisions of Articles A-III, IV, A-IV, A-VII, A-IX and A-XI of the Resolution may apply equally to the Series 2019 Notes as though set forth in full herein but with each reference to Bonds being a reference to Series 2019 Notes, except as affected by the terms hereof and the procedures of the Securities Depository; provided that the Authorized Officer executing any Certificate of Determination may, in the alternative, set forth in any Certificate of Determination provisions relating to any such matters as deemed necessary or appropriate by such Authorized Officer.

### **ARTICLE III**

#### **DISPOSITION AND ALLOCATION OF SERIES 2019 NOTE PROCEEDS**

**SECTION 3.01. Disposition of Series 2019 Note Proceeds.** Except as otherwise provided in any Certificate of Determination, the proceeds of the sale of the Series 2019 Notes shall be deposited in the Series 2019 Note Proceeds Account which is hereby established in the Proceeds Fund and applied pursuant to the related Certificate of Determination to the payment of Capital Costs, including any Costs of Issuance and accrued interest, and the payment of principal of and interest on Outstanding Series 2019 Notes.

### **ARTICLE IV**

#### **TAX COVENANT PROVISIONS AND DEFEASANCE**

**SECTION 4.01. Tax Covenants Relating to the Series 2019 Notes.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Notes issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Notes issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Holders of the Series 2019 Notes, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Bondholders or the Trustee under Section 702 of the Resolution (as though such

provisions related to Series 2019 Notes rather than Bonds), and (b) neither the Holders of the Notes of any Series (other than the Owners of the Series 2019 Notes or the Trustee acting on their behalf) nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to Noteholders under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

**SECTION 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in this Supplemental Resolution, all or less than all Outstanding Series 2019 Notes issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of this Supplemental Resolution, the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in this Supplemental Resolution unless (i) the Issuer has confirmed in writing that the Holders of the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Notes issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES 2019  
DEDICATED TAX FUND BOND SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

**MULTIPLE SERIES 2019  
DEDICATED TAX FUND REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**SECTION 1.01. Supplemental Resolution.** This Multiple Series 2019 Dedicated Tax Fund Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “Dedicated Tax Fund Obligation Resolution”, as heretofore supplemented (the “Resolution”).

**SECTION 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Series 2019 Bonds” shall mean the Dedicated Tax Fund Bonds, Series 2019, authorized by Article II of this Supplemental Resolution, subject to redesignation as hereinafter provided.

“Series 2019 Notes” shall mean the Dedicated Tax Fund Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to a Supplemental Resolution of the Issuer adopted as of the date that this Supplemental Resolution is adopted.

**SECTION 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF SERIES 2019 BONDS

**SECTION 2.01. Principal Amount, Designation and Series.** Pursuant to the Resolution and in order to finance Capital Costs, Dedicated Tax Fund Bonds, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Bonds), the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Bonds), shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that the Series 2019 Bonds issued to finance Capital Costs shall not exceed \$3.0 billion at any one time Outstanding reduced by the sum of (1) the amount of bond anticipation notes (the “TRB Series 2019 Notes”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, (2) the amount of bonds (the “TRB Series 2019 Bonds”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, and (3) the amount of bond anticipation notes (the “Series 2019 Notes”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any TRB Series 2019 Notes, Series 2019 Notes, Series 2019 Bonds or TRB Series 2019 Bonds issued to refinance Series 2019 Notes or TRB Series 2019 Notes).

Series 2019 Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title “Dedicated Tax Fund Bonds, Series 2019” or such other title or titles set forth in one or more Certificates of Determination.

The authority to issue the Bonds and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Bonds shall continue in effect until the adoption by the Issuer Board of a subsequent

new money bond issuance supplemental resolution relating to 2020 new money financings, provided, however, the authorization to issue the Series 2019 Bonds to refinance the TRB Series 2019 Notes and the Series 2019 Notes shall continue in effect until all of such TRB Series 2019 Notes and Series 2019 Notes have been refinanced by TRB Series 2019 Bonds and/or Series 2019 Bonds.

**SECTION 2.02. Purposes.** The purposes for which the Series 2019 Bonds are issued shall be set forth in one or more Certificates of Determination and may include (i) the payment of all or any part of the Capital Costs, and (ii) the payment of principal of and redemption premium, if any, and interest on Outstanding Series 2019 Notes or the DTF Series 2019 Notes.

**SECTION 2.03. Dates, Maturities, Principal Amounts and Interest.** The Series 2019 Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**SECTION 2.04. Interest Payments.** The Series 2019 Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**SECTION 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Bonds shall be numbered and lettered as provided in the related Certificate of Determination.

**SECTION 2.06. Places of Payment and Paying Agents.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Bonds shall be payable to the registered owner of each Series 2019 Bond when due upon presentation of such Series 2019 Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**SECTION 2.07. Sinking Fund Installments.** The Series 2019 Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption in part, by lot, or otherwise as determined in accordance with Section A-404 of the Resolution, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Series 2019 Bonds.

**SECTION 2.08. Redemption Prices and Terms.** The Series 2019 Bonds may also be subject to **redemption** prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Series 2019 Bonds, if set forth in the Certificate of Determination, the taxable Series 2019 Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**SECTION 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Bonds:

(a) to determine whether and when to issue any Series 2019 Bonds constituting Capital Cost Obligations, the amount of the Series 2019 Bonds to be applied to finance Capital Costs or other uses as provided in Section 2.02 hereof, and the amount of the proceeds of the Series 2019 Bonds estimated to be necessary to pay the Costs of Issuance of the Series 2019 Bonds and capitalized interest, if any;

(b) to determine the purpose or purposes for which the Series 2019 Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Series 2019 Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Series 2019 Bonds, which principal amounts (and the aggregate of all such Series and subseries) shall not exceed the principal amounts permitted by Section 2.01 of this Supplemental Resolution, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Series 2019 Bonds shall be dated and the interest rate or rates of the Series 2019 Bonds or the manner of determining such interest rate or rates; provided, however, that any Series 2019 Bonds issued as fixed rate

Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Series 2019 Bonds issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Bonds; provided, however, that if the Series 2019 Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine whether the sale of the Series 2019 Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Series 2019 Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, the purchase price for the Series 2019 Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale (as hereinafter defined), in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that, in the case of Series 2019 Bonds sold on a negotiated basis, the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Bonds;

(h) to take all actions required for the Series 2019 Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Series 2019 Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Series 2019 Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Series 2019 Bonds, (ii) the selection of remarketing agents, tender agents, calculation agents, auction agents, dealers, bidding agents or any other agents or parties to ancillary arrangements

and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof and to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to obtain or implement a Credit Facility with respect to the Series 2019 Bonds, and to make any changes in connection therewith;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine such other matters specified in or permitted by (i) Sections 202, 203, and A-201 of the Resolution or (ii) this Supplemental Resolution, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm

remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Bonds; if any Series 2019 Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**SECTION 2.10. Sale of Series 2019 Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Bonds; (ii) to sell and award all or any portion of the Series 2019 Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Series 2019 Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any direct or private placement of the Series 2019 Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Series 2019 Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of the Series 2019 Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Series 2019 Bonds

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker dealer agreements, tender agent agreements, or auction agency agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, the Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of the Series 2019 Bonds and for implementing the terms of the Series 2019 Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**SECTION 2.11. Forms of Series 2019 Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Series 2019 Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or any Certificate of Determination.

**SECTION 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by any Certificate of Determination, The Bank of New York Mellon, as successor in interest to JPMorgan Chase Bank, N.A., shall be the Trustee under the Resolution and the Paying Agent for the Series 2019 Bonds.

### ARTICLE III

#### DISPOSITION AND ALLOCATION OF SERIES 2019 BOND PROCEEDS

**SECTION 3.01. Disposition and Allocation of Series 2019 Bond Proceeds.** Any proceeds of the sale of the Series 2019 Bonds, other than accrued interest and capitalized interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Series 2019 Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination, as follows:

1. such proceeds shall be (i) deposited in the Series 2019 Bond Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Capital Costs or the payment of principal of and redemption premium, if any, and interest on the Series 2019 Notes or (ii) otherwise applied to the payment of such amounts; and
2. the balance of such proceeds shall be (i) deposited in the Series 2019 Costs of Issuance Account, which is hereby established in the Proceeds Fund for each

such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

**SECTION 3.02.** Unless otherwise provided in the related Certificate of Determination, the accrued interest and capitalized interest, if any, received on the sale of the Series 2019 Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANT PROVISIONS AND DEFEASANCE

**SECTION 4.01. Tax Covenants Relating to the Series 2019 Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any “Arbitrage and Use of Proceeds Certificate” or “Tax Certificate” to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer’s failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Series 2019 Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Series 2019 Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer’s failure to observe, or refusal to comply with, the above covenant.

**SECTION 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Series 2019 Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES  
AND RELATED SUBORDINATED INDEBTEDNESS  
DEDICATED TAX FUND BOND SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES AND  
RELATED SUBORDINATED INDEBTEDNESS  
DEDICATED TAX FUND BOND SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I  
DEFINITIONS AND STATUTORY AUTHORITY**

**SECTION 1.01. Supplemental Resolution.** This Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Dedicated Tax Fund Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “Dedicated Tax Fund Obligation Resolution”, as heretofore supplemented (the “Resolution”).

**SECTION 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Noteholder”, “Holder” or “Holder of Notes”, or any similar term, means any person who shall be the registered owner of any Outstanding Series 2019 Note or Notes.

“Notice of Sale” shall mean the form of Notice of Sale to be distributed with the Preliminary Official Statement, hereinafter defined, and published in the event of a competitive sale of the Series 2019 Notes.

“Series 2019 Bonds” shall mean the Dedicated Tax Fund Bonds, Series 2019, authorized by Article II of the Resolution and pursuant to a resolution of the Issuer adopted as of the date that this resolution is adopted.

“Series 2019 Notes” shall mean the Dedicated Tax Fund Bond Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to this Supplemental Resolution, subject to redesignation as hereinafter provided.

**SECTION 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## **ARTICLE II AUTHORIZATION OF SERIES 2019 NOTES**

**SECTION 2.01. Principal Amount, Designation and Series.** Pursuant to the Resolution, Dedicated Tax Fund Bond Anticipation Notes constituting Obligation Anticipation Notes under the Resolution, which may be issued in one or more Series and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Notes), the amount to be deposited in the Series 2019 Note Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Notes), shall not exceed \$3.0 billion at any one time Outstanding reduced by the sum of (1) the amount of bond anticipation notes (the “TRB Series 2019 Notes”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, (2) the amount of bonds (the “TRB Series 2019 Bonds”) issued under the Metropolitan Transportation Authority Multiple Series 2019 Transportation Revenue Bond Supplemental Resolution, adopted December 12, 2018, and (3) the amount of bonds issued under the Metropolitan Transportation Authority Multiple Series 2019 Dedicated Tax Fund Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any TRB Series 2019 Notes, Series 2019 Notes, TRB Series 2019 Bonds or Series 2019 Bonds issued to refinance Series 2019 Notes or TRB Series 2019 Notes). The Series 2019 Notes may be issued in the form of a loan agreement, line of credit, revolving credit agreement or similar facility (each, a “Loan Facility”). For all purposes of this Section such Dedicated Tax Fund Bond Anticipation Notes shall be designated as, and shall be distinguished from the Dedicated Tax Fund Bond Anticipation Notes of all other Series

by the title, “Dedicated Tax Fund Bond Anticipation Notes, Series 2019”, with such further or different designations as may be provided in any Certificate of Determination.

The authority to issue Obligation Anticipation Notes and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Notes shall continue in effect until the adoption by the Issuer’s Board of a subsequent new money note issuance supplemental resolution relating to 2020 new money financings, provided, however, the authorization to issue the TRB Series 2019 Bonds and the Series 2019 Bonds to refinance the TRB Series 2019 Notes and the Series 2019 Notes shall continue in effect until all of such TRB Series 2019 Notes and Series 2019 Notes have been refinanced by TRB Series 2019 Bonds and/or Series 2019 Bonds.

**SECTION 2.02. Use of Proceeds.** The proceeds of the Series 2019 Notes shall be used only for the purposes set forth in one or more Certificates of Determination and may include (i) the payment of all or any part of the Capital Costs, including Costs of Issuance related to the Series 2019 Notes and (ii) the payment of the principal and interest of Outstanding Series 2019 Notes or TRB Series 2019 Notes.

**SECTION 2.03. Dates, Maturities, Principal Amounts and Interest; Redemption.** The Series 2019 Notes shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Notes shall mature on the date or dates and in the year or years and in the principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, the Series 2019 Notes shall not be subject to redemption prior to maturity.

**SECTION 2.04. Interest Payments.** The Series 2019 Notes shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in any Certificate of Determination, interest on the Series 2019 Notes shall be computed on the basis of twelve 30-day months and a 360-day year.

**SECTION 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Notes shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Notes shall be numbered and lettered as provided in the related Certificate of Determination.

**SECTION 2.06. Places of Payment and Paying Agents.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Notes shall be payable to the registered owner of each Series 2019 Note when due upon presentation of such Series 2019 Note at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Notes will be paid by check or draft mailed on the interest payment date by the Paying Agent to the registered owner at his address as it appears on the registration books or, at the option of any Holder of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Notes, by wire transfer in immediately available funds on each interest payment

date to such Holder thereof upon written notice from such Holder to the Trustee, at such address as the Trustee may from time to time notify such Holder, containing the wire transfer address (which shall be in the continental United States) to which such Holder wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

#### **SECTION 2.07. Sources of Payment**

1. The principal of and interest on the Series 2019 Notes may be payable solely from (i) the proceeds of any other Series 2019 Notes or TRB Series 2019 Notes, (ii) the proceeds of the Series 2019 Bonds or TRB Series 2019 Bonds, and (iii) the proceeds of notes or other evidences of indebtedness or any other amounts (which other amounts are not pledged under the Resolution), in each case if and to the extent such amounts may lawfully be used to make such payments. The interest on the Series 2019 Notes may also be payable from amounts available for transfer pursuant to Section 504(b) and Section 505.3 of the Resolution for the payment of Subordinated Indebtedness.

2. There are hereby pledged to the payment of principal and interest on the Series 2019 Notes (i) the proceeds of other Series 2019 Notes or TRB Series 2019 Notes issued to refinance such Series 2019 Notes, and (ii) the proceeds of the Series 2019 Bonds issued to refinance such Series 2019 Notes, and such pledge has priority over any other pledge thereof created by the Resolution, including Section 501. There is also hereby pledged to the payment of interest on the Series 2019 Notes amounts available for transfer pursuant to Section 504(b) and Section 505.3 of the Resolution for the payment of Subordinated Indebtedness in accordance with and subject to the limitations contained in Section 506 of the Resolution. Proceeds and amounts described in clause (iii) of Section 2.07(1) hereof may be pledged to the payment of principal and interest on the Series 2019 Notes to the extent set forth in a Certificate of Determination.

#### **SECTION 2.08. Delegation to an Authorized Officer.**

1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Notes:

(a) to determine whether and when to issue any Series 2019 Notes, the amount of the Series 2019 Notes to be applied to finance Capital Costs or other uses as provided in Section 2.02 hereof and the amount of the proceeds of the Series 2019 Notes estimated to be necessary to pay the Costs of Issuance of the Series 2019 Notes;

(b) to determine the purpose or purposes for which the Series 2019 Notes are being issued, which shall be one or more of the purposes set forth in Section 2.02 hereof;

(c) to determine the principal amount of the Series 2019 Notes to be issued, which principal amount shall not exceed the amount described in Section 2.01 of this Supplemental Resolution, and whether such Series 2019 Notes shall be issued in one or more Series or subseries;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Notes; provided that the Series 2019 Notes shall mature no later than five years after the date of issuance of such Series 2019 Notes;

(e) to determine the date or dates which the Series 2019 Notes shall be dated and the interest rate or rates of the Series 2019 Notes, provided that the true interest cost (as calculated by the officers of the Issuer executing any Certificate of Determination, which calculation shall be conclusive) on the Series 2019 Notes bearing a fixed rate of interest shall not exceed 4.00% per annum and for Series 2019 notes bearing interest at a variable interest rate shall not exceed a rate equal to SIFMA or one-month or three-month LIBOR or any short-term index generally accepted in the marketplace, in each case, plus 4.00% and any default rate or equivalent rate shall not exceed the sum of 4.00% plus either a specified prime rate or the federal funds rate;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Notes; provided, however, that if the Series 2019 Notes are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Notes) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Notes to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Notes the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine the advisability, of conducting the sale of all or any portion of the Series 2019 Notes through competitive bidding or through a negotiated sale or a direct purchase transaction, and to determine the purchase price for the Series 2019 Notes to be paid by the purchasers pursuant to either a competitive bid process or by the purchasers referred to in the Purchase Agreement described in Section 2.09 of this Supplemental Resolution in the event the Series 2019 Notes are sold, in such officer's discretion, through a negotiated sale or a direct purchase transaction, which may include such original premium and original issue discount as shall be determined in the related Certificate of Determination, provided, however, that in the case of a negotiated transaction, underwriters' discount reflected in such purchase price shall not exceed \$3.50 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Notes;

(h) to determine the advisability, as compared to an unenhanced transaction, of obtaining municipal bond insurance or any other credit or liquidity facility, to determine and accept the terms and provisions and price thereof, to determine the items to be pledged to the Series 2019 Notes from those permitted by Section A-203 of the Resolution, and to determine such other matters as the officer executing any Certificate of Determination shall consider necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by bond insurers or the provider of any other credit or liquidity facility, if any, or required by the bond rating agencies in order to attain or maintain specific ratings on the Series 2019 Notes, or relating to the mechanism for the payment of insurance premium, credit or liquidity facility fees or direct purchase fees, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary

or appropriate to implement an insurance policy or any other credit or liquidity facility with respect to the Series 2019 Notes, and to make any changes in connection therewith. Such changes may include, but are not limited to, the making of any additional covenants with Holders or other parties deemed necessary or appropriate by the officer executing any Certificate of Determination;

(i) to take all actions required for the Series 2019 Notes to be eligible under the rules and regulations of The Depository Trust Company (“DTC”) for investment and trading as uncertificated securities, to execute and deliver a standard form letter of representation with, or other form of document required by, DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in any Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Notes issuable in fully registered form; and

(j) to determine whether to issue all or any part of the Series 2019 Notes as Tax-Exempt Obligations or Taxable Obligations;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Notes;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine any other matters provided for herein, including the matters set forth in Sections 2.11 and 2.12 hereof.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Notes are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Notes by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Notes, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm

remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Notes; if any Series 2019 Notes shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Notes consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Notes, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**SECTION 2.09. Sale of Series 2019 Notes.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Notes through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Notes; (ii) to sell and award all or any portion of the Series 2019 Notes through a negotiated sale to the purchasers who are referred to in the note purchase agreement and who shall be selected from the then current list of approved underwriters; (iii) to sell and award all or any portion of the Series 2019 Notes through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement; or (iv) to issue all or any portion of the Series 2019 Notes in the form of a Loan Facility to any financial institution or institutions selected by the Authorized Officer. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Notes to the purchasers referred to in the preceding sentence in the case of a note purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a Loan Facility or a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the requirement that the Loan Facility issuer or direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Notes as may be approved by the Authorized Officer executing the note purchase, Loan Facility, continuing covenant or similar agreement (each, a “Purchase Agreement”). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Notes shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Notes on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the “Notice of Sale”), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Notes in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority’s financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize the use and distribution by said purchasers of a Preliminary Official Statement (the “Preliminary Official Statement”), in connection with the public offering of the Series 2019 Notes, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations of the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, said distribution being conclusive evidence of the approval of such changes, omissions, insertions and revisions. The Issuer authorizes any of said officers to deliver a certification to the effect that the Preliminary Official Statement, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the “Official Statement”) in substantially the form of the Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of the Series 2019 Notes, said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Notwithstanding the preceding two paragraphs, however, each Authorized Officer may make public and authorize the use and distribution of a final Official Statement in connection with the public offering of the Series 2019 Notes meeting the requirements of the preceding two paragraphs and may deem such Official Statement final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the “Continuing Disclosure Agreement”), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute and deliver any and all documents and instruments and to do

and cause to be done any and all acts necessary or proper for carrying out the Notice of Sale, the Purchase Agreement, the Continuing Disclosure Agreement, the terms of any municipal bond insurance or any other credit or liquidity facility, and the issuance, sale and delivery of the Series 2019 Notes, and for implementing the terms of the Series 2019 Notes and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**SECTION 2.10. Forms of Series 2019 Notes and Authentication Certificate.** The form of registered Series 2019 Notes, and the certificate of authentication, shall be of substantially the form and tenor provided in any Certificate of Determination.

**SECTION 2.11. Appointment of Trustee, Paying Agent and other Agents.** There is hereby delegated to any Authorized Officer executing any Certificate of Determination the right and authority to appoint any trustee, paying agent, fiscal agent or other agent with respect to the Series 2019 Notes deemed advisable by such Authorized Officer and to determine the terms and provisions of any arrangements with any such parties.

**SECTION 2.12. General Provisions.** As and to the extent provided in any Certificate of Determination, the provisions of Articles A-III, IV, A-IV, A-VII, A-IX and A-XI of the Resolution may apply equally to the Series 2019 Notes as though set forth in full herein but with each reference to Bonds being a reference to Series 2019 Notes, except as affected by the terms hereof and the procedures of the Securities Depository; provided that the Authorized Officer executing any Certificate of Determination may, in the alternative, set forth in any Certificate of Determination provisions relating to any such matters as deemed necessary or appropriate by such Authorized Officer.

### ARTICLE III

#### DISPOSITION AND ALLOCATION OF SERIES 2019 NOTE PROCEEDS

**SECTION 3.01. Disposition of Series 2019 Note Proceeds.** Except as otherwise provided in any Certificate of Determination, the proceeds of the sale of the Series 2019 Notes shall be deposited in the Series 2019 Note Proceeds Account which is hereby established in the Proceeds Fund and applied pursuant to the related Certificate of Determination to the payment of Capital Costs, including any Costs of Issuance and accrued interest, and the payment of principal of and interest on Outstanding Series 2019 Notes or TRB Series 2019 Notes.

### ARTICLE IV

#### TAX COVENANT PROVISIONS AND DEFEASANCE

**SECTION 4.01. Tax Covenants Relating to the Series 2019 Notes.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Notes issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to

comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any “Arbitrage and Use of Proceeds Certificate” or “Tax Certificate” to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Notes issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer’s failure to observe, or refusal to comply with, the above covenant (a) the Holders of the Series 2019 Notes, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Bondholders or the Trustee under Section 702 of the Resolution (as though such provisions related to Series 2019 Notes rather than Bonds), and (b) neither the Holders of the Notes of any Series (other than the Owners of the Series 2019 Notes or the Trustee acting on their behalf) nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to Noteholders under the Resolution based upon the Issuer’s failure to observe, or refusal to comply with, the above covenant.

**SECTION 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in this Supplemental Resolution, all or less than all Outstanding Series 2019 Notes issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of this Supplemental Resolution, the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in this Supplemental Resolution unless (i) the Issuer has confirmed in writing that the Holders of the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Notes issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

---

**TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY**

**MULTIPLE SERIES 2019  
GENERAL REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

Table of Contents

	Page
ARTICLE I DEFINITIONS AND STATUTORY AUTHORITY.....	1
Section 1.01    Supplemental Resolution .....	1
Section 1.02    Definitions.....	1
Section 1.03    Authority for this Supplemental Resolution .....	2
ARTICLE II AUTHORIZATION OF SERIES 2019 BONDS .....	2
Section 2.01    Authorized Principal Amount, Designation and Series .....	2
Section 2.02    Purposes .....	2
Section 2.03    Dates, Maturities, Principal Amounts and Interest .....	3
Section 2.04    Interest Payments .....	3
Section 2.05    Denominations, Numbers and Letters.....	3
Section 2.06    Places of Payment and Paying Agent .....	3
Section 2.07    Sinking Fund Installments .....	3
Section 2.08    Redemption Prices and Terms .....	3
Section 2.09    Delegation to an Authorized Officer.....	4
Section 2.10    Sale of Series 2019 Bonds .....	7
Section 2.11    .....Forms of Series 2019 Bonds and Trustee’s Authentication Certificate.....	9
Section 2.12    Appointment of Trustee and Paying Agent .....	9
ARTICLE III DISPOSITION OF SERIES 2019 BOND PROCEEDS.....	9
Section 3.01    Disposition of Series 2019 Bond Proceeds.....	9
ARTICLE IV TAX COVENANTS AND DEFEASANCE .....	9
Section 4.01    Tax Covenants Relating to the Series 2019 Bonds.....	9
Section 4.02    Defeasance .....	10

**MULTIPLE SERIES 2019  
GENERAL REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Triborough Bridge and Tunnel Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01 Supplemental Resolution.** This Multiple Series 2019 General Revenue Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “General Resolution Authorizing General Revenue Obligations”, as heretofore supplemented (the “Resolution”).

**Section 1.02 Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act, and when used with respect to the MTA, the members of the MTA acting as such pursuant to the provisions of the MTA Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Series 2019 Bonds” shall mean the General Revenue Obligations authorized by Article II of this Supplemental Resolution, subject to redesignation as hereinafter provided.

“Series 2019 Notes” shall mean the General Revenue Bond Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to a Supplemental Resolution of the Issuer adopted as of the date that this Supplemental Resolution is adopted.

**Section 1.03 Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF SERIES 2019 BONDS

**Section 2.01 Principal Amount, Designation and Series.** Pursuant to the Resolution and in order to finance Capital Costs, General Revenue Obligations constituting Capital Cost Obligations, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Bonds), the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that the Series 2019 Bonds issued to finance Capital Costs shall not exceed \$350 million at any one time Outstanding reduced by the sum of (1) the amount of bonds (the “Series 2019 Subordinate Bonds”) issued under the Triborough Bridge and Tunnel Authority Multiple Series 2001 Subordinate Revenue Bond Supplemental Resolution, adopted December 12, 2018 and (2) the amount of Series 2019 Notes issued under the Triborough Bridge and Tunnel Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness General Revenue Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any Series 2019 Bonds, Series 2019 Subordinate Bonds or Series 2019 Notes issued to refinance Series 2019 Notes).

Series 2019 Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title “General Revenue Bonds, Series 2019” or such other title or titles set forth in one or more Certificates of Determination.

The authority to issue the Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Bonds shall continue in effect until the adoption by the Issuer Board of a subsequent new money bond issuance supplemental resolution relating to 2020 new money financings.

**Section 2.02 Purposes.** The purposes for which the Series 2019 Bonds are issued shall be set forth in one or more Certificates of Determination and shall include the payment of all or

any part of the Capital Costs, all to the extent and in the manner provided in this Supplemental Resolution.

**Section 2.03 Dates, Maturities, Principal Amounts and Interest.** The Series 2019 Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04 Interest Payments.** The Series 2019 Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Bonds shall be computed on the basis of twelve (12) 30-day months and a 360-day year.

**Section 2.05 Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06 Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Bonds shall be payable to the registered owner of each Series 2019 Bond when due upon presentation of such Series 2019 Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07 Sinking Fund Installments.** The Series 2019 Bonds, if any, as determined in the related Certificate of Determination, shall be subject to redemption in part, by lot, or otherwise as determined in accordance with Section A-404 of the Resolution, on each date in the year or years at the principal amount thereof as determined in the related Certificate of Determination, plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Series 2019 Bonds.

**Section 2.08 Redemption Prices and Terms.** The Series 2019 Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in

Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Series 2019 Bonds, if set forth in the Certificate of Determination, the taxable Series 2019 Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09 Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Bonds:

(a) to determine whether and when to issue any Series 2019 Bonds constituting Capital Cost Obligations, the amount of the Series 2019 Bonds to be applied to finance Capital Costs, and the amount of the proceeds of the Series 2019 Bonds, estimated to be necessary to pay the Costs of Issuance of the Series 2019 Bonds and capitalized interest, if any;

(b) to determine the purpose or purposes for which the Series 2019 Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Series 2019 Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Series 2019 Bonds, which principal amounts (and the aggregate of all such Series and subseries) shall not exceed the principal amounts permitted by Section 2.01 of this Supplemental Resolution, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Series 2019 Bonds shall be dated and the interest rate or rates of the Series 2019 Bonds or the manner of determining such interest rate or rates; provided, however, that any Series 2019 Bonds issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Series 2019 Bonds issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any and the redemption terms, if any, for the Series 2019 Bonds; provided, however, that if the Series 2019 Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine whether the sale of the Series 2019 Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Series 2019 Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement or the purchase price for the Series 2019 Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale (as hereinafter defined), in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Bonds;

(h) to take all actions required for the Series 2019 Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Series 2019 Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Series 2019 Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Series 2019 Bonds, (ii) the selection of remarketing agents, tender agents, calculation agents, auction agents, dealers, bidding agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof and to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees,

premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to obtain or implement a Credit Facility with respect to the Series 2019 Bonds, and to make any changes in connection therewith;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine such other matters specified in or permitted by (i) Sections 202, 203, and A-201 of the Resolution or (ii) this Supplemental Resolution, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Bonds are delivered from time to time or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Bonds; if any Series 2019 Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such

Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10 Sale of Series 2019 Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Bonds; (ii) to sell and award all or any portion of the Series 2019 Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Series 2019 Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a “Purchase Agreement”). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the “Notice of Sale”), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority’s financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement,

offering circular, or other disclosure document (the “Preliminary Official Statement”) in connection with each public offering or any direct or private placement of the Series 2019 Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the “Official Statement”) in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Series 2019 Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the “Continuing Disclosure Agreement”), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of the Series 2019 Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Series 2019 Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker-dealer agreements, tender agent agreements, or auction agency agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of the Series 2019 Bonds and for implementing the terms of the Series 2019 Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11 Forms of Series 2019 Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Series 2019 Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or the related Certificate of Determination.

**Section 2.12 Appointment of Trustee and Paying Agent.** Unless otherwise provided in the related Certificate of Determination, U.S. Bank Trust National Association shall be the Trustee under the Resolution and the Paying Agent for the Series 2019 Bonds.

### ARTICLE III

#### DISPOSITION OF SERIES 2019 BOND PROCEEDS

**Section 3.01 Disposition of Series 2019 Bond Proceeds.** Any proceeds of the sale of the Series 2019 Bonds, other than accrued interest and capitalized interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Series 2019 Bonds, or shall otherwise be applied pursuant to a Certificate of Determination as follows:

1. such proceeds shall be (i) deposited in the Series 2019 Bond Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Capital Costs or the payment of principal of and redemption premium, if any, and interest on the Series 2019 Notes or (ii) otherwise applied to the payment of such amounts; and

2. the balance of such proceeds shall be (i) deposited in the Series 2019 Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in the related Certificate of Determination, accrued interest and capitalized interest, if any, received on the sale of the Series 2019 Bonds shall be deposited in the Debt Service Fund.

### ARTICLE IV

#### TAX COVENANTS AND DEFEASANCE

**Section 4.01 Tax Covenants Relating to the Series 2019 Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of

the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any “Arbitrage and Use of Proceeds Certificate” or “Tax Certificate” to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer’s failure to observe, or refusal to comply with the above covenant (a) the Owners of the Series 2019 Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, other than the right (which is hereby abrogated solely as to the Issuer’s failure to observe, or refusal to comply with the above covenant) to declare the principal of all Obligations then Outstanding, and the interest accrued thereon, to be due and payable pursuant to Section 567 of the Issuer Act, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Series 2019 Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer’s failure to observe, or refusal to comply with, the above covenant.

**Section 4.02 Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Series 2019 Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

**TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES AND RELATED  
SUBORDINATED INDEBTEDNESS  
GENERAL REVENUE BOND SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

**MULTIPLE SERIES 2019 BOND ANTICIPATION NOTES AND  
RELATED SUBORDINATED INDEBTEDNESS  
GENERAL REVENUE BOND SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Triborough Bridge and Tunnel Authority (the “Issuer”), as follows:

**ARTICLE I  
DEFINITIONS AND STATUTORY AUTHORITY**

**SECTION 1.01. Supplemental Resolution.** This Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness General Revenue Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “General Resolution Authorizing General Revenue Obligations”, as heretofore supplemented (the “Resolution”).

**SECTION 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act, and when used with respect to the MTA, the members of the MTA acting as such pursuant to the provisions of the MTA Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Noteholder”, “Holder” or “Holder of Notes”, or any similar term, means any person who shall be the registered owner of any Outstanding Series 2019 Note or Notes.

“Notice of Sale” shall mean the form of Notice of Sale to be distributed with the Preliminary Official Statement, hereinafter defined, and published in the event of a competitive sale of the Series 2019 Notes.

“Series 2019 Notes” shall mean the General Revenue Bond Anticipation Notes, Series 2019, authorized to be issued, in accordance with Section A-203 of the Standard Resolution Provisions, pursuant to this Supplemental Resolution, subject to redesignation as hereinafter provided.

“Series 2019 Senior Bonds” shall mean the General Revenue Obligations authorized by Article II of the Resolution and pursuant to a resolution of the Issuer adopted as of the date that this Supplemental Resolution is adopted.

“Series 2019 Subordinate Bonds” shall mean the Subordinate Revenue Obligations authorized by Article II of the Issuer’s “2001 Subordinate Revenue Resolution Authorizing Subordinate Revenue Obligations” adopted on March 26, 2002, and pursuant to a resolution of the Issuer adopted as of the date that this Supplemental Resolution is adopted.

**SECTION 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## **ARTICLE II AUTHORIZATION OF SERIES 2018 NOTES**

**SECTION 2.01. Principal Amount, Designation and Series.** In accordance with the Resolution, General Revenue Bond Anticipation Notes constituting Obligation Anticipation Notes under the Resolution, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters’ discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Notes), the amount to be deposited in the Series 2019 Note Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest, or any Costs of Issuance of the Series 2019 Notes), shall not exceed \$350 million at any one time Outstanding reduced by the sum of (1) the amount of Series 2019 Senior Bonds issued under the Triborough Bridge and Tunnel Authority Multiple Series 2019 General Revenue Bond Supplemental Resolution, adopted December 12, 2018, and (2) the amount of Series 2019 Subordinate Bonds issued under the Triborough Bridge and Tunnel Authority Multiple Series 2001 Subordinate Revenue Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any Series 2019 Notes, Series 2019 Senior Bonds or Series 2019 Subordinate Bonds issued to refinance Series 2019 Notes). The Series 2019 Notes may be issued in the form of a loan agreement, line of credit, revolving credit agreement or similar facility (each, a “Loan Facility”). For all purposes of this Section such General Revenue Bond Anticipation Notes shall be designated as, and shall be distinguished from the General Revenue Bond Anticipation Notes of all other Series by the title, “General Revenue Bond

Anticipation Notes, Series 2019”, with such further or different designations as may be provided in any Certificate of Determination.

The authority to issue Obligation Anticipation Notes and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Notes shall continue in effect until the adoption by the Issuer’s Board of a subsequent new money note issuance supplemental resolution relating to 2020 new money financings, provided, however, the authorization to issue the Series 2019 Bonds to refinance the Series 2019 Notes shall continue in effect until all of such Series 2019 Notes have been refinanced by Series 2019 Bonds.

**SECTION 2.02. Use of Proceeds.** The proceeds of the Series 2019 Notes shall be used only for the purposes set forth in one or more Certificates of Determination and may include (i) the payment of all or any part of the Capital Costs, including Costs of Issuance related to the Series 2019 Notes and (ii) the payment of the principal and interest of Outstanding Series 2019 Notes.

**SECTION 2.03. Dates, Maturities, Principal Amounts and Interest; Redemption.** The Series 2019 Notes shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Notes shall mature on the date or dates and in the year or years and in the principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination. Except as otherwise provided in any Certificate of Determination, the Series 2019 Notes shall not be subject to redemption prior to maturity.

**SECTION 2.04. Interest Payments.** The Series 2019 Notes shall bear interest from their date or dates, and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Notes shall be computed on the basis of twelve (12) 30-day months and a 360-day year.

**SECTION 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Notes shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Notes shall be numbered and lettered as provided in the related Certificate of Determination.

**SECTION 2.06. Places of Payment and Paying Agents.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Notes shall be payable to the registered owner of each Series 2019 Note when due upon presentation of such Series 2019 Note at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Notes will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Holder of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Notes, by wire transfer in immediately available funds on each interest payment date to such Holder thereof upon written notice from such Holder to the Trustee, at such address as the Trustee may from time to time notify such Holder, containing the wire transfer address

(which shall be in the continental United States) to which such Holder wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

#### **SECTION 2.07. Sources of Payment**

1. The principal of and interest on the Series 2019 Notes may be payable solely from (i) the proceeds of any other Series 2019 Notes, (ii) the proceeds of the Series 2019 Bonds, and (iii) the proceeds of notes or other evidences of indebtedness or any other amounts (which other amounts are not pledged under the Resolution), in each case if and to the extent such amounts may lawfully be used to make such payments. The interest on the Series 2019 Notes may also be payable from amounts available for transfer pursuant to Section 503(c) of the Resolution for the payment of Subordinated Indebtedness.

2. There are hereby pledged to the payment of principal and interest on the Series 2019 Notes (i) the proceeds of other Series 2019 Notes issued to refinance such Series 2019 Notes, and (ii) the proceeds of the Series 2019 Bonds issued to refinance such Series 2019 Notes, and such pledge has priority over any other pledge thereof created by the Resolution, including Section 501. There is also hereby pledged to the payment of interest on the Series 2019 Notes amounts available for transfer pursuant to Section 503(c) of the Resolution for the payment of Subordinated Indebtedness in accordance with and subject to the limitations contained in Section 507 of the Resolution. Proceeds and amounts described in clause (iii) of Section 2.07(1) hereof may be pledged to the payment of principal and interest on the Series 2019 Notes to the extent set forth in a Certificate of Determination.

#### **SECTION 2.08. Delegation to an Authorized Officer.**

1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Notes:

(a) to determine whether and when to issue any Series 2019 Notes, the amount of the Series 2019 Notes to be applied to finance Capital Costs or other uses as provided in Section 2.02 of this Supplemental Resolution and the amount of the proceeds of the Series 2019 Notes estimated to be necessary to pay the Costs of Issuance of the Series 2019 Notes;

(b) to determine the purpose or purposes for which the Series 2019 Notes are being issued, which shall be one or more of the purposes set forth in Section 2.02 hereof;

(c) to determine the principal amount of the Series 2019 Notes to be issued, which principal amount shall not exceed the amount described in Section 2.01 of this Supplemental Resolution, and whether such Series 2019 Notes shall be issued in one or more Series or subseries;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Notes; provided that the Series 2019 Notes shall mature no later than five years after the date of issuance of such Series 2019 Notes;

(e) to determine the date or dates which the Series 2019 Notes shall be dated and the interest rate or rates of the Series 2019 Notes, provided that the true interest cost (as calculated by the officers of the Issuer executing any Certificate of Determination, which calculation shall be conclusive) on the Series 2019 Notes bearing a fixed rate of interest shall not exceed 4.00% per annum and for Series 2019 notes bearing interest at a variable interest rate shall not exceed a rate equal to SIFMA or one-month or three-month LIBOR or any short-term index generally accepted in the marketplace, in each case, plus 4.00% and any default rate or equivalent rate shall not exceed the sum of 4.00% plus either a specified prime rate or the federal funds rate;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Notes; provided, however, that if the Series 2019 Notes are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Notes) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Notes to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Notes the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine the advisability of conducting the sale of all or any portion of the Series 2019 Notes through competitive bidding or through a negotiated sale or a direct purchase transaction, and to determine the purchase price for the Series 2019 Notes to be paid by the purchasers pursuant to either a competitive bid process or by the purchasers referred to in the Purchase Agreement described in Section 2.09 of this Supplemental Resolution in the event the Series 2019 Notes are sold, in such officer's discretion, through a negotiated sale or a direct purchase transaction, which may include such original premium and original issue discount as shall be determined in the related Certificate of Determination, provided, however, that in the case of a negotiated transaction, underwriters' discount reflected in such purchase price shall not exceed \$3.50 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Notes;

(h) to determine the advisability, as compared to an unenhanced transaction, of obtaining municipal bond insurance or any other credit or liquidity facility, to determine and accept the terms and provisions and price thereof, to determine the items to be pledged to the Series 2019 Notes from those permitted by Section A-203 of the Resolution, and to determine such other matters as the officer executing any Certificate of Determination shall consider necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by bond insurers or the provider of any other credit or liquidity facility, if any, or required by the bond rating agencies in order to attain or maintain specific ratings on the Series 2019 Notes, or relating to the mechanism for the payment of insurance premium, credit or liquidity facility fees or direct purchase fees, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to implement an insurance policy or any other credit or liquidity facility with respect to the Series 2019 Notes, and to make any changes in connection therewith. Such changes may include, but are not limited to, the making of any additional covenants with Holders or other parties deemed necessary or appropriate by the officer executing any Certificate of Determination;

(i) to take all actions required for the Series 2019 Notes to be eligible under the rules and regulations of The Depository Trust Company (“DTC”) for investment and trading as uncertificated securities, to execute and deliver a standard form letter of representation with, or other form of document required by, DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in any Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Notes issuable in fully registered form; and

(j) to determine whether to issue all or any part of the Series 2019 Notes as Tax-Exempt Obligations or Taxable Obligations;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Notes;

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine any other matters provided for herein, including the matters set forth in Sections 2.11 and 2.12 hereof.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Notes are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Notes by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Notes, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Notes; if any Series 2019 Notes shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Notes consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Notes, any

such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**SECTION 2.09. Sale of Series 2019 Notes.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Notes through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series 2019 Notes; (ii) to sell and award all or any portion of the Series 2019 Notes through a negotiated sale to the purchasers who are referred to in the note purchase agreement and who shall be selected from the then current list of approved underwriters; (iii) to sell and award all or any portion of the Series 2019 Notes through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement; or (iv) to issue all or any portion of the Series 2019 Notes in the form of a Loan Facility to any financial institution or institutions selected by the Authorized Officer. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Notes to the purchasers referred to in the preceding sentence in the case of a note purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a Loan Facility or a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the requirement that the Loan Facility issuer or direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Notes as may be approved by the Authorized Officer executing the note purchase, Loan Facility, continuing covenant or similar agreement (each, a “Purchase Agreement”). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Notes shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Notes on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the “Notice of Sale”), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Notes in a manner consistent with this Supplemental

Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize the use and distribution by said purchasers of a Preliminary Official Statement (the "Preliminary Official Statement"), in connection with the public offering of the Series 2019 Notes, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations of the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, said distribution being conclusive evidence of the approval of such changes, omissions, insertions and revisions. The Issuer authorizes any of said officers to deliver a certification to the effect that the Preliminary Official Statement, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized, to the extent required, to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of the Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of the Series 2019 Notes, said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Notwithstanding the preceding two paragraphs, however, each Authorized Officer may make public and authorize the use and distribution of a final Official Statement in connection with the public offering of the Series 2019 Notes meeting the requirements of the preceding two paragraphs and may deem such Official Statement final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute and deliver any and all documents and instruments and to do and cause to be done any and all acts necessary or proper for carrying out the Notice of Sale, the Purchase Agreement, the Continuing Disclosure Agreement, the terms of any municipal bond insurance or any other credit or liquidity facility, and the issuance, sale and delivery of the Series 2019 Notes, and for implementing the terms of the Series 2019 Notes and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**SECTION 2.10. Forms of Series 2019 Notes and Authentication Certificate.** The form of registered Series 2019 Notes, and the certificate of authentication, shall be of substantially the form and tenor provided in any Certificate of Determination.

**SECTION 2.11. Appointment of Trustee, Paying Agent and other Agents.** There is hereby delegated to any Authorized Officer executing any Certificate of Determination the right and authority to appoint any trustee, paying agent, fiscal agent or other agent with respect to the Series 2019 Notes deemed advisable by such Authorized Officer and to determine the terms and provisions of any arrangements with any such parties.

**SECTION 2.12. General Provisions.** As and to the extent provided in any Certificate of Determination, the provisions of Articles A-III, IV, A-IV, A-VII, A-IX and A-XI of the Resolution may apply equally to the Series 2019 Notes as though set forth in full herein but with each reference to Bonds being a reference to Series 2019 Notes, except as affected by the terms hereof and the procedures of the Securities Depository; provided that the Authorized Officer executing any Certificate of Determination may, in the alternative, set forth in any Certificate of Determination provisions relating to any such matters as deemed necessary or appropriate by such Authorized Officer.

### **ARTICLE III**

#### **DISPOSITION AND ALLOCATION OF SERIES 2019 NOTE PROCEEDS**

**SECTION 3.01. Disposition of Series 2019 Note Proceeds.** Except as otherwise provided in any Certificate of Determination, the proceeds of the sale of the Series 2019 Notes shall be deposited in the Series 2019 Note Proceeds Account which is hereby established in the Proceeds Fund and applied pursuant to the related Certificate of Determination to the payment of Capital Costs, including any Costs of Issuance and accrued interest, and the payment of principal of and interest on Outstanding Series 2019 Notes.

### **ARTICLE IV**

#### **TAX COVENANT PROVISIONS AND DEFEASANCE**

**SECTION 4.01. Tax Covenants Relating to the Series 2019 Notes.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Notes issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Notes issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Holders of the Series 2019 Notes, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Bondholders or the Trustee under Section 702 of the Resolution (as though such provisions related to Series 2019 Notes rather than Bonds), other than the right (which is hereby abrogated solely as to the Issuer's failure to observe, or refusal to comply with the above covenant) to declare the principal of all Notes then Outstanding, and the interest accrued thereon, to be due and payable pursuant to Section 567 of the Issuer Act, and (b) neither the Holders of the Notes of any Series (other than the Owners of the Series 2019 Notes or the Trustee acting on their behalf) nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to Noteholders under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

**SECTION 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in this Supplemental Resolution, all or less than all Outstanding Series 2019 Notes issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of this Supplemental Resolution, the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in this Supplemental Resolution unless (i) the Issuer has confirmed in writing that the Holders of the Series 2019 Notes issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Series 2019 Notes issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

---

**TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY**

**MULTIPLE SERIES 2001  
SUBORDINATE REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

Table of Contents

	Page
ARTICLE I DEFINITIONS AND STATUTORY AUTHORITY.....	1
Section 1.01 Supplemental Resolution .....	1
Section 1.02 Definitions.....	1
Section 1.03 Authority for this Supplemental Resolution .....	2
ARTICLE II AUTHORIZATION OF SERIES 2019 BONDS .....	2
Section 2.01 Authorized Principal Amount, Designation and Series .....	2
Section 2.02 Purposes .....	2
Section 2.03 Dates, Maturities, Principal Amounts and Interest .....	2
Section 2.04 Interest Payments .....	3
Section 2.05 Denominations, Numbers and Letters.....	3
Section 2.06 Places of Payment and Paying Agent .....	3
Section 2.07 Sinking Fund Installments .....	3
Section 2.08 Redemption Prices and Terms .....	3
Section 2.09 Delegation to an Authorized Officer.....	4
Section 2.10 Sale of Series 2019 Bonds .....	6
Section 2.11 Forms of Series 2019 Bonds and Trustee’s Authentication Certificate.....	8
Section 2.12 Appointment of Trustee and Paying Agent .....	8
ARTICLE III DISPOSITION OF SERIES 2019 BOND PROCEEDS.....	9
Section 3.01 Disposition of Series 2019 Bond Proceeds.....	9
ARTICLE IV TAX COVENANTS AND DEFEASANCE .....	9
Section 4.01 Tax Covenants Relating to the Series 2019 Bonds.....	9
Section 4.02 Additional Covenants.....	10
Section 4.03 Defeasance .....	10

**MULTIPLE SERIES 2001  
SUBORDINATE REVENUE BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Board of Triborough Bridge and Tunnel Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01 Supplemental Resolution.** This Multiple Series 2001 Subordinate Revenue Bond Supplemental Resolution (the “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II, Article A-II and Article A-VIII of, a resolution adopted by the Issuer on March 26, 2002, entitled “2001 Subordinate Revenue Resolution Authorizing Subordinate Revenue Obligations”, as heretofore supplemented (the “Resolution”).

**Section 1.02 Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance of the MTA, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act, and when used with respect to the MTA, the members of the MTA acting as such pursuant to the provisions of the MTA Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Series 2019 Bonds” shall mean the Subordinate Revenue Obligations authorized by Article II of this Supplemental Resolution, subject to redesignation as provided in this Supplemental Resolution.

**Section 1.03 Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF SERIES 2019 BONDS

**Section 2.01 Authorized Principal Amount, Designation and Series.** Pursuant to the Resolution and in order to finance Capital Costs, Subordinate Revenue Obligations constituting Capital Cost Subordinate Revenue Obligations, which may be issued in one or more Series or subseries and from time to time, entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount and underwriters' discount from the principal amount (but without giving effect to any net original issue premium as determined to be advisable by an Authorized Officer in connection with the marketing of the Series 2019 Bonds), the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest, capitalized interest or any Costs of Issuance of the Series 2019 Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that the Series 2019 Bonds issued to finance Capital Costs shall not exceed \$350 million at any one time Outstanding, reduced by the sum of the (1) the amount of bonds (the "Series 2019 Senior Bonds") issued under the Triborough Bridge and Tunnel Authority Multiple Series 2019 General Revenue Bond Supplemental Resolution, adopted December 12, 2018, and (2) the amount of Series 2019 Notes issued under the Triborough Bridge and Tunnel Authority Multiple Series 2019 Bond Anticipation Notes and Related Subordinated Indebtedness General Revenue Bond Supplemental Resolution, adopted December 12, 2018 (but, for purposes of clarification, not including any Series 2019 Bonds, Series 2019 Senior Bonds or Series 2019 Notes issued to refinance Series 2019 Notes).

The authority to issue the Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Series 2019 Bonds shall continue in effect until the adoption by the Issuer Board of a subsequent new money bond issuance supplemental resolution relating to 2019 new money financings.

**Section 2.02 Purposes.** The purposes for which the Series 2019 Bonds are issued shall be set forth in one or more Certificates of Determination and shall include the payment of all or any part of the Capital Costs, all to the extent and in the manner provided in this Supplemental Resolution.

**Section 2.03 Dates, Maturities, Principal Amounts and Interest.** The Series 2019 Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Series 2019 Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04 Interest Payments.** The Series 2019 Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Series 2019 Bonds shall be computed on the basis of twelve (12) 30-day months and a 360-day year.

**Section 2.05 Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Series 2019 Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Series 2019 Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06 Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Series 2019 Bonds shall be payable to the registered owner of each Series 2019 Bond when due upon presentation of such Series 2019 Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Series 2019 Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Series 2019 Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07 Sinking Fund Installments.** The Series 2019 Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption in part, by lot, or otherwise as determined in accordance with Section A-404 of the Resolution, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Series 2019 Bonds.

**Section 2.08 Redemption Prices and Terms.** The Series 2019 Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Series 2019 Bonds, if set forth in the Certificate of Determination, the taxable Series 2019 Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09 Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Series 2019 Bonds:

(a) to determine whether and when to issue any Series 2019 Bonds constituting Capital Cost Subordinate Revenue Obligations, the amount of the Series 2019 Bonds to be applied to finance Capital Costs, and the amount of the proceeds of the Series 2019 Bonds, estimated to be necessary to pay the Costs of Issuance of the Series 2019 Bonds and capitalized interest, if any;

(b) to determine the purpose or purposes for which the Series 2019 Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Series 2019 Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Series 2019 Bonds, which principal amounts (and the aggregate of all such Series and subseries) shall not exceed the principal amounts permitted by Section 2.01 of this Supplemental Resolution, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Series 2019 Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Series 2019 Bonds shall be dated and the interest rate or rates of the Series 2019 Bonds or the manner of determining such interest rate or rates; provided, however, that any Series 2019 Bonds issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Series 2019 Bonds issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Series 2019 Bonds; provided, however, that if the Series 2019 Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Series 2019 Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2019 Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Series 2019 Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine whether the sale of the Series 2019 Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Series 2019 Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement or the purchase price for the Series 2019 Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale (as hereinafter defined), in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Series 2019 Bonds;

(h) to take all actions required for the Series 2019 Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Series 2019 Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Series 2019 Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Series 2019 Bonds, (ii) the selection of remarketing agents, tender agents, calculation agents, auction agents, dealers, bidding agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof and to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature necessary or appropriate to obtain or implement a Credit Facility with respect to the Series 2019 Bonds, and to make any changes in connection therewith;

(k) to make such changes to the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Series 2019 Bonds; and

(l) to make such changes to the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects; and

(m) to determine such other matters specified in or permitted by (i) Sections 202, 203, and A-201 of the Resolution or (ii) this Supplemental Resolution, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Series 2019 Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Series 2019 Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Series 2019 Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Series 2019 Bonds; if any Series 2019 Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine one or more subseries into a single Series or subseries; or, if any Series 2019 Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Series 2019 Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10 Sale of Series 2019 Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Series 2019 Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Series

2019 Bonds; (ii) to sell and award all or any portion of the Series 2019 Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Series 2019 Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Series 2019 Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Series 2019 Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Series 2019 Bonds shall be conducted on a competitive bid basis each Authorized Officer is hereby further authorized to conduct the sale and award of the Series 2019 Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Series 2019 Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any direct or private placement of the Series 2019 Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the “Official Statement”) in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Series 2019 Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the “Continuing Disclosure Agreement”), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of the Series 2019 Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Series 2019 Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker-dealer agreements, tender agent agreements, or auction agency agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of each issue of the Series 2019 Bonds and for implementing the terms of each issue of the Series 2019 Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11 Forms of Series 2019 Bonds and Trustee’s Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Series 2019 Bonds, and the Trustee’s certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or the related Certificate of Determination.

**Section 2.12 Appointment of Trustee and Paying Agent.** Unless otherwise provided in the related Certificate of Determination, The Bank of New York Mellon, as successor in

interest to JPMorgan Chase Bank, N.A., shall be the Trustee under the Resolution and the Paying Agent for the Series 2019 Bonds.

### ARTICLE III

#### DISPOSITION OF SERIES 2019 BOND PROCEEDS

**Section 3.01 Disposition of Series 2019 Bond Proceeds.** Any proceeds of the sale of the Series 2019 Bonds, other than accrued interest and capitalized interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series of subseries of the Series 2019 Bonds, or shall otherwise be applied pursuant to a Certificate of Determination as follows:

1. such proceeds shall be (i) deposited in the Series 2019 Bond Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Capital Costs or the payment of principal of and redemption premium, if any, and interest on the Series 2019 Notes or (ii) otherwise applied to the payment of such amounts; and

2. the balance of such proceeds shall be (i) deposited in the Series 2019 Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in the related Certificate of Determination, accrued interest and capitalized interest, if any, received on the sale of the Series 2019 Bonds shall be deposited in the Debt Service Fund.

### ARTICLE IV

#### TAX COVENANTS AND DEFEASANCE

**Section 4.01 Tax Covenants Relating to the Series 2019 Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Series 2019 Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Series 2019 Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with the above covenant (a) the Owners of the Series 2019 Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, other than the right (which is hereby abrogated solely as to the Issuer's failure to observe, or refusal to comply with the above covenant) to declare the principal of all Obligations then Outstanding, and the interest accrued thereon, to be due and payable pursuant to Section 567 of the Issuer Act, and (b)

neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Series 2019 Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

#### **Section 4.02 Additional Covenants.**

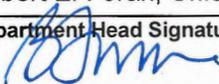
1. The Issuer covenants and agrees that it will not issue any Senior Obligations under the Senior Resolution (other than pursuant to Section 205 thereof) unless in addition to satisfying the requirements of the Senior Resolution, an Authorized Officer delivers to the trustee under the Senior Resolution a certificate demonstrating that for any period of 12 consecutive calendar months out of the 18 complete calendar months next preceding the date of authentication and delivery such issue of Senior Obligations, Net Revenues are at least equal to 1.10 times the Combined Maximum Annual Calculated Debt Service for all Subordinate Revenue Obligations, Parity Debt, Senior Obligations and Senior Parity Debt.

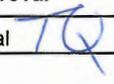
2. The Issuer covenants and agrees that in addition to complying with the provisions of Section 604 of the Resolution, the Issuer shall at all times establish, levy, maintain and collect, or cause to be established, levied, maintained and collected, such tolls, rentals and other charges in connection with the TBTA Facilities as shall always be sufficient, together with other money available therefor (including the anticipated receipt of proceeds of sale of Obligations or other bonds, notes or other obligations or evidences of indebtedness of the Issuer 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 TBTA Facilities), to equal or exceed in each calendar year the greater of (a) an amount equal to the sum of amounts necessary in such calendar year (i) to pay all Operating Expenses of the Issuer, plus (ii) to pay the sum of Calculated Debt Service as defined in the Resolution and Calculated Debt Service as defined in the Senior Resolution, plus (iii) to maintain any reserve established by the Issuer pursuant to the Senior Resolution, in such amount as may be determined from time to time by an Authorized Officer in his or her judgment, or (b) an amount such that Revenues less Operating Expenses shall equal at least 1.10 times the sum of Calculated Debt Service as defined in the Senior Resolution and Calculated Debt Service as defined in the Resolution for such calendar year.

**Section 4.03 Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Series 2019 Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Series 2019 Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the

Series 2019 Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

# Staff Summary

<b>Subject</b> Authorization to Issue Transportation Revenue Refunding Bonds, Dedicated Tax Fund Refunding Bonds, Triborough Bridge and Tunnel Authority General Revenue Refunding Bonds and Subordinate Revenue Refunding Bonds	<b>Date</b> December 12, 2018
<b>Department</b> Finance	<b>Vendor Name</b> N/A
<b>Department Head Name</b> Robert E. Foran, Chief Financial Officer	<b>Contract Number</b> (blank)
<b>Department Head Signature</b> 	<b>Contract Manager Name</b> (blank)
<b>Project Manager Name</b> Patrick McCoy, Director of Finance 	<b>Table of Contents Ref #</b> (blank)

Board Action						Internal Approvals			
Order	To	Date	Approval	Info	Other	Order	Approval	Order	Approval
1	Finance Comm.	12/10	X			1	Legal 	2	Chief of Staff 
2	Board	12/12	X						

**PURPOSE:**

The MTA Finance Department is seeking MTA and TBTA Board authorization and approval of the necessary documentation to issue refunding bonds, from time to time, subject, if applicable, to the Refunding Policy adopted by the Board in May, 2010, as amended from time to time, and provided that the MTA Chief Financial Officer or the MTA Director, Finance makes a determination that the refunding of such bonds or other obligations will be beneficial to the obligors thereof and/or their affiliates and subsidiaries.

Concurrently under a separate Staff Summary, the MTA Finance Department is seeking MTA and TBTA Board approval of an updated Refunding Policy, which, if approved, will apply to the issuance of refunding bonds pursuant to the resolutions discussed herein.

**DISCUSSION:**

MTA and TBTA Board approval is sought for the following resolutions, documents and activities in connection with the issuance of refunding bonds:

- MTA Multiple Series Transportation Revenue Refunding Bond Supplemental Resolution (2019) authorizing Metropolitan Transportation Authority Transportation Revenue Refunding Obligations, including providing for the issuance of the following:
  - Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the Transportation Revenue Refunding Obligations.
- MTA Multiple Series Dedicated Tax Fund Refunding Bond Supplemental Resolution (2019) authorizing Metropolitan Transportation Authority Dedicated Tax Fund Refunding Obligations, including providing for the issuance of the following:
  - Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the Dedicated Tax Fund Revenue Refunding Obligations.

- TBTA Multiple Series General Revenue Refunding Bond Supplemental Resolution (2019) authorizing Triborough Bridge and Tunnel Authority General Revenue Refunding Obligations, including providing for the issuance of the following:
  - Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the General Revenue Refunding Obligations.
- TBTA Multiple Series 2001 Subordinate Revenue Refunding Bond Supplemental Resolution (2019) authorizing Triborough Bridge and Tunnel Authority Subordinate Revenue Refunding Obligations, including providing for the issuance of the following:
  - Parity Reimbursement Obligations and other Parity Debt in an amount sufficient to secure any Credit Facilities entered into in connection with the issuance of the Subordinate Revenue Refunding Obligations.

With respect to the above-referenced financial transactions, MTA and TBTA Board approval, as applicable, is sought:

(a) delegating authority to the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance to award the obligations either pursuant to competitive bid or to members (or entities related to such firms) of the Board-approved MTA underwriting syndicate and to execute and/or deliver in each case, where appropriate:

- Notices of Sale and bid forms,
- Purchase Agreements with underwriters,
- Direct Purchase Agreements,
- Official Statements and other disclosure documents,
- Continuing Disclosure Agreements and related filings,
- Remarketing Agreements and Firm Remarketing Agreements,
- Dealer and Broker/Dealer Agreements,
- Issuing and Paying Agent and Tender Agent Agreements,
- Credit Facilities and related Parity Reimbursement Obligations and Parity Debt,
- Related Subordinated Contract Obligations,
- Verification Reports,
- Escrow Agreements, and
- Investment Agreements.

Any such documents will be in substantially the form of any document previously entered into by MTA or TBTA for previous issues, with such changes as approved by any one or more of the foregoing officers.

(b) authorizing such officers to terminate, amend, supplement, replace or extend any such documents, including existing Credit Facilities (and related Parity Reimbursement Obligations and Parity Debt), as they shall deem advisable, and to take such other actions as may be necessary or desirable to effectuate the issuance of the refunding bonds and other financial transactions set forth above, on behalf of MTA, TBTA or other MTA subsidiaries and affiliates.

## **ALTERNATIVES:**

The Board could determine that staff seek specific approval for each refunding contemplated in advance of undertaking such refunding. This alternative is not advised as the timing of the Board cycle could result in missed market opportunities.

## **RECOMMENDATION:**

The MTA and TBTA Boards approve the above-referenced resolutions and documents and all other actions described above, including the execution and delivery of such other documents, and the taking of all other actions, from time to time deemed necessary or desirable by such officers in connection therewith. The authorization to issue the refunding bonds and take other related actions hereunder shall continue in effect without any further action by the MTA or TBTA Boards, until the adoption by the MTA and TBTA Boards of subsequent refunding bond

# Staff Summary

supplemental resolutions relating to 2020 refundings unless (a) the MTA and TBTA Boards shall have confirmed the effectiveness of this authorization for an additional period, or (b) the MTA and TBTA Boards shall have modified or repealed this authorization.

---

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES  
TRANSPORTATION REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

---

**TABLE OF CONTENTS**

Page

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

Section 1.01. Supplemental Resolution ..... 1  
Section 1.02. Definitions..... 1  
Section 1.03. Authority for this Supplemental Resolution ..... 2

**ARTICLE II**

**AUTHORIZATION OF REFUNDING BONDS**

Section 2.01. Authorized Principal Amount, Designation and Series ..... 2  
Section 2.02. Purposes ..... 2  
Section 2.03. Dates, Maturities, Principal Amounts and Interest ..... 3  
Section 2.04. Interest Payments ..... 3  
Section 2.05. Denominations, Numbers and Letters..... 3  
Section 2.06. Places of Payment and Paying Agent ..... 3  
Section 2.07. Sinking Fund Installments ..... 3  
Section 2.08. Redemption Prices and Terms ..... 4  
Section 2.09. Delegation to an Authorized Officer..... 4  
Section 2.10. Sale of Refunding Bonds ..... 7  
Section 2.11. Forms of Refunding Bonds and Trustee’s Authentication Certificate..... 9  
Section 2.12. Appointment of Trustee and Paying Agent ..... 9

**ARTICLE III**

**DISPOSITION OF REFUNDING BOND PROCEEDS**

Section 3.01. Disposition of Refunding Bond Proceeds..... 9

**ARTICLE IV**

**TAX COVENANTS AND DEFEASANCE**

Section 4.01. Tax Covenants Relating to the Refunding Bonds..... 10  
Section 4.02. Defeasance ..... 10

**MULTIPLE SERIES  
TRANSPORTATION REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01. Supplemental Resolution.** This Multiple Series Transportation Revenue Refunding Bond Supplemental Resolution (this “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II and Article A-VIII of, a resolution of the Issuer adopted on March 26, 2002, entitled “General Resolution Authorizing Transportation Revenue Obligations” (the “Resolution”).

**Section 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean the members of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Cross-Credit Obligations” shall mean indebtedness or other obligations issued or incurred by the Issuer or any other Related Entity as described in clause (iii) of the definition of “Capital Costs”, but excluding Obligations.

“Refunding Bonds” shall mean the Transportation Revenue Bonds authorized by Article II of this Supplemental Resolution in one or more Series or subseries, subject to redesignation as hereinafter provided.

**Section 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF REFUNDING BONDS

#### **Section 2.01. Authorized Principal Amount, Designation and Series.**

1. Pursuant to the Resolution and in order to issue (a) Refunding Obligations, and (b) Obligations for the purpose of refunding Cross-Credit Obligations, multiple Series of Transportation Revenue Obligations (which may be issued at one time or from time to time in any number of Series or subseries) entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount or premium and underwriters’ discount from the principal amount, the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest or any Costs of Issuance of the Refunding Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that any Refunding Bonds issued pursuant to this Supplemental Resolution shall be issued in compliance with any Board policies relating to the issuance of refunding bonds as may be in effect from time to time.

2. Nothing in this Supplemental Resolution is intended to preclude the issuance of Refunding Bonds as refunding obligations in accordance with Section 203 of the Resolution.

Refunding Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title, “Transportation Revenue Refunding Bonds, Series [insert calendar year of issuance]” or such other title or titles set forth in the related Certificate of Determination.

The authority to issue Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Refunding Bonds and take other related actions hereunder shall continue in effect without any further action by the Issuer until the adoption by the MTA Board of a subsequent refunding bond supplemental resolution relating to 2020 refundings.

**Section 2.02. Purposes.** The purposes for which the Refunding Bonds are issued shall be set forth in one or more Certificates of Determination and may include the refunding, restructuring or payment, including by purchasing, exchanging or tendering therefor, of all or

any portion of any Outstanding Obligations or Parity Debt or Cross-Credit Obligations deemed advisable by an Authorized Officer in accordance with Section 203 or 204 of the Resolution, as applicable.

**Section 2.03. Dates, Maturities, Principal Amounts and Interest.** The Refunding Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Refunding Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04. Interest Payments.** The Refunding Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Refunding Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**Section 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Refunding Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof. The Refunding Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06. Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Refunding Bonds shall be payable to the registered owner of each Refunding Bond when due upon presentation of such Refunding Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Refunding Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Refunding Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07. Sinking Fund Installments.** The Refunding Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption (a) in part, by lot, (b) pro rata (in the case of taxable Refunding Bonds), or (c) otherwise as determined in accordance with Section A-404 of the Resolution, as set forth in the related Certificate of Determination, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Refunding Bonds.

**Section 2.08. Redemption Prices and Terms.** The Refunding Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Refunding Bonds, if set forth in the Certificate of Determination, the taxable Refunding Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Refunding Bonds:

(a) to determine whether and when to issue any Refunding Bonds constituting Refunding Obligations or Obligations issued to refund Cross-Credit Obligations, and to determine the amount of the proceeds of the Refunding Bonds to be applied to refunding purposes as well as the specific Obligations or Parity Debt or Cross-Credit Obligations, or portions of either to be refunded and the date or dates, if any, on which such refunded obligations shall be redeemed, and the amount of the proceeds of the Refunding Bonds estimated to be necessary to pay the Costs of Issuance of the Refunding Bonds;

(b) to determine the purpose or purposes for which the Refunding Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Refunding Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Refunding Bonds, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Refunding Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Refunding Bonds shall be dated and the interest rate or rates of the Refunding Bonds or the manner of determining such interest rate or rates; provided, however, that any Obligations issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Obligations issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Refunding Bonds; provided, however, that if the Refunding Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Refunding Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Refunding Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Refunding Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make-whole redemption;

(g) to determine whether the sale of the Refunding Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Refunding Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, or the purchase price for the Refunding Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale, in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Refunding Bonds;

(h) to take all actions required for the Refunding Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Refunding Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Refunding Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Obligations, (ii) the selection of remarketing agents, tender agents, auction agents, dealers, bidding agents, calculation agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof, to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature

necessary or appropriate to obtain or implement a Credit Facility with respect to the Refunding Bonds, and to make any changes in connection therewith;

(k) to make such changes in or from the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds;

(l) to make such changes in or from the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects;

(m) to determine whether to (i) enter into an escrow agreement or other arrangement in connection with the issuance of Refunding Bonds, including the selection of escrow agents, verification agents and the manner of determining specified matters relating to the defeasance of the refunded obligations and (ii) purchase SLGs or open market securities and the form and substance thereof and any related investment agreement, and to determine the application of any amounts released in connection with any such refunding;

(n) to determine that such Refunding Bonds comply with all Board policies relating to the issuance of refunding obligations in effect at the time of such determination; and

(o) to determine such other matters specified in or permitted by (i) Sections 202, 203, 204 and A-201 of the Resolution or (ii) this Supplemental Resolution, and to determine matters relating to the payment or defeasance of Obligation Anticipation Notes, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Refunding Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Refunding Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Refunding Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Refunding Bonds; if any Refunding Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine

one or more subseries into a single Series or subseries; or, if any Refunding Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Refunding Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10. Sale of Refunding Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Refunding Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Refunding Bonds; (ii) to sell and award all or any portion of the Refunding Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Refunding Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Refunding Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Refunding Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Refunding Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined

by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Refunding Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any private placement of the Refunding Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Refunding Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of Refunding Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Refunding Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker-dealer agreements, tender agent agreements, or auction agency agreements, any escrow agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an

Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of each issue of the Refunding Bonds and for implementing the terms of each issue of the Refunding Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11. Forms of Refunding Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Refunding Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or any Certificate of Determination.

**Section 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by Certificate of Determination, The Bank of New York Mellon, as successor in interest to JPMorgan Chase Bank, N.A. shall be the Trustee under the Resolution and the Paying Agent for the Refunding Bonds.

### ARTICLE III

#### DISPOSITION OF REFUNDING BOND PROCEEDS

**Section 3.01. Disposition of Refunding Bond Proceeds.** Any proceeds of the sale of the Refunding Bonds, other than accrued interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Refunding Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination as follows:

(a) such proceeds shall be (i) deposited in the Refunding Bonds Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the refunding of any Obligations, Parity Debt or Cross Credit Obligations, or portions of any of them, in accordance with Section 2.02 hereof or (ii) otherwise applied to such refunding; and

(b) the balance of such proceeds shall be (i) deposited in the Refunding Bonds Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in a Certificate of Determination, the accrued interest, if any, received on the sale of the Refunding Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANTS AND DEFEASANCE

**Section 4.01. Tax Covenants Relating to the Refunding Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Refunding Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Refunding Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Refunding Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Refunding Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

The provisions of the foregoing covenants set forth in this Section shall not apply to any Refunding Bonds, including any subseries thereof, which the Issuer determines pursuant to the applicable Certificate of Determination to issue as Taxable Obligations.

**Section 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Refunding Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Refunding Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

---

**METROPOLITAN TRANSPORTATION AUTHORITY**

**MULTIPLE SERIES  
DEDICATED TAX FUND REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

---

**TABLE OF CONTENTS**

Page

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

Section 1.01. Supplemental Resolution ..... 1  
Section 1.02. Definitions..... 1  
Section 1.03. Authority for this Supplemental Resolution ..... 2

**ARTICLE II**

**AUTHORIZATION OF REFUNDING BONDS**

Section 2.01. Authorized Principal Amount, Designation and Series ..... 2  
Section 2.02. Purposes ..... 2  
Section 2.03. Dates, Maturities, Principal Amounts and Interest ..... 3  
Section 2.04. Interest Payments ..... 3  
Section 2.05. Denominations, Numbers and Letters..... 3  
Section 2.06. Places of Payment and Paying Agent ..... 3  
Section 2.07. Sinking Fund Installments ..... 3  
Section 2.08. Redemption Prices and Terms ..... 4  
Section 2.09. Delegation to an Authorized Officer..... 4  
Section 2.10. Sale of Refunding Bonds ..... 7  
Section 2.11. Forms of Refunding Bonds and Trustee’s Authentication Certificate..... 9  
Section 2.12. Appointment of Trustee and Paying Agent ..... 9

**ARTICLE III**

**DISPOSITION OF REFUNDING BOND PROCEEDS**

Section 3.01. Disposition of Refunding Bond Proceeds..... 9

**ARTICLE IV**

**TAX COVENANTS AND DEFEASANCE**

Section 4.01. Tax Covenants Relating to the Refunding Bonds..... 10  
Section 4.02. Defeasance ..... 10

**MULTIPLE SERIES  
DEDICATED TAX FUND REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Metropolitan Transportation Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01. Supplemental Resolution.** This Multiple Series Dedicated Tax Fund Refunding Revenue Bond Supplemental Resolution (this “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II and Article A-VIII of, a resolution of the Issuer adopted on March 26, 2002, entitled “Dedicated Tax Fund Obligation Resolution” (the “Resolution”).

**Section 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean the members of the Issuer acting as such pursuant to the provisions of the Issuer Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Cross-Credit Obligations” shall mean indebtedness or other obligations issued or incurred by the Issuer or any other Related Entity as described in clause (iii) of the definition of “Capital Costs”, but excluding Obligations.

“Refunding Bonds” shall mean the Dedicated Tax Fund Bonds authorized by Article II of this Supplemental Resolution in one or more Series or subseries subject to redesignation as hereinafter provided.

**Section 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF REFUNDING BONDS

#### **Section 2.01. Authorized Principal Amount, Designation and Series.**

1. Pursuant to the Resolution and in order to issue (a) Refunding Obligations, and (b) Obligations for the purpose of refunding Cross-Credit Obligations, multiple Series of Dedicated Tax Fund Obligations (which may be issued at one time or from time to time in any number of Series or subseries) entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount or premium and underwriters’ discount from the principal amount, the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest or any Costs of Issuance of the Refunding Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that any Refunding Bonds issued pursuant to this Supplemental Resolution shall be issued in compliance with any Board policies relating to the issuance of refunding bonds as may be in effect from time to time.

2. Nothing in this Supplemental Resolution is intended to preclude the issuance of Refunding Bonds as refunding obligations in accordance with Section 203 of the Resolution.

Refunding Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title, “Dedicated Tax Fund Refunding Bonds, Series [insert calendar year of issuance]” or such other title or titles set forth in the related Certificate of Determination.

The authority to issue Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Refunding Bonds and take other related actions hereunder shall continue in effect without any further action by the Issuer until the adoption by the MTA Board of a subsequent refunding bond supplemental resolution relating to 2020 refundings.

**Section 2.02. Purposes.** The purposes for which the Refunding Bonds are issued shall be set forth in one or more Certificates of Determination and may include the refunding, restructuring or payment, including by purchasing, exchanging or tendering therefor, of all or

any portion of any Outstanding Obligations or Parity Debt or Cross-Credit Obligations deemed advisable by an Authorized Officer in accordance with Section 203 or 204 of the Resolution, as applicable.

**Section 2.03. Dates, Maturities, Principal Amounts and Interest.** The Refunding Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Refunding Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04. Interest Payments.** The Refunding Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Refunding Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**Section 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Refunding Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof.

The Refunding Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06. Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Refunding Bonds shall be payable to the registered owner of each Refunding Bond when due upon presentation of such Refunding Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Refunding Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Refunding Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07. Sinking Fund Installments.** The Refunding Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption (a) in part, by lot, (b) pro rata (in the case of taxable Refunding Bonds), or (c) otherwise as determined in accordance with Section A-404 of the Resolution, as set forth in the related Certificate of Determination, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Refunding Bonds.

**Section 2.08. Redemption Prices and Terms.** The Refunding Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Refunding Bonds, if set forth in the Certificate of Determination, the taxable Refunding Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Refunding Bonds:

(a) to determine whether and when to issue any Refunding Bonds constituting Refunding Obligations or Obligations issued to refund Cross-Credit Obligations, and to determine the amount of the proceeds of the Refunding Bonds to be applied to refunding purposes as well as the specific Obligations or Parity Debt or Cross-Credit Obligations, or portions of either to be refunded and the date or dates, if any, on which such refunded obligations shall be redeemed, and the amount of the proceeds of the Refunding Bonds estimated to be necessary to pay the Costs of Issuance of the Refunding Bonds;

(b) to determine the purpose or purposes for which the Refunding Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Refunding Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Refunding Bonds, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Refunding Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Refunding Bonds shall be dated and the interest rate or rates of the Refunding Bonds or the manner of determining such interest rate or rates; provided, however, that any Obligations issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Obligations issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Refunding Bonds; provided, however, that if the Refunding Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Refunding Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Refunding Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Refunding Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make whole redemption;

(g) to determine whether the sale of the Refunding Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Refunding Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, or the purchase price for the Refunding Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale, in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Refunding Bonds;

(h) to take all actions required for the Refunding Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Refunding Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Refunding Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Obligations, (ii) the selection of remarketing agents, tender agents, auction agents, dealers, bidding agents, calculation agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof, to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature

necessary or appropriate to obtain or implement a Credit Facility with respect to the Refunding Bonds, and to make any changes in connection therewith;

(k) to make such changes in or from the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds;

(l) to make such changes in or from the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects;

(m) to determine whether to (i) enter into an escrow agreement or other arrangement in connection with the issuance of Refunding Bonds, including the selection of escrow agents, verification agents and the manner of determining specified matters relating to the defeasance of the refunded obligations and (ii) purchase SLGs or open market securities and the form and substance thereof and any related investment agreement, and to determine the application of any amounts released in connection with any such refunding;

(n) to determine that such Refunding Bonds comply with all Board policies relating to the issuance of refunding obligations in effect at the time of such determination; and

(o) to determine such other matters specified in or permitted by (i) Sections 202, 203, 204 and A-201 of the Resolution or (ii) this Supplemental Resolution, and to determine matters relating to the payment or defeasance of Obligation Anticipation Notes, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Refunding Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Refunding Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Refunding Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Refunding Bonds; if any Refunding Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine

one or more subseries into a single Series or subseries; or, if any Refunding Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Refunding Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10. Sale of Refunding Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Refunding Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Refunding Bonds; (ii) to sell and award all or any portion of the Refunding Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Refunding Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Refunding Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Refunding Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Refunding Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined

by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Refunding Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any private placement of the Refunding Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Refunding Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of Refunding Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Refunding Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker-dealer agreements, tender agent agreements, or auction agency agreements, any escrow agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an

Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of each issue of the Refunding Bonds and for implementing the terms of each issue of the Refunding Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11. Forms of Refunding Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Refunding Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or any Certificate of Determination.

**Section 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by Certificate of Determination, The Bank of New York Mellon, as successor in interest to JPMorgan Chase Bank, N.A. shall be the Trustee under the Resolution and the Paying Agent for the Refunding Bonds.

### ARTICLE III

#### DISPOSITION OF REFUNDING BOND PROCEEDS

**Section 3.01. Disposition of Refunding Bond Proceeds.** Any proceeds of the sale of the Refunding Bonds, other than accrued interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Refunding Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination as follows:

(a) such proceeds shall be (i) deposited in the Refunding Bonds Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the refunding of any Obligations, Parity Debt or Cross Credit Obligations, or portions of any of them, in accordance with Section 2.02 hereof or (ii) otherwise applied to such refunding; and

(b) the balance of such proceeds shall be (i) deposited in the Refunding Bonds Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in a Certificate of Determination, the accrued interest, if any, received on the sale of the Refunding Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANTS AND DEFEASANCE

**Section 4.01. Tax Covenants Relating to the Refunding Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Refunding Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Refunding Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Refunding Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Refunding Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

The provisions of the foregoing covenants set forth in this Section shall not apply to any Refunding Bonds, including any subseries thereof, which the Issuer determines pursuant to the applicable Certificate of Determination to issue as Taxable Obligations.

**Section 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Refunding Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Refunding Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

---

**TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY**

**MULTIPLE SERIES  
GENERAL REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

---

**TABLE OF CONTENTS**

Page

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

Section 1.01. Supplemental Resolution ..... 1  
Section 1.02. Definitions..... 1  
Section 1.03. Authority for this Supplemental Resolution ..... 2

**ARTICLE II**

**AUTHORIZATION OF REFUNDING BONDS**

Section 2.01. Authorized Principal Amount, Designation and Series ..... 2  
Section 2.02. Purposes ..... 2  
Section 2.03. Dates, Maturities, Principal Amounts and Interest ..... 3  
Section 2.04. Interest Payments ..... 3  
Section 2.05. Denominations, Numbers and Letters..... 3  
Section 2.06. Places of Payment and Paying Agent ..... 3  
Section 2.07. Sinking Fund Installments ..... 3  
Section 2.08. Redemption Prices and Terms ..... 4  
Section 2.09. Delegation to an Authorized Officer..... 4  
Section 2.10. Sale of Refunding Bonds ..... 7  
Section 2.11. Forms of Refunding Bonds and Trustee’s Authentication Certificate..... 9  
Section 2.12. Appointment of Trustee and Paying Agent ..... 9

**ARTICLE III**

**DISPOSITION OF REFUNDING BOND PROCEEDS**

Section 3.01. Disposition of Refunding Bond Proceeds..... 90

**ARTICLE**

**IV TAX COVENANTS AND DEFEASANCE**

Section 4.01. Tax Covenants Relating to the Refunding Bonds..... 101  
Section 4.02. Defeasance ..... 101

**MULTIPLE SERIES  
GENERAL REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Triborough Bridge and Tunnel Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01. Supplemental Resolution.** This Multiple Series General Revenue Refunding Bond Supplemental Resolution (this “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II and Article A-VIII of, a resolution of the Issuer adopted on March 26, 2002, entitled “General Resolution Authorizing General Revenue Obligations” (the “Resolution”).

**Section 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act, and when used with respect to the MTA, the members of the MTA acting as such pursuant to the provisions of the MTA Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Cross-Credit Obligations” shall mean indebtedness or other obligations issued or incurred by the Issuer or any other Related Entity as described in clause (iii) of the definition of “Capital Costs”, but excluding Obligations.

“Refunding Bonds” shall mean the General Revenue Bonds authorized by Article II of this Supplemental Resolution in one or more Series or subseries subject to redesignation as hereinafter provided.

**Section 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF REFUNDING BONDS

#### **Section 2.01. Authorized Principal Amount, Designation and Series.**

1. Pursuant to the Resolution and in order to issue (a) Refunding Obligations, and (b) Obligations for the purpose of refunding Cross-Credit Obligations, multiple Series of General Revenue Obligations (which may be issued at one time or from time to time in any number of Series or subseries) entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount or premium and underwriters’ discount from the principal amount, the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest or any Costs of Issuance of the Refunding Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that any Refunding Bonds issued pursuant to this Supplemental Resolution shall be issued in compliance with any Board policies relating to the issuance of refunding bonds as may be in effect from time to time.

2. Nothing in this Supplemental Resolution is intended to preclude the issuance of Refunding Bonds as refunding obligations in accordance with Section 203 of the Resolution.

Refunding Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title, “General Revenue Refunding Bonds, Series [insert calendar year of issuance]” or such other title or titles set forth in the related Certificate of Determination.

The authority to issue Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Refunding Bonds and take other related actions hereunder shall continue in effect without any further action by the Issuer until the adoption by the Issuer Board of a subsequent refunding bond supplemental resolution relating to 2020 refundings.

**Section 2.02. Purposes.** The purposes for which the Refunding Bonds are issued shall be set forth in one or more Certificates of Determination and may include the refunding, restructuring or payment, including by purchasing, exchanging or tendering therefor, of all or

any portion of any Outstanding Obligations or Parity Debt or Cross-Credit Obligations deemed advisable by an Authorized Officer in accordance with Section 203 or 204 of the Resolution, as applicable.

**Section 2.03. Dates, Maturities, Principal Amounts and Interest.** The Refunding Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Refunding Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04. Interest Payments.** The Refunding Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Refunding Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**Section 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Refunding Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof.

The Refunding Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06. Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Refunding Bonds shall be payable to the registered owner of each Refunding Bond when due upon presentation of such Refunding Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Refunding Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Refunding Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07. Sinking Fund Installments.** The Refunding Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption (a) in part, by lot, (b) pro rata (in the case of taxable Refunding Bonds), or (c) otherwise as determined in accordance with Section A-404 of the Resolution, as set forth in the related Certificate of Determination, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Refunding Bonds.

**Section 2.08. Redemption Prices and Terms.** The Refunding Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Refunding Bonds, if set forth in the Certificate of Determination, the taxable Refunding Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Refunding Bonds:

(a) to determine whether and when to issue any Refunding Bonds constituting Refunding Obligations or Obligations issued to refund Cross-Credit Obligations, and to determine the amount of the proceeds of the Refunding Bonds to be applied to refunding purposes as well as the specific Obligations or Parity Debt or Cross-Credit Obligations, or portions of either to be refunded and the date or dates, if any, on which such refunded obligations shall be redeemed, and the amount of the proceeds of the Refunding Bonds estimated to be necessary to pay the Costs of Issuance of the Refunding Bonds;

(b) to determine the purpose or purposes for which the Refunding Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Refunding Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Refunding Bonds, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Refunding Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Refunding Bonds shall be dated and the interest rate or rates of the Refunding Bonds or the manner of determining such interest rate or rates; provided, however, that any Obligations issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Obligations issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Refunding Bonds; provided, however, that if the Refunding Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Refunding Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Refunding Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Refunding Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make whole redemption;

(g) to determine whether the sale of the Refunding Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Refunding Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, or the purchase price for the Refunding Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale, in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Refunding Bonds;

(h) to take all actions required for the Refunding Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Refunding Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Refunding Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Obligations, (ii) the selection of remarketing agents, tender agents, auction agents, dealers, bidding agents, calculation agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof, to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature

necessary or appropriate to obtain or implement a Credit Facility with respect to the Refunding Bonds, and to make any changes in connection therewith;

(k) to make such changes in or from the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds;

(l) to make such changes in or from the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects;

(m) to determine whether to (i) enter into an escrow agreement or other arrangement in connection with the issuance of Refunding Bonds, including the selection of escrow agents, verification agents and the manner of determining specified matters relating to the defeasance of the refunded obligations and (ii) purchase SLGs or open market securities and the form and substance thereof and any related investment agreement, and to determine the application of any amounts released in connection with any such refunding;

(n) to determine that such Refunding Bonds comply with all Board policies relating to the issuance of refunding obligations in effect at the time of such determination; and

(o) to determine such other matters specified in or permitted by (i) Sections 202, 203, 204 and A-201 of the Resolution or (ii) this Supplemental Resolution, and to determine matters relating to the payment or defeasance of Obligation Anticipation Notes, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Refunding Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Refunding Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Refunding Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Refunding Bonds; if any Refunding Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine

one or more subseries into a single Series or subseries; or, if any Refunding Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Refunding Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10. Sale of Refunding Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Refunding Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Refunding Bonds; (ii) to sell and award all or any portion of the Refunding Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Refunding Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Refunding Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Refunding Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Refunding Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined

by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Refunding Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any private placement of the Refunding Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Refunding Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of Refunding Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Refunding Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker dealer agreements, tender agent agreements, or auction agency agreements, any escrow agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an

Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of each issue of the Refunding Bonds and for implementing the terms of each issue of the Refunding Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11. Forms of Refunding Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Refunding Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or any Certificate of Determination.

**Section 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by Certificate of Determination, U.S. Bank Trust National Association shall be the Trustee under the Resolution and the Paying Agent for the Refunding Bonds.

### ARTICLE III

#### DISPOSITION OF REFUNDING BOND PROCEEDS

**Section 3.01. Disposition of Refunding Bond Proceeds.** Any proceeds of the sale of the Refunding Bonds, other than accrued interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Refunding Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination as follows:

(a) such proceeds shall be (i) deposited in the Refunding Bonds Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the refunding of any Obligations, Parity Debt or Cross Credit Obligations, or portions of any of them, in accordance with Section 2.02 hereof or (ii) otherwise applied to such refunding; and

(b) the balance of such proceeds shall be (i) deposited in the Refunding Bonds Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in a Certificate of Determination, the accrued interest, if any, received on the sale of the Refunding Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANTS AND DEFEASANCE

**Section 4.01. Tax Covenants Relating to the Refunding Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Refunding Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Refunding Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Refunding Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, other than the right (which is hereby abrogated solely as to the Issuer's failure to observe, or refusal to comply with the above covenant) to declare the principal of all Obligations then Outstanding, and the interest accrued thereon, to be due and payable pursuant to Section 567 of the Issuer Act, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Refunding Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

The provisions of the foregoing covenants set forth in this Section shall not apply to any Refunding Bonds, including any subseries thereof, which the Issuer determines pursuant to the applicable Certificate of Determination to issue as Taxable Obligations.

**Section 4.02. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Refunding Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Refunding Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

---

**TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY**

**MULTIPLE SERIES  
2001 SUBORDINATE REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

**Adopted December 12, 2018**

---

**TABLE OF CONTENTS**

Page

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

Section 1.01. Supplemental Resolution ..... 1  
Section 1.02. Definitions..... 1  
Section 1.03. Authority for this Supplemental Resolution ..... 2

**ARTICLE II**

**AUTHORIZATION OF REFUNDING BONDS**

Section 2.01. Authorized Principal Amount, Designation and Series ..... 2  
Section 2.02. Purposes ..... 2  
Section 2.03. Dates, Maturities, Principal Amounts and Interest ..... 3  
Section 2.04. Interest Payments ..... 3  
Section 2.05. Denominations, Numbers and Letters..... 3  
Section 2.06. Places of Payment and Paying Agent ..... 3  
Section 2.07. Sinking Fund Installments ..... 3  
Section 2.08. Redemption Prices and Terms ..... 4  
Section 2.09. Delegation to an Authorized Officer..... 4  
Section 2.10. Sale of Refunding Bonds ..... 7  
Section 2.11. Forms of Refunding Bonds and Trustee’s Authentication Certificate..... 9  
Section 2.12. Appointment of Trustee and Paying Agent ..... 9

**ARTICLE III**

**DISPOSITION OF REFUNDING BOND PROCEEDS**

Section 3.01. Disposition of Refunding Bond Proceeds..... 10

**ARTICLE IV**

**TAX COVENANTS, ADDITIONAL COVENANTS AND DEFEASANCE**

Section 4.01. Tax Covenants Relating to the Refunding Bonds..... 101  
Section 4.02. Additional Covenants..... 101  
Section 4.03. Defeasance ..... 112

**MULTIPLE SERIES  
2001 SUBORDINATE REVENUE REFUNDING BOND  
SUPPLEMENTAL RESOLUTION**

BE IT RESOLVED by the Triborough Bridge and Tunnel Authority (the “Issuer”), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

**Section 1.01. Supplemental Resolution.** This Multiple Series Subordinate Revenue Refunding Bond Supplemental Resolution (this “Supplemental Resolution”) is supplemental to, and is adopted in accordance with Article II and Article A-VIII of, a resolution of the Issuer adopted on March 26, 2002, entitled “2001 Subordinate Resolution Authorizing General Revenue Obligations” (the “Resolution”).

**Section 1.02. Definitions.**

1. All capitalized terms which are used but not otherwise defined in this Supplemental Resolution shall have the same meanings, respectively, as such terms are given by Section 102 of the Resolution.

2. In this Supplemental Resolution:

“Authorized Officer” shall include the officers designated as such in the Resolution, and the Chairman, the Managing Director, the Chair of the Finance Committee, the Vice Chairman, the Chief Financial Officer or the Director, Finance, as well as any officer duly designated as “Acting” in said officer’s capacity, except that, for the purposes of any delegation set forth herein that does not expressly include any Assistant Secretary, “Authorized Officer” shall not include any Assistant Secretary of the Issuer.

“Board” shall mean, when used with respect to the Issuer, the board of the Issuer acting as such pursuant to the provisions of the Issuer Act, and when used with respect to the MTA, the members of the MTA acting as such pursuant to the provisions of the MTA Act.

“Bond Counsel” shall mean Nixon Peabody LLP, Orrick, Herrington & Sutcliffe LLP, D. Seaton and Associates, P.A., P.C., Bryant Rabbino LLP or any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to the issuance of obligations by state and municipal entities, selected by the Issuer.

“Code” shall mean the Internal Revenue Code of 1986, as amended, and regulations thereunder.

“Cross-Credit Obligations” shall mean indebtedness or other obligations issued or incurred by the Issuer or any other Related Entity as described in clause (iii) of the definition of “Capital Costs”, but excluding Obligations.

“Refunding Bonds” shall mean the 2001 Subordinate Revenue Bonds authorized by Article II of this Supplemental Resolution in one or more Series or subseries subject to redesignation as hereinafter provided.

**Section 1.03. Authority for this Supplemental Resolution.** This Supplemental Resolution is adopted pursuant to the provisions of the Issuer Act and the Resolution.

## ARTICLE II

### AUTHORIZATION OF REFUNDING BONDS

#### **Section 2.01. Authorized Principal Amount, Designation and Series.**

1. Pursuant to the Resolution and in order to issue (a) Refunding Subordinate Obligations, and (b) Obligations for the purpose of refunding Cross-Credit Obligations, multiple Series of Subordinate Revenue Obligations (which may be issued at one time or from time to time in any number of Series or subseries) entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not exceeding the principal amount necessary so that, after giving effect to any net original issue discount or premium and underwriters’ discount from the principal amount, the amount to be deposited in the Proceeds Account pursuant to, or otherwise applied to effectuate the purposes of, Section 2.02 and Section 3.01 of this Supplemental Resolution (exclusive of any amount deposited therein or otherwise applied pursuant to a Certificate of Determination to pay accrued interest or any Costs of Issuance of the Refunding Bonds) shall not exceed the amount or amounts determined in one or more Certificates of Determination to be necessary to effectuate the purposes set forth in Section 2.02 hereof; provided, however, that any Refunding Bonds issued pursuant to this Supplemental Resolution shall be issued in compliance with any Board policies relating to the issuance of refunding bonds as may be in effect from time to time.

2. Nothing in this Supplemental Resolution is intended to preclude the issuance of Refunding Bonds as refunding obligations in accordance with Section 203 of the Resolution.

Refunding Bonds shall be designated as, and shall be distinguished from the Obligations of all other Series by the title, “Subordinate Revenue Refunding Bonds, Series [insert calendar year of issuance]” or such other title or titles set forth in the related Certificate of Determination.

The authority to issue Obligations and take related actions granted under previous resolutions of the Issuer shall continue in full force and effect. The authorization to issue the Refunding Bonds and take other related actions hereunder shall continue in effect without any further action by the Issuer until the adoption by the Issuer Board of a subsequent refunding bond supplemental resolution relating to 2020 refundings.

**Section 2.02. Purposes.** The purposes for which the Refunding Bonds are issued shall be set forth in one or more Certificates of Determination and may include the refunding, restructuring or payment, including by purchasing, exchanging or tendering therefor, of all or

any portion of any Outstanding Obligations or Parity Debt or Cross-Credit Obligations deemed advisable by an Authorized Officer in accordance with Section 203 or 204 of the Resolution, as applicable.

**Section 2.03. Dates, Maturities, Principal Amounts and Interest.** The Refunding Bonds, except as otherwise provided in the Resolution, shall be dated the date or dates determined in the related Certificate of Determination. The Refunding Bonds shall mature on the date or dates and in the year or years and principal amount or amounts, and shall bear interest at the rate or rates per annum, if any, specified in or determined in the manner provided in the related Certificate of Determination.

**Section 2.04. Interest Payments.** The Refunding Bonds shall bear interest from their date or dates and be payable on such date or dates as may be determined pursuant to the related Certificate of Determination. Except as otherwise provided in the related Certificate of Determination, interest on the Refunding Bonds shall be computed on the basis of twelve 30-day months and a 360-day year.

**Section 2.05. Denominations, Numbers and Letters.** Unless otherwise provided in the related Certificate of Determination, the Refunding Bonds shall be issued in fully registered form without coupons in the denomination of \$5,000 or any integral multiple thereof.

The Refunding Bonds shall be lettered and numbered as provided in the related Certificate of Determination.

**Section 2.06. Places of Payment and Paying Agent.** Except as otherwise provided in the related Certificate of Determination, principal and Redemption Price of the Refunding Bonds shall be payable to the registered owner of each Refunding Bond when due upon presentation of such Refunding Bond at the principal corporate trust office of the Trustee. Except as otherwise provided in the related Certificate of Determination, interest on the registered Refunding Bonds will be paid by check or draft mailed on the interest payment date by the Paying Agent, to the registered owner at his address as it appears on the registration books or, at the option of any Owner of at least one million dollars (\$1,000,000) in principal amount of the Refunding Bonds, by wire transfer in immediately available funds on each interest payment date to such Owner thereof upon written notice from such Owner to the Trustee, at such address as the Trustee may from time to time notify such Owner, containing the wire transfer address (which shall be in the continental United States) to which such Owner wishes to have such wire directed, if such written notice is received not less than twenty (20) days prior to the related interest payment date (such notice may refer to multiple interest payments).

**Section 2.07. Sinking Fund Installments.** The Refunding Bonds, if any, determined in the related Certificate of Determination shall be subject to redemption (a) in part, by lot, (b) pro rata (in the case of taxable Refunding Bonds), or (c) otherwise as determined in accordance with Section A-404 of the Resolution, as set forth in the related Certificate of Determination, on each date in the year or years determined in the related Certificate of Determination at the principal amount thereof plus accrued interest up to but not including the date of redemption thereof, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem on each such date the principal amount of such Refunding Bonds.

**Section 2.08. Redemption Prices and Terms.** The Refunding Bonds may also be subject to redemption prior to maturity, at the option of the Issuer, upon notice as provided in Article A-IV of the Resolution, at any time as a whole or in part (and by lot within a maturity, or otherwise as determined in accordance with Section A-404 of the Resolution, if less than all of a maturity is to be redeemed), from maturities designated by the Issuer on and after the date and in the years and at the Redemption Prices (expressed as a percentage of principal amount) determined in the related Certificate of Determination, plus accrued interest up to but not including the redemption date. Notwithstanding the foregoing, in the case of taxable Refunding Bonds, if set forth in the Certificate of Determination, the taxable Refunding Bonds may be made subject to pro rata redemption and/or a make-whole redemption premium.

**Section 2.09. Delegation to an Authorized Officer.** 1. There is hereby delegated to each Authorized Officer, subject to the limitations contained in this Supplemental Resolution, the following powers with respect to the Refunding Bonds:

(a) to determine whether and when to issue any Refunding Bonds constituting Refunding Subordinate Obligations or Obligations issued to refund Cross-Credit Obligations, and to determine the amount of the proceeds of the Refunding Bonds to be applied to refunding purposes as well as the specific Obligations or Parity Debt or Cross-Credit Obligations, or portions of either to be refunded and the date or dates, if any, on which such refunded obligations shall be redeemed, and the amount of the proceeds of the Refunding Bonds estimated to be necessary to pay the Costs of Issuance of the Refunding Bonds;

(b) to determine the purpose or purposes for which the Refunding Bonds are being issued, which shall be one or more of the purposes set forth in Section 2.02 of this Supplemental Resolution;

(c) to determine the principal amounts of the Refunding Bonds to be issued for the purposes set forth in Section 2.02 of this Supplemental Resolution and whether such principal amounts constitute a separate Series or a subseries of Refunding Bonds, and to determine Accreted Values and Appreciated Values, if applicable;

(d) to determine the maturity date and principal amount of each maturity of the Refunding Bonds and the amount and due date of each Sinking Fund Installment, if any;

(e) to determine the date or dates which the Refunding Bonds shall be dated and the interest rate or rates of the Refunding Bonds or the manner of determining such interest rate or rates; provided, however, that any Obligations issued as fixed rate Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 10% per annum, any Obligations issued as fixed rate Taxable Obligations shall be subject to a maximum interest rate of not greater than 12% per annum, any Variable Interest Rate Obligations issued as Tax-Exempt Obligations shall be subject to a maximum interest rate of not greater than 15% per annum, any Variable Interest Rate Obligations issued as Taxable Obligations shall be subject to a maximum interest rate of not greater than 18% per annum and any Parity Reimbursement Obligations shall be subject to a maximum interest rate of not greater than 25% per annum, or, in each such case, such higher rate or rates as determined by the Issuer's Board;

(f) to determine the Redemption Price or Redemption Prices, if any, and the redemption terms, if any, for the Refunding Bonds; provided, however, that if the Refunding Bonds are to be redeemable at the election of the Issuer, the Redemption Price (except in the case of taxable Refunding Bonds) shall not be greater than one hundred three percent (103%) of the principal amount of the Refunding Bonds to be redeemed, plus accrued interest thereon up to but not including the date of redemption and in the case of taxable Refunding Bonds the Redemption Price may be determined pursuant to provisions relating to pro rata redemption and/or make whole redemption;

(g) to determine whether the sale of the Refunding Bonds shall be conducted on either a negotiated or competitive bid basis and, as applicable, to determine the purchase price for the Refunding Bonds to be paid by the purchaser or purchasers referred to in one or more Purchase Agreements or a bank direct purchase agreement, or the purchase price for the Refunding Bonds to be paid by the winning bidder, if such sale is conducted by competitive bid pursuant to a Notice of Sale, in either case as such document is described in Section 2.10 of this Supplemental Resolution, which may include such original issue discount and original issue premium as shall be determined in the related Certificate of Determination; provided, however, that the underwriters' discount reflected in such purchase price shall not exceed \$10.00 for each one thousand dollars (\$1,000) principal amount of the Refunding Bonds;

(h) to take all actions required for the Refunding Bonds to be eligible under the rules and regulations of The Depository Trust Company ("DTC") for investment and trading as uncertificated securities, to execute and deliver a standard form of letter of representation with DTC and, notwithstanding any provisions to the contrary contained in this Supplemental Resolution, to include in the related Certificate of Determination such terms and provisions as may be appropriate or necessary to provide for uncertificated securities in lieu of Refunding Bonds issuable in fully registered form;

(i) to determine whether to issue all or any portion of the Refunding Bonds as Tax-Exempt Obligations, Taxable Obligations, Put Obligations, Variable Interest Rate Obligations or as any other form of Obligations permitted by the Resolution and any matters related thereto, including (i) the terms and provisions of any such Obligations, (ii) the selection of remarketing agents, tender agents, auction agents, dealers, bidding agents, calculation agents or any other agents or parties to ancillary arrangements and the terms of any such arrangements, and (iii) the methods for determining the accrual of Debt Service;

(j) to determine the advisability, as compared to an unenhanced transaction, of obtaining one or more Credit Facilities, to select a provider or providers thereof, to determine and accept the terms and provisions and price thereof, to determine such other matters related thereto as in the opinion of the officer executing the related Certificate of Determination shall be considered necessary or appropriate and to effect such determinations by making any changes in or additions to this Supplemental Resolution required by Credit Facility providers, if any, or required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds, or relating to the mechanisms for the repayment of amounts advanced thereunder or payment of fees, premiums, expenses or any other amounts, notices, the provision of information, and such other matters of a technical, mechanical, procedural or descriptive nature

necessary or appropriate to obtain or implement a Credit Facility with respect to the Refunding Bonds, and to make any changes in connection therewith;

(k) to make such changes in or from the form of this Supplemental Resolution as may be required by a Rating Agency in order to attain or maintain specific ratings on the Refunding Bonds;

(l) to make such changes in or from the form of this Supplemental Resolution as may be necessary or desirable in order to cure any ambiguities, inconsistencies or other defects;

(m) to determine whether to (i) enter into an escrow agreement or other arrangement in connection with the issuance of Refunding Bonds, including the selection of escrow agents, verification agents and the manner of determining specified matters relating to the defeasance of the refunded obligations and (ii) purchase SLGs or open market securities and the form and substance thereof and any related investment agreement, and to determine the application of any amounts released in connection with any such refunding;

(n) to determine that such Refunding Bonds comply with all Board policies relating to the issuance of refunding obligations in effect at the time of such determination; and

(o) to determine such other matters specified in or permitted by (i) Sections 202, 203, 204 and A-201 of the Resolution or (ii) this Supplemental Resolution, and to determine matters relating to the payment or defeasance of Obligation Anticipation Notes, including preparation of any documentation therefor.

2. Any Authorized Officer shall execute one or more Certificates of Determination evidencing the determinations made pursuant to this Supplemental Resolution and any such Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein. More than one Certificate of Determination may be delivered to the extent more than one Series or subseries of Refunding Bonds are delivered from time to time, or other authority is exercised under this Supplemental Resolution from time to time and each such Certificate of Determination shall be delivered to the Trustee concurrently with the authentication and delivery of the respective Series or subseries of Refunding Bonds by the Trustee or other documentation. Determinations set forth in any Certificate of Determination shall have the same effect as if set forth in this Supplemental Resolution.

3. Any such Authorized Officer may exercise any authority delegated under this Supplemental Resolution from time to time following issuance of any Refunding Bonds, as appropriate for any purposes, including to change interest rate modes or auction periods; to obtain or terminate one or more Credit Facilities, including substitute or additional Credit Facilities; to enter into one or more bank direct purchase agreements or similar instruments; to appoint new or additional agents or other parties deemed appropriate to a particular form or mode of Obligation or manner of sale; to enter into one or more remarketing agreements, firm remarketing agreements, continuing disclosure agreements or other agreements in connection with the remarketing of any Refunding Bonds; if any Refunding Bonds shall consist of multiple subseries, to change the principal amounts and number of the individual subseries or to combine

one or more subseries into a single Series or subseries; or, if any Refunding Bonds consist of a single Series or subseries, to divide such Series or subseries into two or more subseries and to determine the principal amount of such subseries. In connection with the remarketing, by negotiated sale, competitive bid or direct or private placement, of any Refunding Bonds, any such Authorized Officer is hereby authorized to make public and to authorize the use and distribution by remarketing agents or other appropriate parties of a remarketing circular (including a preliminary remarketing circular), or other disclosure document, in substantially the form most recently executed or delivered by the Issuer in connection with the remarketing of Obligations, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable. Any Authorized Officer shall execute one or more amendments to the applicable Certificate or Certificates of Determination evidencing the determinations made pursuant to this paragraph and any such amended Certificate of Determination shall be conclusive evidence of the determinations of such Authorized Officer, as stated therein.

**Section 2.10. Sale of Refunding Bonds.** Each Authorized Officer is hereby authorized either (i) to sell and award all or any portion of the Refunding Bonds through a competitive bidding process to purchasers meeting the requirements of one or more Notices of Sale (as hereinafter defined) to be published in order to give notice of the competitive sale of the Refunding Bonds; (ii) to sell and award all or any portion of the Refunding Bonds through a negotiated sale to the purchasers who are referred to in the bond purchase agreement and who shall be selected from the then current list of approved underwriters; or (iii) to sell and award all or any portion of the Refunding Bonds through a direct sale to the financial institution or institutions selected by the Authorized Officer who shall be referred to in the continuing covenant, direct purchase or similar agreement. Each Authorized Officer is hereby authorized to sell and award the Refunding Bonds to the purchasers referred to in the preceding sentence in the case of a bond purchase agreement, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, or, with respect to a continuing covenant, direct purchase or similar agreement, containing bank facility terms and provisions (including, without limitation, increased costs, term-out, events of default and remedies) in substantially the form set forth in a letter of credit reimbursement agreement most recently executed or delivered by the Issuer, including, if applicable, that the direct purchaser offer to the Issuer a term-out provision of no less than five years, with such revisions to reflect the terms and provisions of the Refunding Bonds as may be approved by the Authorized Officer executing the bond purchase, continuing covenant or similar agreement (each, a "Purchase Agreement"). Each Authorized Officer is hereby authorized to agree to the selection of the representative of the underwriters or the other purchasers or facility providers as referred to in the Purchase Agreement or Agreements and to execute and deliver the Purchase Agreement or Agreements for and on behalf and in the name of the Issuer with such changes, omissions, insertions and revisions as may be approved by the Authorized Officer executing the Purchase Agreement or Agreements, said execution being conclusive evidence of such approval and concurrence in the selection of the representative of the underwriters.

If it is determined that any sale of Bonds shall be conducted on a competitive bid basis, each Authorized Officer is hereby further authorized to conduct the sale and award of the Refunding Bonds on the basis of a competitive bid, pursuant to the terms of a notice of sale, including bid form (the "Notice of Sale"), in a form, including any limitations on permitted bidders and a description of the basis for determining the winning bidder or bidders, determined

by such Authorized Officer. Each Authorized Officer is hereby authorized to conduct such competitive sale of the Refunding Bonds in a manner consistent with this Supplemental Resolution and to utilize the services of the Authority's financial advisor and the services of an electronic bidding service, as such Authorized Officer shall determine, and the execution by such Authorized Officer of a letter of award shall be conclusive evidence of such award.

Each Authorized Officer is hereby authorized to make public and to authorize the use and distribution by said purchasers or other appropriate parties of a preliminary official statement, offering circular, or other disclosure document (the "Preliminary Official Statement") in connection with each public offering or any private placement of the Refunding Bonds, in substantially the form most recently executed or delivered by the Issuer in connection with the sale of Obligations, with such changes, omissions, insertions and revisions as such officer shall deem advisable. The Issuer authorizes any of said officers to deliver a certification to the effect that such Preliminary Official Statement or Official Statement, if deemed necessary or appropriate, together with such other documents, if any, described in such certificate, was deemed final as of its date for purposes of Rule 15c2-12 of the Securities and Exchange Commission as applicable.

Each Authorized Officer is hereby authorized to make public and to authorize distribution of a final official statement, offering circular or other disclosure document (the "Official Statement") in substantially the form of each Preliminary Official Statement or the most recently executed and delivered Official Statement if there is not a Preliminary Official Statement, with such changes, omissions, insertions and revisions as such officer shall deem advisable, to sign such Official Statement and to deliver such Official Statement to the purchasers of such issue of the Refunding Bonds, such execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

Each Authorized Officer is hereby authorized to execute and deliver for and on behalf and in the name of the Issuer, to the extent determined by such Authorized Officer to be necessary or convenient, a Continuing Disclosure Agreement, substantially in the form of the Continuing Disclosure Agreement most recently executed and delivered by the Issuer, with such changes, omissions, insertions and revisions as such Authorized Officer shall deem advisable (the "Continuing Disclosure Agreement"), said execution being conclusive evidence of the approval of such changes, omissions, insertions and revisions.

The proceeds of each good faith check, if any, received by the Issuer from the purchasers of each issue of Refunding Bonds under the terms of the related Purchase Agreement or Notice of Sale may be invested by the Issuer pending application of the proceeds of such good faith check for the purposes provided in Section 2.02 of this Supplemental Resolution at the time of the issuance and delivery of such Refunding Bonds.

Each Authorized Officer (including any Assistant Secretary of the Issuer) is hereby authorized and directed to execute, deliver, amend, replace or terminate any and all documents and instruments (including any remarketing agreements, dealer agreements, broker dealer agreements, tender agent agreements, or auction agency agreements, any escrow agreements, any investment agreements or arrangements, or any reimbursement agreements or documents or instruments relating to a Credit Facility deemed appropriate to a given form or mode of an

Obligation) and to do and cause to be done any and all acts necessary or proper for carrying out each Purchase Agreement or Notice of Sale, each Continuing Disclosure Agreement, the terms of any Credit Facility or other such agreement or arrangement, and the issuance, sale and delivery of each issue of the Refunding Bonds and for implementing the terms of each issue of the Refunding Bonds and the transactions contemplated hereby or thereby.

When reference is made in this Supplemental Resolution to the authorization of an Authorized Officer to do any act, such act may be accomplished by any of such officers individually.

**Section 2.11. Forms of Refunding Bonds and Trustee's Authentication Certificate.** Subject to the provisions of the Resolution, the form of registered Refunding Bonds, and the Trustee's certificate of authentication, shall be substantially in the form set forth in Exhibit One to the Resolution including, if necessary, any changes to comply with the requirements of DTC or the provisions of this Supplemental Resolution or any Certificate of Determination.

**Section 2.12. Appointment of Trustee and Paying Agent.** Unless otherwise provided by Certificate of Determination, The Bank of New York Mellon, as successor in interest to JPMorgan Chase Bank, N.A. shall be the Trustee under the Resolution and the Paying Agent for the Refunding Bonds.

### ARTICLE III

#### DISPOSITION OF REFUNDING BOND PROCEEDS

**Section 3.01. Disposition of Refunding Bond Proceeds.** Any proceeds of the sale of the Refunding Bonds, other than accrued interest, if any, shall be deposited, simultaneously with the issuance and delivery of a series or subseries of the Refunding Bonds, or shall otherwise be disposed of or applied pursuant to the related Certificate of Determination as follows:

(a) such proceeds shall be (i) deposited in the Refunding Bonds Proceeds Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the refunding of any Obligations, Parity Debt or Cross Credit Obligations, or portions of any of them, in accordance with Section 2.02 hereof or (ii) otherwise applied to such refunding; and

(b) the balance of such proceeds shall be (i) deposited in the Refunding Bonds Costs of Issuance Account, which is hereby established in the Proceeds Fund for each such series or subseries, and applied to the payment of Costs of Issuance, or (ii) otherwise applied to the payment of Costs of Issuance.

Unless otherwise provided in a Certificate of Determination, the accrued interest, if any, received on the sale of the Refunding Bonds shall be deposited in the Debt Service Fund.

## ARTICLE IV

### TAX COVENANTS, ADDITIONAL COVENANTS AND DEFEASANCE

**Section 4.01. Tax Covenants Relating to the Refunding Bonds.** The Issuer covenants that, in order to maintain the exclusion from gross income for Federal income tax purposes of the interest on the Refunding Bonds issued as Tax-Exempt Obligations, the Issuer will satisfy, or take such actions as are necessary to cause to be satisfied, each provision of the Code necessary to maintain such exclusion. In furtherance of this covenant, the Issuer agrees to comply with such written instructions as may be provided by Bond Counsel. In furtherance of the covenant contained in the preceding sentence, the Issuer agrees to continually comply with the provisions of any "Arbitrage and Use of Proceeds Certificate" or "Tax Certificate" to be executed by the Issuer in connection with the execution and delivery of any Refunding Bonds issued as Tax-Exempt Obligations, as amended from time to time.

Notwithstanding any other provision of the Resolution to the contrary, upon the Issuer's failure to observe, or refusal to comply with, the above covenant (a) the Owners of the Refunding Bonds, or the Trustee acting on their behalf, shall be entitled to the rights and remedies provided to Owners or the Trustee under Section 702 of the Resolution, other than the right (which is hereby abrogated solely as to the Issuer's failure to observe, or refusal to comply with the above covenant) to declare the principal of all Obligations then Outstanding, and the interest accrued thereon, to be due and payable pursuant to Section 567 of the Issuer Act, and (b) neither the Owners of the Obligations of any Series or holders of any Parity Debt (other than the Owners of the Refunding Bonds or the Trustee acting on their behalf), nor the Trustee acting on their behalf, shall be entitled to exercise any right or remedy provided to the Owners, the Parity Debt holders or the Trustee under the Resolution based upon the Issuer's failure to observe, or refusal to comply with, the above covenant.

The provisions of the foregoing covenants set forth in this Section shall not apply to any Refunding Bonds, including any subseries thereof, which the Issuer determines pursuant to the applicable Certificate of Determination to issue as Taxable Obligations.

#### **Section 4.02. Additional Covenants.**

1. The Issuer covenants and agrees that it will not issue any Senior Obligations under the Senior Resolution (other than pursuant to Section 205 thereof) unless in addition to satisfying the requirements of the Senior Resolution, an Authorized Officer delivers to the trustee under the Senior Resolution a certificate demonstrating that for any period of 12 consecutive calendar months out of the 18 complete calendar months next preceding the date of authentication and delivery such issue of Senior Obligations, Net Revenues are at least equal to 1.10 times the Combined Maximum Annual Calculated Debt Service for all Subordinate Revenue Obligations, Parity Debt, Senior Obligations and Senior Parity Debt.

2. The Issuer covenants and agrees that in addition to complying with the provisions of Section 604 of the Resolution, the Issuer shall at all times establish, levy, maintain and collect, or cause to be established, levied, maintained and collected, such tolls, rentals and other charges in connection with the TBTA Facilities as shall always be sufficient, together with

other money available therefor (including the anticipated receipt of proceeds of sale of Obligations or other bonds, notes or other obligations or evidences of indebtedness of the Issuer 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 TBTA Facilities), to equal or exceed in each calendar year the greater of (a) an amount equal to the sum of amounts necessary in such calendar year (i) to pay all Operating Expenses of the Issuer, plus (ii) to pay the sum of Calculated Debt Service as defined in the Resolution and Calculated Debt Service as defined in the Senior Resolution, plus (iii) to maintain any reserve established by the Issuer pursuant to the Senior Resolution, in such amount as may be determined from time to time by an Authorized Officer in his or her judgment, or (b) an amount such that Revenues less Operating Expenses shall equal at least 1.10 times the sum of Calculated Debt Service as defined in the Senior Resolution and Calculated Debt Service as defined in the Resolution for such calendar year.

**Section 4.03. Defeasance.** In the event the Issuer shall seek, prior to the maturity or redemption date thereof, to pay or cause to be paid, within the meaning and with the effect expressed in the Resolution, all or less than all Outstanding Refunding Bonds issued as Tax-Exempt Obligations and the provisions of Section 4.01 hereof shall then be of any force or effect, then, notwithstanding the provisions of Article A-XI of the Resolution, the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid shall not be deemed to have been paid within the meaning and with the effect expressed in Section A-1101 of the Resolution unless (i) the Issuer has confirmed in writing that the Owners of the Refunding Bonds issued as Tax-Exempt Obligations which the Issuer then seeks to pay or cause to be paid will continue, after such action, to have the benefit of a covenant to the effect of the covenant of the Issuer contained in Section 4.01 hereof or (ii) there shall have been delivered to the Trustee an Opinion of Bond Counsel to the effect that non-compliance thereafter with the applicable provisions of the Code will not affect the then current treatment of interest on the Refunding Bonds issued as Tax-Exempt Obligations in determining gross income for Federal income tax purposes.

# Staff Summary

<b>Subject</b> Updated MTA and TBTA Bond Refunding Policy	<b>Date</b> December 12, 2018
<b>Department</b> Finance	<b>Vendor Name</b> N/A
<b>Department Head Name</b> Robert E. Foran, Chief Financial Officer	<b>Contract Number</b>
<b>Department Head Signature</b> 	<b>Contract Manager Name</b>
<b>Project Manager Name</b> Patrick McCoy, Director of Finance 	<b>Table of Contents Ref #</b>

Board Action						Internal Approvals			
Order	To	Date	Approval	Info	Other	Order	Approval	Order	Approval
1	Finance Comm.	12/10	X			1	Legal 	2	Chief of Staff 
2	Board	12/12	X						

**PURPOSE:**

The MTA Finance Department is seeking MTA and TBTA Board approval of an updated Bond and Other Debt Obligations Refunding Policy amending the Policy as originally adopted by the MTA Board in May 2010. This updated policy incorporates changes necessary as result of the 2017 Tax Cuts and Jobs Act which eliminated the ability for tax-exempt advance refundings. Current federal tax law permits current refundings of bonds that are within 90 days of an optional call or maturity. Additional clarifying statements on the use of variable rate bonds were also made to the policy. Staff believes that these modified requirements will provide continued flexibility in the pursuit of MTA's and TBTA's capital markets objectives in funding the capital program at the lowest possible cost.

The existing Refunding Policy establishes debt service savings criteria that must be met by proposed refundings of outstanding MTA and TBTA bonds. The updated Refunding Policy will maintain the same criteria for advance refundings (if allowed on a tax-exempt basis in the future), and provide the MTA Chief Financial Officer (CFO) and Director of Finance with needed flexibility to structure current refunding transactions achieving significant overall debt service savings or other benefits for MTA, TBTA and/or their affiliates and subsidiaries. The updated Refunding Policy will also provide express authorization with respect to refundings utilizing variable rate debt.

The updated Refunding Policy will apply to 2019 refundings authorized by the Multiple Series Refunding Bond Supplemental Resolutions for which approval is sought concurrently herewith, and to refundings authorized in future years.

**DISCUSSION:**

MTA and TBTA Board approval is sought for the MTA and TBTA Bond and Other Debt Obligations Refunding Policy, replacing the Refunding Policy adopted by the MTA Board on May 26, 2010.

The updated Refunding Policy will permit current refundings of outstanding MTA and TBTA fixed rate bonds, provided that the refunding of each bond to be called prior to its scheduled maturity achieves positive net present value (NPV) savings. However, the Policy provides the latitude to structure savings patterns within a refunding transaction by permitting individual maturities of bonds to be escrowed to maturity without regard to savings on an individual bond basis. Further, for current refundings, the updated Refunding Policy will lift the existing requirement that aggregate NPV savings of at least 3.0% of the par amount of the refunded bonds be achieved.

The Internal Revenue Code, as amended in 2017, does not permit advance refundings of outstanding debt with tax-exempt bonds. The updated Refunding Policy will permit advance refundings of outstanding MTA and TBTA fixed rate in accordance with applicable law should this valuable tool be allowed in the future. There is no prohibition against advance refunding of bonds with taxable bonds, however, and it is possible that future tax legislation will lift or relax the current bar against advance refundings with tax-exempt bonds. Accordingly, to the extent permitted by applicable law, the Refunding Policy will allow advance refundings if (a) the aggregate NPV savings is at least 3.0% of the par amount of the refunded bonds, and (b) the refunding of each bond to be called prior to its scheduled maturity achieves minimum NPV savings determined by reference to a sliding scale that takes into account the number of years from the refunding to the first call date and the number of years from the call date to the maturity date of the bond. These criteria are unchanged with respect to advance refundings, with the clarification that the NPV savings requirement for each individual maturity of the refunded bonds does not apply to bonds escrowed to maturity as part of an overall savings pattern.

The updated Refunding Policy states expressly, for the avoidance of doubt, that it does not restrict the refunding of either fixed or variable rate bonds with new variable rate debt. This is in accord with current practice under the existing Refunding Policy, which states that it applies to the issuance of fixed rate bonds for the purpose of refunding fixed rate bonds. The updated Refunding Policy also confirms that it does not restrict the CFO or the Director of Finance in structuring the savings pattern of any refunding, provided the requirements described above are met.

Finally, the updated Refunding Policy retains the following provisions of the existing Policy:

- The arbitrage yield and actual escrow investments are to be utilized in calculating refunding savings.
- The State Bond Issuance Charge (BIC), unless expressly waived, is to be included as a cost of issuance in calculating refunding savings.
- SLGS, when available, are to be used to fund refunding escrows, with Treasury and other open-market securities to be considered as an alternative when the arbitrage yield cannot be met with SLGS or the SLGS window is not open. This is consistent with MTA's and TBTA's bond resolutions.

## **ALTERNATIVES:**

The Board could determine that staff seek specific approval for each refunding contemplated in advance of undertaking such refunding. This alternative is not advised as the timing of the Board cycle could result in missed market opportunities.

The Board could determine that the existing Refunding Policy remain in effect without change, allowing staff to seek approval for specific refundings that cannot be structured within the existing Policy. This alternative is not advised as the timing of the Board cycle could result in missed market opportunities.

## **RECOMMENDATION:**

The MTA and TBTA Boards approve the updated Refunding Policy. The updated Refunding Policy will apply to 2019 refundings authorized by the Multiple Series Refunding Bond Supplemental Resolutions for which approval is sought concurrently herewith, and shall continue in effect without any further action by the MTA or TBTA Boards, until the MTA and TBTA Boards shall have modified or repealed the Refunding Policy.

## **BOND AND OTHER DEBT OBLIGATIONS REFUNDING POLICY**

WHEREAS, The Metropolitan Transportation Authority has a large portfolio of outstanding bonds and other debt obligations; and

WHEREAS, The Metropolitan Transportation Authority desires to achieve the lowest possible interest cost for such bonds; and

WHEREAS, The Metropolitan Transportation Authority desires, from time to time, to benefit from favorable capital market conditions to undertake refundings of the outstanding bonds and other obligations; and

WHEREAS, The Metropolitan Transportation Authority has determined that in order to provide guidance in the issuance of refunding bonds, a refunding policy ("Refunding Policy") is desirable; and

WHEREAS, such refunding bonds must be authorized by the Board in accordance with a supplemental resolution for each of the MTA and TBTA credits; therefore

BE IT RESOLVED by the Metropolitan Transportation Authority that, except as otherwise provided by separate action of the Authority relating to a particular refunding, the Refunding Policy as set forth below shall be adopted and shall apply to all refundings of bonds or other debt obligations described therein hereafter.

**Metropolitan Transportation Authority  
and Triborough Bridge and Tunnel Authority  
Bond and Other Debt Obligations Refunding Policy**

This bond and other debt obligations refunding policy establishes conditions precedent to any issuance of fixed rate bonds for the purposes of refunding fixed rate bonds previously issued by the MTA or any of the Related Entities.

1. A current refunding is permitted if, at the time of final pricing, the refunding of each bond to be called prior to its scheduled maturity achieves positive net present value (NPV) savings.
2. An advance refunding that complies with applicable law is permitted if, at the time of final pricing, (a) the aggregate NPV savings is at least 3.0% of the par amount of the refunded bonds, and (b) the refunding of each bond to be called prior to its scheduled maturity achieves NPV savings (expressed as a percentage of the par amount of such refunded bond) of at least the following amount:

		Years to Call		
		0 to 2	3 to 7	8 plus
Years From Call to Maturity	0 to 5	0.5%	1.0%	2.0%
	6 to 10	1.0%	2.5%	4.0%
	11 to 15	3.0%	4.0%	5.0%
	16 plus	4.0%	5.0%	5.5%

3. The arbitrage yield of the refunding issue must be utilized in calculating NPV savings.
4. Actual escrow investments must be used in calculation of refunding savings at the time of pricing.

**Additional Criteria and Instructions**

1. In the evaluation of refunding opportunities, the State Bond Issuance Charge (BIC), unless expressly waived, shall be included as a cost of issuance in calculating NPV savings, both in the aggregate and for individual bonds.
2. If it is possible to meet the arbitrage yield in a refunding escrow with SLGS, they should be used. In the event SLGS could provide a yield higher than the arbitrage yield, as many rolling 0 percent SLGS as possible should be used to blend down the arbitrage yield. If the arbitrage yield cannot be met with SLGS or the SLGS window is not open, Treasury securities and other open market securities can be considered, consistent with the investment restrictions in the applicable bond resolution.
3. This policy does not restrict (a) the refunding of either fixed or variable rate debt with new variable rate debt, (b) the refunding of variable rate debt with new fixed rate debt, including the refunding of debt in a short-term fixed rate mode with long-term fixed rate debt, or (c) changes in interest rate modes in variable rate debt. Any such refundings may be undertaken if the Chief Financial Officer (CFO) or the Director of Finance, as the designee of the CFO, determines that it is in the best interest of the MTA to do so.
4. This policy does not restrict the CFO or the Director of Finance in structuring the savings pattern of any refunding, provided the above requirements are met.

# Staff Summary



<b>Subject</b> MTA and TBTA Reimbursement for Federal Tax purposes	<b>Date</b> December 12, 2018
<b>Department</b> Chief Financial Officer	<b>Vendor Name</b>
<b>Department Head Name</b> Robert E. Foran, Chief Financial Officer	<b>Contract Number</b>
<b>Department Head Signature</b> 	<b>Contract Manager Name</b>
<b>Project Manager Name</b> Josiane Codio, Director of Treasury	<b>Table of Contents Ref #</b>

Board Action						Internal Approvals			
Order	To	Date	Approval	Info	Other	Order	Approval	Order	Approval
	Finance Comm.	12/10	X			1	Legal	2	Chief of Staff
	Board	12/12	X						

To obtain MTA and TBTA adoption of the annexed reimbursement resolutions, which are required by Federal tax law to preserve the ability to finance certain capital projects on a tax-exempt basis.

**PURPOSE:**

As it has in the past, the Metropolitan Transportation Authority (the "MTA") intends to finance the MTA's transit and commuter capital improvement program, including MTA Bus Company and Staten Island Rapid Transit Operating Authority, and Triborough Bridge and Tunnel Authority ("TBTA" or "MTA Bridges and Tunnels") intends to finance the MTA Bridges and Tunnels' bridge and tunnel capital improvement program.

It is important that MTA and MTA Bridges and Tunnels preserve the ability to finance capital projects in these capital improvement programs on a tax-exempt or tax-advantaged basis. To maintain the ability of MTA and MTA Bridges and Tunnels to finance capital projects in the capital improvement programs on such tax-exempt or tax-advantaged basis, consistent with Federal tax law, the MTA and TBTA Boards periodically adopt reimbursement resolutions. Federal tax law requires that official action that sets forth the issuer's intent to spend tax-exempt bond proceeds on a project must be taken by an issuer that wants to reimburse itself from tax-exempt bond proceeds for capital project costs that were funded from another source of revenue. Copies of the 2019 reimbursement resolutions submitted for Board adoption are attached hereto.

For purposes of the attached reimbursement resolutions, (i) in the case of MTA, the Project refers to the capital programs approved by the Metropolitan Transportation Authority Capital Program Review Board (CPRB), including, particularly, the 2000-2004 Transit and Commuter Capital Program, the 2005-2009 Transit and Commuter Capital Program, the 2010-2014 Transit and Commuter Capital Program, and the 2015-2019 Transit and Commuter Capital Program, and (ii) in the case of TBTA, the Project refers to the capital programs approved by the TBTA Board, including, particularly, the 2000-2004 TBTA Capital Program, the 2005-2009 TBTA Capital Program, the 2010-2014 TBTA Capital Program, the 2015-2019 TBTA Capital Program, and the security projects authorized to be constructed and/or installed at the TBTA bridges and tunnels.

**ALTERNATIVES:**

There is no alternative to preserve the ability to finance certain capital projects on a tax-exempt or tax-advantaged basis under Federal tax law.

**RECOMMENDATION:**

0302-0001\00022489.003

# Staff Summary



The MTA and TBTA Boards approve the above-referenced resolutions. This authorization shall continue in effect until the adoption in 2019 by the MTA and TBTA Boards of subsequent reimbursement resolutions.

## **RESOLUTION**

**WHEREAS**, Metropolitan Transportation Authority (“MTA”) intends to finance the MTA’s transit and commuter capital improvement program, including MTA Bus Company and Staten Island Rapid Transit Operating Authority, as more fully described in the accompanying staff summary and capital program documents referenced therein (the “MTA Project”);

**WHEREAS**, MTA desires to finance the MTA Project through the issuance of tax-exempt debt or tax-advantaged debt, if available, and other sources as described in the approved capital programs, including moneys derived from affiliates and subsidiaries, and expects to reimburse expenditures made from such other sources with proceeds of such tax-exempt or tax-advantaged debt;

### **NOW THEREFORE, BE IT:**

**RESOLVED**, that the statements contained in this Resolution with respect to the reimbursement of the expenditures described in this resolution are intended to be statements of official intent as required by, and in conformance with, the provisions of Treasury Regulation Section 1.150-2(e); and

**RESOLVED**, that the expenditures in connection with the MTA Project to be reimbursed pursuant to this Resolution have been incurred and paid not more than 60 days prior to the date hereof or will be incurred and paid after the date hereof in connection with the MTA Project; and

**RESOLVED**, that the MTA reasonably expects that the maximum principal amount of tax-exempt or tax-advantaged debt (including bonds, commercial paper and bond anticipation notes) to be issued by MTA subsequent to the date hereof to pay MTA Project expenditures in 2019 (whether directly or as a reimbursement) is \$3.0 billion (plus associated financing costs); and

**RESOLVED**, that this Resolution shall take effect immediately.

December 12, 2018

## **RESOLUTION**

**WHEREAS**, Triborough Bridge and Tunnel Authority (“MTA Bridges and Tunnels”) intends to finance the MTA Bridges and Tunnels’ bridge and tunnel capital improvement program, as more fully described in the accompanying staff summary and capital program documents referenced therein (the “Project”);

**WHEREAS**, MTA Bridges and Tunnels desires to finance the Project through the issuance of tax-exempt debt or tax-advantaged debt, if available, and other sources as described in the approved capital programs, including moneys derived from the Metropolitan Transportation Authority and its affiliates and subsidiaries, and expects to reimburse expenditures made from such other sources with proceeds of such tax-exempt or tax-advantaged debt;

### **NOW THEREFORE, BE IT:**

**RESOLVED**, that the statements contained in this Resolution with respect to the reimbursement of the expenditures described in this resolution are intended to be statements of official intent as required by, and in conformance with, the provisions of Treasury Regulation Section 1.150-2(e); and

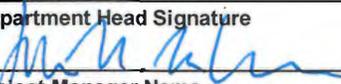
**RESOLVED**, that the expenditures in connection with the Project to be reimbursed pursuant to this Resolution have been incurred and paid not more than 60 days prior to the date hereof or will be incurred and paid after the date hereof in connection with the Project; and

**RESOLVED**, that MTA Bridges and Tunnels reasonably expects that the maximum principal amount of tax-exempt or tax-advantaged debt (including bonds, commercial paper and bond anticipation notes) to be issued by MTA Bridges and Tunnels subsequent to the date hereof to pay MTA Bridges and Tunnels Project expenditures in 2019 (whether directly or as a reimbursement) is \$350 million (plus associated financing costs); and

**RESOLVED**, that this Resolution shall take effect immediately.

December 12, 2018

# Staff Summary

Subject <b>MTA ADVERTISING POLICY</b>
Department <b>CHIEF DEVELOPMENT OFFICER</b>
Department Head Name <b>JOHN N. LIEBER</b>
Department Head Signature 
Project Manager Name <b>FREDERICKA CUENCA</b>

Date <b>December 10, 2018</b>
Vendor Name <b>N/A</b>
Contract Number <b>N/A</b>
Contract Manager Name <b>N/A</b>
Table of Contents Ref. # <b>N/A</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance Committee		X		
2	Board		X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal 		
2	Chief Development Officer 		
	Chief of Staff 		

**PURPOSE:**

To obtain Board approval of conforming administrative changes to the MTA's Advertising Policy.

**DISCUSSION:**

The Advertising Policy include a process for reviewing advertising proposed for display in or on the MTA property. The proposed modifications reflect the MTA's current management responsibilities as well as a revised process, which provides for an initial review by a three-person committee; an advertiser's objection to the Committee's decision would be heard and decided by the Chief Development Officer. Previously, both the initial review and the final determination were by the the Director of Real Estate, a position which no longer exists. The new process not only addresses this change in organization, it also provides for a more robust review process by a committee in the first instance and an opportunity for a separate review on appeal.

A mark-up of the Advertising Policy showing the proposed revisions is attached.

**RECOMMENDATION:**

It is recommended that the Board approve and adopt the annexed MTA Advertising Policy.

## **MTA ADVERTISING POLICY**

### **I. PURPOSE**

- A. To establish uniform, reasonable, and viewpoint-neutral standards for the display of advertising in and on the facilities, vehicles and other property (together “Property”) of the Metropolitan Transportation Authority and its affiliated and subsidiary agencies (together “MTA”).
- B. To convert the MTA’s Property from a designated public forum into a limited public forum by excluding advertising of a political nature after the Effective Date.

### **II. SCOPE**

This policy applies to all advertisements proposed to be displayed in and on the Property on or after the Effective Date set forth below.

### **III. OBJECTIVE**

The MTA’s mission is to provide safe, reliable, and efficient public transportation and crossings within its service area. The MTA’s transportation operations are funded by a combination of federal, state, and local funds, including grants and taxes, as well as fare box and toll revenue. Advertising revenues are an important supplemental source of revenue that supports the MTA’s transportation operations. The MTA’s purpose in allowing paid advertising to be displayed in and on the Property is to maximize such supplemental revenue to support transportation operations.

By accepting paid advertising for display in and on the Property, the MTA is acting in a proprietary capacity as a provider of public transportation and crossings seeking to maximize advertising revenue to support its transportation operations. Starting from the Effective Date, the MTA does not intend that the advertising permitted to be displayed in and on the Property be created, designated, or used as a public forum for expressive activities or general discourse or opinions. In furtherance of the MTA’s purpose of maximizing advertising revenue, the MTA in its proprietary capacity is limiting advertisements it will accept for display in and on the Property to paid commercial advertising, certain public service announcements that will help build goodwill for the MTA among its riders and the public, and governmental messages. The MTA retains control over the advertising that it will allow to be displayed in and on the Property by subjecting all proposed advertisements to the Advertising Standards below. MTA expressly intends that the advertising permitted to be displayed in and on the Property be a limited public forum.

In establishing and enforcing these Advertising Standards, the MTA seeks to fulfill the following goals and objectives:

- Maximize advertising revenue
- Maximize ridership and fare revenue
- Maintain a secure and orderly operating environment

- Maintain a safe and welcoming environment for all MTA employees and customers, including minors, who use MTA’s subways, buses, commuter trains and crossings
- Minimize the extraordinary resources and executive attention that have been expended to resolve disputes relating to the permissibility of certain political advertisements, thus unnecessarily diverting the organization from performing its mission
- Avoid identification of MTA with, and the appearance of MTA endorsement of, the advertisements of non-MTA parties displayed in or on the Property, including the associated messages, products, services, or events being proposed or promoted

#### IV. ADVERTISING STANDARDS

##### A. Permitted Advertising

The MTA may display advertisements that fall under one or more of the following categories:

1. Commercial advertising. Paid advertisements that propose, promote, or solicit the sale, rent, lease, license, distribution, or availability of, or some other commercial transaction concerning, goods, products, services, or events for the advertiser’s commercial or proprietary interest, or more generally promote an entity that engages in such activities.

2. Governmental advertising. Notices or messages from the MTA that promote the MTA or any of its functions or programs, and also paid notices or messages of the United States government, the State of New York and its agencies, the City of New York and its departments, or of any of the County governments within the Metropolitan Commuter Transportation District that advance specific governmental purposes.

3. Public service announcements. Public service announcements not otherwise prohibited under Section IV.B of this Policy, which are sponsored by either a government entity or a nonprofit corporation that is exempt from taxation under Section 501(c)(3) of the Internal Revenue Code, and which are directed to the general public and relate directly to:

- Prevention or treatment of illnesses;
- Promotion of safety or personal well-being;
- Education or training;
- Art or culture;
- Provision of children and family services;
- Provision of services and programs that provide support to low income citizens, senior citizens, or people with disabilities; or
- Solicitation by broad-based contribution campaigns that provide funds to multiple charitable organizations active in the above-listed areas.

**B. Prohibited Advertising**

Notwithstanding the foregoing, the MTA will not accept any advertisement for display in or on the Property if it falls within one or more of the following categories:

1. Promotes or opposes a political party, or promotes or opposes any ballot referendum or the election of any candidate or group of candidates for federal, state, judicial, or local government offices.
2. Is political in nature, including but not limited to advertisements that either:
  - a. Are directed or addressed to the action, inaction, prospective action or policies of a governmental entity, except as permitted in Sections IV.A.2–IV.A.3 of this Policy; or
  - b. Prominently or predominately advocate or express a political message, including but not limited to an opinion, position, or viewpoint regarding disputed economic, political, moral, religious or social issues or related matters, or support for or opposition to disputed issues or causes.
3. Is false, misleading, or deceptive.
4. Promotes unlawful or illegal goods, services, or activities, or involves other unlawful conduct.
5. Implies or declares an endorsement by the MTA of any service, product, or point of view.
6. Encourages or depicts unsafe behavior with respect to MTA’s transportation operations, such as failure to comply with normal safety precautions in awaiting, boarding, riding upon or debarking from MTA vehicles, or is otherwise directly adverse to the commercial, administrative or operational interests of the MTA as a business.
7. Depicts or describes in a patently offensive manner sexual or excretory activities so as to satisfy the definition of obscene material as contained in New York Penal Law § 235.00, as such provision may be amended, modified, or supplemented from time to time.
8. Contains material, which, if sold or loaned to a minor for monetary consideration with knowledge of its character and content, would give rise to a violation of New York Penal Law § 235.21, which prohibits the dissemination of indecent material to minors, as such provision may be amended, modified, or supplemented from time to time.
9. Contains material, which, if displayed with knowledge of its character and content, would give rise to a violation of New York Penal Law § 245.11, which prohibits the public display of offensive sexual material, as such provision may be amended, modified, or supplemented from time to time.
10. Promotes tobacco or any tobacco-related product or any alcohol product.

11. Contains an image of a person who appears to be a minor in sexually suggestive dress, pose, or context.

12. Contains material the display of which the MTA reasonably foresees would imminently incite or provoke violence or other immediate breach of the peace, and so harm, disrupt, or interfere with safe, efficient, and orderly transit operations.

13. Contains material that demeans or disparages an individual or group of individuals. For purposes of determining whether an advertisement contains such material, the MTA will determine whether a reasonably prudent person, knowledgeable of the MTA's ridership and using prevailing community standards, would believe that the advertisement contains material that is abusive to, or debases the dignity of, an individual or group of individuals.

14. Contains sexually explicit material that appeals to the prurient interest in sex or is so violent, frightening, or otherwise disturbing as to reasonably be deemed harmful to minors.

15. Promotes an escort service or sexually oriented business.

C. **Additional Provisions Relating to Advertisements**

To avoid identification of the MTA with messages or images contained within advertisements displayed in and on the Property and to avoid the appearance of MTA endorsement of goods, products, services, events by advertisers, advertisements shall readily and unambiguously identify the person, corporation, or entity paying for the advertisement. An advertiser may, at the MTA's discretion, be required to include in the advertisement a statement explicitly identifying the person, corporation, or entity paying for the advertisement. An advertiser may also, at the MTA's discretion, be required to incorporate additional language to avoid the appearance of MTA endorsement.

V. **REVIEW OF ADVERTISING PROPOSED FOR DISPLAY IN OR ON THE PROPERTY**

1. Before accepting an advertisement for display in or on the Property, the advertising contractor shall review such proposed advertisement to determine whether the advertisement complies with the Advertising Standards.

2. If the advertising contractor determines that a proposed advertisement does not, or may not, comply with the Advertising Standards it shall promptly notify the Advertising Review Committee appointed by the MTA Chairman ~~Director of MTA Real Estate (or a designee)~~ in writing of its determination and the reason for its determination.

3. If the Advertising Review Committee ~~Director of Real Estate~~ determines, following receipt and consideration of such recommendation, that a proposed advertisement does not comply with the Advertising Standards, the advertiser shall be notified by the advertising contractor. The advertising contractor, in consultation with the Advertising Review Committee (or a designee), ~~Director of Real Estate~~, may discuss with the advertiser revisions to the advertisement to try to bring the advertisement into compliance with the Advertising Standards,

and the advertiser may submit a revised advertisement to the advertising contractor for review by the Advertising Review Committee.

43. If the advertiser and the advertising contractor do not reach agreement with regard to a revision of the advertisement, or the Advertising Review Committee Director of Real Estate determines that no appropriate revision would bring the advertisement into compliance with the Advertising Standards, or the advertiser chooses not to submit a revised advertisement, the advertiser may request a final determination from the MTA -Chief Development Officer. Director of Real Estate. The MTA Chief Development Officer (or a designee) , Director of Real Estate, in reaching a final determination, may consult with the advertising contractor, or with the MTA General Counsel, ~~and the the MTA Chairman and Chief Executive Officer,~~ or with any other individuals, and may consider any materials submitted by the advertiser. The MTA Chief Development Officer Director of Real Estate shall advise the advertiser and the advertising contractor of the final determination in writing.

## **VI. SEVERABILITY**

If any section, subsection, sentence, clause, phrase or other portion of this Policy is, for any reason, declared invalid, in whole or in part, by any court of competent jurisdiction, such portion shall be deemed severable, and such invalidity shall not affect the validity of the remaining portions of this Policy, which remaining portions shall continue in full force and effect.

## **VII. EFFECTIVE DATE**

This Advertising Policy is effective as of December \_\_, 2018. October 25, 2017.

# Staff Summary

## Schedule F: Personal Service Contracts

<b>Item Number:</b>					
<b>Dept &amp; Dept Head Name:</b> Chief Financial Officer/Environmental Sustainability					
<b>Division &amp; Division Head Name:</b> Bob Foran					
<b>Board Reviews</b>					
Order	To	Date	Approval	Info	Other
1	Finance	12/10/18	X		
2	Board	12/12/18	X		
<b>Internal Approvals</b>					
Order	Approval	Order	Approval		
1	Legal				
2	CFO				
3	Chief of Staff				

<b>SUMMARY INFORMATION</b>	
<b>Vendor Name:</b> NYPA	<b>Contract Number:</b>
<b>Description:</b> Energy Services Program Agreement	
<b>Total Amount:</b>	
<b>Contract Term (including Options, if any):</b> One (1) Year Extension	
<b>Option(s) included in Total Amount?</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Renewal – two (2) one-year renewals</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Procurement Type:</b> <input type="checkbox"/> Competitive <input checked="" type="checkbox"/> Non-competitive	
<b>Solicitation Type:</b> <input type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other: [e.g., Ride - - Contract]	
<b>Funding Source:</b> <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:	

### Narrative

#### I. PURPOSE/RECOMMENDATION

To obtain Board approval for an extension of the Energy Services Program Agreement between the New York Power Authority (NYPA) and the MTA.

#### II. DISCUSSION

NYPA supplies electric energy, capacity and ancillary services for the MTA in Con Edison territory. In March of 2005 the MTA entered into a long-term agreement with NYPA containing supplemental terms and conditions to the original 1976 Application for Electric Service, and providing for NYPA’s continuing supply of energy and capacity to the MTA through December 31, 2017 (the “2005 LTA”). At that time, the MTA and NYPA also entered into the Energy Services Program Agreement (“ESP Agreement”) in order to identify and finance energy efficiency and clean energy technology projects at MTA facilities and to implement such projects that were economically feasible. The ESP Agreement was tied to the 2005 LTA and was set to expire on December 31, 2017, as well. In December of 2017, the MTA extended both the 2005 LTA and the ESP Agreement through December 31, 2018 to maintain the continuity of electricity supply and energy efficiency services until new agreements between the Parties were executed.

In September of 2018, the MTA entered into a new long-term agreement with NYPA. However, negotiations for a new Energy Services Program Agreement are still on-going. Therefore, to enable the orderly continuation and completion of these negotiations, and the efficient transition to the new Energy Services Program Agreement, the MTA is requesting an extension of the 2005 ESP Agreement for one more year, through December 31, 2019. This extension will be null and void upon the execution of a new Energy Services Program Agreement.

### **III. D/M/WBE INFORMATION**

No DBE/WBE goals were established by the MTA DDCR for this contract.

### **IV. IMPACT ON FUNDING**

There will be no impact. The extension will carry forward the terms and conditions established under the 2005 ESP Agreement.

### **V. ALTERNATIVES**

The alternative would be to postpone development of new energy-efficiency projects, which have been of benefit to the MTA and its Agencies.

# MTA 2019 Budget & 2019-2022 Financial Plan Adoption Materials

(Available in the Exhibit Book &  
MTA.Info)

## FINANCE COMMITTEE CONTRACT CHANGE ORDER REPORT - 3rd Quarter (July 2018 - September 2018)

(NON-CAPITAL CHANGE ORDER VALUE MORE THAN \$250,000 -- UP TO \$750,000)

Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
B&T	PSC-12-2914	Medical Review Officer/Emergency Health Care Provider for External Defibrillators	\$720,175.00	\$355,000.00	\$200,000.00	27.77%	3	8/16/2018	Extend period of performance for one year and provide additional funding to support the extension
NYCT	W-32147-2	Test and Evaluation of Digital Information Screen Systems	\$614,044	\$0	\$198,000	32.25%	2	7/12/18	Extend the contract term by 33 months
NYCT	RFQ 20287	Remanufacture of Carrier Air Conditioning Compressors for use on the R62/A and R68/A Subway Cars	\$925,002	\$0	\$225,000	24.32%	3	8/16/18	Extend the contract term by six months
NYCT	R-84503	GEC Services for Work Car and Certain Revenue Car Projects	\$64,441,653	\$1,299,453	\$400,000	0.62%	N/A	8/9/18	Budget Adjustment for Loan/Test Agreement Support
NYCT	B-40656-1	Purchase of 414 low-floor 40-foot diesel buses	\$194,452,669	\$144,768,937	\$355,000	0.18%	2	6/22/18**	Incorporate technical changes on up to 414 low-floor diesel buses
LIRR	Various	Scheduled Rubbish Removal & On-Call Container Services	\$11,057,785	\$0	\$3,165,000	28.62%	1	9/26/2018	Six Months Contract Extension
LIRR	Various	Scheduled & Emergency Bus Services	\$11,250,000	\$7,750,000	\$4,350,000	38.66%	3	9/26/2018	Increase Funding

*Including any exercised options*

Master Page #192 of 297 - Finance Committee Meeting 12/10/2018

**CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 3rd Quarter 2018**  
**(FOR INFORMATION ONLY)**

Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
MTA B&T	PSC-13-2928	Construction Administration and Inspection Services for Projects RK-65A, Reconstruction of the Bronx Plaza and RK-75, Interim Repairs to the Manhattan Plaza at the RFK Bridge	\$15,943,224	\$1,236,273	\$256,696	1.61%	5	7/2/2018	Additional effort needed for expanded construction scope
MTA B&T	VN-80B	Replacement of the Upper Level Deck at the Suspended Span of the Verrazzano-Narrows Bridge	\$235,728,000	\$68,248,029	\$739,249	0.31%	18	7/11/2018	Amend contract for: (i) enhancing overhead roadway signage and pavement markings; (ii) necessary infrastructure to implement Open Road Tolling (ORT) for both the Upper and Lower Levels within the Staten Island Plaza Approach and (iii) replacing swivel clamp nuts on roadway LED lighting fixtures
MTA B&T	RK-65A	Bronx Plaza / Structural Rehabilitation at the RFK Bridge	\$213,400,794	\$38,614,571	\$702,495	0.33%	17	7/16/2018	Additional steel for overhead sign steel support, light pole fabrication and installation, additional downspout connections, and additional AOB funding
MTA B&T	PSC-14-2956	CI&A Services for Project RK-23A, Reconstruction and Rehabilitation of Manhattan Approach Ramps to the RFK Bridge	\$6,827,695	\$826,928	\$749,354	10.98%	3	7/31/2018	Additional services and time
MTA B&T	RK-75 PHIIb	Demolition of Occupied Spaces Beneath the Manhattan Plaza at the RFK Bridge	\$15,377,685	\$4,005,280	\$298,940	1.94%	7	8/9/2018	Add New Item A7.1 (Installation of Insulation and Steel Plating) and modifications to existing contract unit price items
MTA B&T	RK-65A	Bronx Plaza / Structural Rehabilitation at the RFK Bridge	\$213,400,794	\$39,317,066	\$501,190	0.23%	18	8/21/2018	Extra Work for walkway connector ramp design changes and modifications at transitions between roadway elevations and newly installed attenuators
MTA B&T	PSC-11-2865	Design and Construction Support Services for Bronx Plaza Structure Rehabilitation and Interim Rehabilitation of the Manhattan Plaza at the RFK Bridge	\$10,428,880	\$11,104,135	\$473,524	4.54%	8	8/21/2018	Additional design services during construction related to ORT requirements (RK-65A) and unanticipated field conditions (RK-75 PHIIb)
MTA B&T	RK-22	Interim Repairs to the Ramps at the RFK Bridge	\$12,863,178	\$0	\$628,960	4.89%	1	8/22/2018	Extra work and contract unit item quantity adjustments
MTA B&T	RK-23A	Reconstruction and Rehabilitation of the 125 <sup>th</sup> Street Manhattan Approach Ramps to the RFK Bridge	\$68,300,001	\$49,063,180	\$687,184	1.01%	17	8/22/2018	Stringer repairs and contract unit price item adjustments
MTA B&T	PSC-11-2903	Construction Management and Inspection Services for Project VN-80B, Replacement of the Upper Level Deck of the Suspended Span at the Verrazzano-Narrows Bridge	\$18,539,808	\$1,180,976	\$250,000	1.34%	4	8/29/2018	Amend contract to increase funding for additional construction management and inspection services required for Upper and Lower Level finger joint work
MTA B&T	PO 3000001380	Explosive Canine Detection Services	\$833,000	\$70,000	\$180,000	21.61%	2	9/17/2018	Extend contract term through 4/15/19 and increase funding to support services
LIRR	6268	Wyandanch Station Bldg Construction	\$4,747,704	\$247,591	\$252,465	5.30%	3	8/23/2018	Differing site conditions; Design E/O & field changes.
LIRR	6268	Wyandanch Station Bldg Construction	\$4,747,704	\$500,055	\$298,000	6.28%	4	9/7/2018	Wi-Fi access requirements

**CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 3rd Quarter 2018**  
**(FOR INFORMATION ONLY)**

Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
LIRR	6201	Design/Build Services for New Mainline Second Track-Ronkonkoma Branch Signal System	\$41,940,000	\$119,402	\$355,176	0.85%	1	9/12/2018	Installation of WIU & CCTV Racks
LIRR	6201	Design/Build Services for New Mainline Second Track-Ronkonkoma Branch Signal System	\$41,940,000	\$119,402	\$356,641	0.85%	3	9/12/2018	ML Huts from Cases
LIRR	6201	Design/Build Services for New Mainline Second Track-Ronkonkoma Branch Signal System	\$41,940,000	\$119,402	\$300,779	0.72%	12	9/12/2018	Change from Battery Cases to Battery Huts
LIRR	6257	Track & System Installation for the New Second Track on the Main Line Ronkonkoma Branch Phase II	\$66,530,000	\$5,445,422	\$317,320	0.48%	12	8/14/2018	Signal/Communications Systems Through Stations
LIRR	6257	Track & System Installation for the New Second Track on the Main Line Ronkonkoma Branch Phase II	\$66,530,000	\$5,445,422	\$749,372	1.13%	19	8/14/2018	Concrete Foundations
LIRR	6202	Hicksville Station Improvements	\$50,911,200	\$921,191	\$399,979	0.79%	17	7/12/2018	Storefront Curtain system
LIRR	6202	Hicksville Station Improvements	\$50,911,200	\$1,321,170	\$434,400	0.85%	32	7/17/2018	Storefront curtain system track 2
LIRR	6289	Ehnaced Station Improvements	\$80,350,000	\$0	\$360,034	0.45%	2	7/30/2018	SHPO Design Changes
LIRR	6290	Ehnaced Station Improvements	\$80,350,001	\$360,034	\$496,011	0.62%	7	8/24/2018	Design changes for ESI
MNR	27044	Harmon Shop Replacement Phase V - Stage 1	\$245,013,556	\$2,049,023	\$375,071	0.15%	27	7/17/2018	Furnish and Install furniture
MTACC	98-0040-01R	ESA General Engineering Consultant (GEC) Services	\$140,000,000	\$490,539,533	\$250,000	0.18%	159	9/13/2018	Additional Funding for Task Order Services
MTACC	CM014B	GCT Concourse and Facilities Fit-Out	\$428,900,000	\$29,673,314	\$690,000	0.16%	165	8/1/2018	Add & Modify Stairways at the 47th Street Node
MTACC	CQ032	Plaza Substation and Queens Structures for the East Side Access Project	\$147,377,000	\$114,080,351	\$736,350	0.50%	82	9/6/2018	Additional Water Infiltration Remediation
MTACC	CS179	Systems Facilities Package No. 1 for East Side Access Project	\$333,588,000	\$20,685,475	\$739,500	0.22%	97	7/23/2018	Addition of Pull Box Covers
MTACC	A-35301	Cortlandt Street #1 Line Station Rehabilitation	\$101,150,000	\$9,514,552	\$619,000	0.61%	105	7/24/2018	Bulletin No. 3 Structural Modifications

**CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 3rd Quarter 2018  
(FOR INFORMATION ONLY)**

Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
MTACC	C-26006	Second Avenue Subway - 63rd Street/Lexington Avenue Station Reconstruction, including Rehabilitation and Reconstruction of Entrances	\$176,450,000	\$14,179,634	\$282,000	0.16%	377	9/5/2018	Changes due to a bus duct failure in an electrical distribution room
MTACC	C-26011	Second Avenue Subway - 72nd Street Station Finishes, Borough of Manhattan	\$258,353,000	\$68,110,040	\$420,200	0.16%	233	9/5/2018	Additional ground and test devices for facility power rooms
NYCT	CM-1325	Design of the 800 MHz Bus Radio System and Command Center	\$4,745,608	\$9,248,629	\$441,377	9.30%	11	8/14/2018	Provide additional design and construction support for the caisson repair of the East New York Radio tower and continued support for the temporary repair of the ENY Tower
NYCT	E-31705	Flood Mitigation and Resiliency at 17 Fan Plants and Adjacent Tunnels	\$22,763,000	\$756,870	\$290,000	1.27%	10	9/26/2018	Furnish and install locking system to secure mechanical closure devices to gratings
NYCT	A-36622A	Enhanced Station Initiative Package 1 - Three Stations on Fourth Avenue Line (BMT) in the Borough of Brooklyn	\$72,121,000	\$6,319,537	\$307,900	0.43%	31	7/25/2018	Changes to the consolidated wireways and light rails as well as deletion of several light fixtures at 53rd Street, Bay Ridge Avenue and Prospect Avenue stations
NYCT	A-36622A	Enhanced Station Initiative Package 1 - Three Stations on Fourth Avenue Line (BMT) in the Borough of Brooklyn	\$72,121,000	\$6,319,537	\$265,075	0.37%	50	8/29/2018	Additional waterproofing at 53rd Street, Bay Ridge Avenue and Prospect Avenue stations
NYCT	S-32723	Signal Modernization to Install CBTC Signaling - Flushing Line	\$343,518,371	\$5,128,034	\$660,000	0.20%	90	9/12/2018	Removal of Out of Service stop machines, wheel detectors and riser boxes
NYCT	A-36090	Station Renewal of Six Stations on the Sea Beach Line in the Borough of Brooklyn	\$188,761,000	\$10,184,590	\$670,000	0.36%	66	8/16/2018	8th Avenue Station Modified stair
NYCT	A-37593	Rehabilitation of the South Ferry Terminal Complex	\$193,800,000	\$13,722,991	\$258,028	0.13%	176	8/3/2018	Manual transferring of power directly to the Signal Relay Room to maintain the signal system

\*Capital change order value \$250,000 to \$750,000, and change orders from \$50,000 to \$250,000 but over 15% of the adjusted contract amount

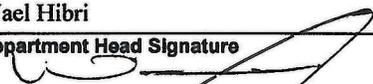
\*\* Including any exercised options

**DRAFT**

**2<sup>nd</sup> Quarter MTA Financial Statements  
for the Six-Months Ended June 2019**

**(Available in the Exhibit Book &  
MTA.Info)**

# Staff Summary

<b>Subject</b> Request for Authorization to Award Various Procurements
<b>Department</b> MTA Business Service Center
<b>Department Head Name</b> Wael Hibri
<b>Department Head Signature</b> 
<b>Division Head Name</b> David N. Ross

<b>Date</b> December 7, 2018
<b>Vendor Name</b> Various
<b>Contract Number</b> Various
<b>Contract Manager Name</b> Various
<b>Table of Contents Ref #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance	12/10/2018	X		
2	Board	12/12/2018	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Procurement 	3	CFO 
2	Legal 		

**PURPOSE:**

To obtain approval of the Board to award various contracts/contract modifications and purchase orders, as reviewed by the MTA Finance Committee.

**DISCUSSION:**

MTAHQ proposes to award Non-competitive procurements in the following categories:

Schedules Requiring Majority Vote:

Schedule H: Modifications to Personal Service/Miscellaneous Service Contracts	1	\$	4,372,560
<b>SUBTOTAL</b>	<b>1</b>	<b>\$</b>	<b>4,372,560</b>

MTAHQ proposes to award Competitive procurements in the following categories:

Schedules Requiring Two-Thirds Vote:

Schedule C: Competitive Requests for Proposals (Award of Purchase and Public Work Contracts)	1	\$	63,816,683
--	---	----	------------

Schedules Requiring Majority Vote:

Schedule F: Personal Service Contracts	2	\$	3,585,285
<b>SUBTOTAL</b>	<b>3</b>	<b>\$</b>	<b>67,401,968</b>
<b>TOTAL</b>	<b>4</b>	<b>\$</b>	<b>71,774,528</b>

**BUDGET IMPACT:** The purchases/contracts will result in obligating MTAHQ operating and capital funds in the amount listed. Funds are available in the current MTAHQ operating/capital budgets for this purpose.

**RECOMMENDATION:** That the purchases/contracts be approved as proposed. (Items are included in the resolution of approval at the beginning of the Procurement Section.

## PROCUREMENTS

The Procurement Agenda this month includes 4 actions for a proposed expenditure of \$72M.

## BOARD RESOLUTION

### METROPOLITAN TRANSPORTATION AUTHORITY

WHEREAS, in accordance with Section 1265-a and Section 120 of the Public Authorities Law and the All Agency Procurement Guidelines, the Board authorizes the award of certain non-competitive purchase and public work contracts, and the solicitation and award of request for proposals in regard to purchase and public work contracts; and

WHEREAS, in accordance with the All Agency Procurement Guidelines, the Board authorizes the award of certain non-competitive miscellaneous procurement contracts, and certain change orders to procurement, public work, and miscellaneous procurement contracts; and

WHEREAS, in accordance with Section 2879 of the Public Authorities Law and the All Agency Guidelines for Procurement of Services, the Board authorizes the award of certain service contracts and certain change orders to service contracts.

NOW, the Board resolves as follows:

1. As to each purchase and public work contract set forth in the annexed Schedule A, the Board declares competitive bidding to be impractical or inappropriate for the reasons specified therein and authorizes the execution of each such contract.
2. As to each request for proposals (for purchase and public work contracts) set forth in Schedule B for which authorization to solicit proposals is requested, for the reasons specified therein the Board declares competitive bidding to be impractical or inappropriate, declares it is in the public interest to solicit competitive request for proposals and authorizes the solicitation of such proposals.
3. As to each request for proposals (for purchase and public work contracts) set forth in Schedule C for which a recommendation is made to award the contract, the Board authorizes the execution of said contract.
4. The Board ratifies each action taken set forth in Schedule D for which ratification is requested.
5. The Board authorizes the execution of each of the following for which Board authorization is required: i) the miscellaneous procurement contracts set forth in Schedule E; ii) the personal service contracts set forth in Schedule F; iii) the miscellaneous service contracts set forth in Schedule G; iv) the modifications to personal/miscellaneous service contracts set forth in Schedule H; v) the contract modifications to purchase and public works contracts set forth in Schedule I; and vi) the modifications to miscellaneous procurement contracts set forth in Schedule J.
6. The Board ratifies each action taken set forth in Schedule K for which ratification is requested.
7. The Board authorizes the budget adjustments to estimated quantity contracts set forth in Schedule L.

**DECEMBER 2018**

**LIST OF NON-COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL**

**Procurements Requiring Majority Vote:**

**H. Modifications to Personal Service Contracts and Miscellaneous Service Contracts Awarded as Contracts for Services**

(Approvals/Staff Summaries required for substantial change orders and change orders that cause the original contract to equal or exceed the monetary or durational threshold required for Board approval.)

- |    |   |  |   |
|----|---|--|---|
| 1. | <p><b>CBRE, Inc.</b></p> <p><b>Property Management Services</b></p> <p><b>Contract No. 15326-0100, Modification No. 4</b></p> <p><b>Base Amount = \$28,213,442</b></p> <p><b>Current Contract Value = \$39,569,338</b></p> <p><b>Proposed New Contract Value = \$43,941,898</b></p> | <p><b>\$4,372,560</b></p> <p>(not-to-exceed)</p> | <p><b><u>Staff Summary Attached</u></b></p> |
|----|---|--|---|

Board approval is sought to modify a competitively negotiated, personal services contract with CBRE, Inc. (CBRE) for property management services, adding MTA locations that were not included with the original authorization. Additionally, Board approval is sought to add locations in subsequent contract years subject to MTA Board approval of the MTA Financial Plans for such years. CBRE was selected through a competitive RFP and was to manage seven MTA properties including 2 Broadway. Since award of this contract, several additional locations were added, all based on a determination that doing so would reduce cost of management and provide operating efficiencies. The additional locations are: 2055 Sunrise Highway, Merrick New York (MTA Police-Merrick Substation), 1-15 Grumman Road, Bethpage, New York (MTA Police District 2 Headquarters); 341-345-347 Madison Avenue, New York, New York 10017, 14 Perin Lane, Stormville, New York, 24 South MacQuesten Parkway, Mount Vernon New York, 110 West Suffolk Avenue, Central Islip, New York, and 2460 2nd Ave, New York, New York. The fees and payroll costs paid to CBRE are consistent with analogous properties it manages in the region and the additional payroll expenses for the various staffing positions are below the existing contractual salary matrix for titles of similar qualifications. Also, the management of the Madison Ave campus was absorbed by existing CBRE staff already on this account, so the MTA will not be incurring additional salary costs. In connection with a previous contract awarded to the Contractor, the Contractor was found to be responsible notwithstanding significant adverse information pursuant to the All-Agency Responsibility Guidelines and such responsibility finding was approved by the Interim Executive Director with the MTA Acting General Counsel. No new SAI has been found relating to the Contractor and the Contractor has been found to be responsible.

# Staff Summary

## Schedule H: Modifications to Personal Service & Miscellaneous Service Contracts

Item Number: 1

Page 1 of 1

<b>Vendor Name (&amp; Location):</b> CBRE, Inc.	<b>Contract Number:</b> 15326-0100	<b>AWO/Modification #</b> 4
<b>Description:</b> Property Management Services	<b>Original Amount:</b>	\$28,213,442.00 (in Year 1)
<b>Contract Term (including Options, if any):</b> Eight (8) Years (May 1, 2016 to April 30, 2024)	<b>Prior Modifications:</b>	<b>Not Applicable</b>
<b>Option(s) included in Total Amount?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Prior Budgetary Increases:</b>	<b>Not Applicable</b>
<b>Procurement Type:</b> <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	<b>Current Amount:</b>	\$39,569,338.00 (in year 3)
<b>Solicitation Type:</b> <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	<b>This Request:</b>	\$4,372,560.00
<b>Funding Source:</b> <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:	<b>% of This Request to Current Amount:</b>	11.1%
<b>Requesting Dept/Div &amp; Dept/Div Head Name:</b> Finance / Robert Foran & Real Estate David Florio	<b>% of Modifications (including This Request) to Original Amount:</b>	15.5%

### PURPOSE:

Board approval is sought to modify a competitively negotiated, personal services contract with CBRE, Inc. (CBRE) for property management services, adding MTA locations that were not included with the original authorization. Additionally, Board approval is sought to add locations in subsequent contract years subject to MTA Board approval of the MTA Financial Plans for such years.

### DISCUSSION:

CBRE was selected through a competitive RFP and was to manage seven MTA properties including 2 Broadway. The services they oversee include general maintenance, cleaning, security and safety, maintenance and operation of building systems, landscaping and capital project implementation. CBRE uses a combination of personnel on its own payroll, subcontractors procured by CBRE and contractors procured directly by MTA Procurement. In call cases, subcontractors engaged by CBRE are procured following MTA-approved procurement processes and guidelines, and are subject to oversight by MTA Real Estate. The base contract is for sixty months ending April 30, 2021. There are two renewal options that, if exercised, would add three years combined.

Since award of this contract, several additional locations were added, all based on a determination that doing so would reduce cost of management and provide operating efficiencies. The additional locations are: 2055 Sunrise Highway, Merrick New York (MTA Police-Merrick Substation), 1-15 Grumman Road, Bethpage, New York (MTA Police District 2 Headquarters); 341-345-347 Madison Avenue, New York, New York 10017, 14 Perin Lane, Stormville, New York, 24 South MacQuesten Parkway, Mount Vernon New York, 110 West Suffolk Avenue, Central Islip, New York, and 2460 2nd Ave, New York, New York.

The additional locations increase monthly contract expenditures by about 11% and, since the work is analogous, it wouldn't make sense to conduct a separate procurement to cover them. In all cases, MTA will be able to reduce internal (mostly staff) costs by amounts in excess of what will be paid to CBRE. For example, adding the Madison Avenue properties saves about \$194k annually vis-a-vis the cost for having MTA personnel manage them. Similarly, the two MTA Police locations save over \$150K vis-à-vis the cost of having MTA personnel manage them. The fees and payroll costs paid to CBRE are consistent with analogous properties it manages in the region and the additional payroll expenses for the various staffing positions are below the existing contractual salary matrix for titles of similar qualifications. Also, the management of the Madison Ave campus was absorbed by existing CBRE staff already on this account, so the MTA will not be incurring additional salary costs.

In connection with a previous contract awarded to the Contractor, the Contractor was found to be responsible notwithstanding significant adverse information pursuant to the All-Agency Responsibility Guidelines and such responsibility finding was approved by the Interim Executive Director with the MTA Acting General Counsel. No new SAI has been found relating to the Contractor and the Contractor has been found to be responsible.

**DECEMBER 2018**

**LIST OF COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL**

**Procurements Requiring Two-Thirds Vote:**

**C. Competitive Requests for Proposals (Award of Purchase and Public Work Contracts)**  
(Staff Summaries required for items requiring Board approval)

- |    |  |  |                                      |
|----|--|--|--------------------------------------|
| 2. | <b>Hilti, Inc.</b><br><b>All-Agency Procurement of</b><br><b>Maintenance, Repair and Operating</b><br><b>Supplies &amp; Related Products and Services</b><br><b>Contract No. 11751-0100</b><br>Competitively negotiated – 12 proposals – 3 years with 2 one-year options | <b>\$63,816,683</b><br>(not-to-exceed) | <b><u>Staff Summary Attached</u></b> |
|----|--|--|--------------------------------------|

Board approval is sought to award the Proprietary Tools category of a competitively negotiated All-Agency Procurement of Maintenance, Repair and Operating Supplies & Related Products and Services (collectively, MRO) to Hilti, Inc. (Hilti) in the not-to-exceed amount of \$63,816,683, which includes a 10% contingency. The contract period is three years commencing January 1, 2019 with two one-year options to be exercised at MTA’s sole discretion. Additional category awards will be presented for Board approval following completion of negotiations. The MTA and its agencies currently purchase Maintenance, Repair and Operating Supplies products via a multitude of contracts. This all-agency RFP will achieve savings for contractors and the MTA by combining the volumes of the entire MTA and its agencies to achieve cost effective pricing, reduce administrative and overhead costs through the use of e-commerce best practices for cataloguing, ordering and delivery systems, and by standardizing products across MTA agencies. Following a competitive Request For Proposal Process, Proposals for the Hilti Proprietary Items category were received from three firms, Hilti, Colonial Hardware Corp. and Tanner Bolt and Nut, Inc. Tanner’s proposal was incomplete, thus deemed non-responsive and disqualified. While both Hilti and Colonial were considered technically qualified and proceeded to negotiations, Colonial’s cost proposal was 41.9% higher than the MTA’s estimate and the firm decided not to submit a BAFO because they could not provide pricing in the competitive range. The Selection Committee unanimously determined that Hilti, Inc. provided the best value to the MTA for its proprietary items based on their significant resources and pricing. MTA estimated the value of this contract to be \$55,234,590 based on current usage. Through negotiations, Hilti’s original price of \$59,722,415 was reduced to \$58,015,167, a savings of \$1,707,248 or 2.8%. Hilti’s best and final offer is 5% or \$2,780,577 more than MTA’s estimate, but it provides a 40% catalog discount and the following cost avoidance elements: (i) firm pricing based on Hilti’s July 2018 product list through December 2019 while other customers have been subject to 6% increases due to tariffs & raw material costs; (ii) pricing held at 2016 levels for a building mortar product that is heavily used across by multiple MTA agencies (over \$3 million annually); and (iii) an annual escalation cap of 6%. Based on the above, the negotiated pricing is considered fair and reasonable. MTA has conducted a responsibility review and other due diligence on Hilti and has deemed the firm to be responsible for award.

**Staff Summary**

**Schedule C: Competitive Requests for Proposals  
(Award of Purchase and Public Work Contracts)**

<b>Item Number:</b> 2 <b>Dept &amp; Dept Head Name:</b> MTAHQ Procurement - David Ross <b>Division &amp; Division Head Name:</b> BSC – Wael Hibri 						<b>SUMMARY INFORMATION</b> <b>Vendor Name:</b> Hilti Inc.		<b>Contract Number:</b> 11751-0100																			
<b>Description:</b> All-Agency Procurement of Maintenance, Repair and Operating (MRO) Supplies & Related Products and Services						<b>Total Amount:</b> \$63,816,683		<b>Contract Term (Including Options, if any):</b> 36 months with two (2) one year options																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">Order</th> <th style="width:15%;">To</th> <th style="width:10%;">Date</th> <th style="width:10%;">Approval</th> <th style="width:10%;">Info</th> <th style="width:10%;">Other</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Finance</td> <td>12/10/18</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Board</td> <td>12/12/18</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Order	To	Date	Approval	Info	Other	1	Finance	12/10/18				2	Board	12/12/18				<b>Option(s) Included in Total Amount?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>Renewal?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Order	To	Date	Approval	Info	Other																						
1	Finance	12/10/18																									
2	Board	12/12/18																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align:center;">Internal Approvals</th> </tr> <tr> <th style="width:5%;">Order</th> <th style="width:15%;">Approval</th> <th style="width:5%;">Order</th> <th style="width:15%;">Approval</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Business Services Center </td> <td>3</td> <td>DDCR </td> </tr> <tr> <td>2</td> <td>CFO </td> <td>4</td> <td>Legal </td> </tr> </tbody> </table>						Internal Approvals				Order	Approval	Order	Approval	1	Business Services Center 	3	DDCR 	2	CFO 	4	Legal 	<b>Procurement Type:</b> <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive		<b>Solicitation Type:</b> <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:			
Internal Approvals																											
Order	Approval	Order	Approval																								
1	Business Services Center 	3	DDCR 																								
2	CFO 	4	Legal 																								
<b>Funding Source:</b> <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:						<b>Narrative</b>																					

**I. PURPOSE/RECOMMENDATION**

Board approval is sought to award the Proprietary Tools category of a competitively negotiated All-Agency Procurement of Maintenance, Repair and Operating Supplies to Hilti, Inc. in the not-to-exceed amount of \$63,816,683, which includes a 10% contingency. The contract period is three years commencing January 1, 2019 with two one-year options to be exercised at MTA's sole discretion. Additional category awards will be presented for Board approval following completion of negotiations.

**II. DISCUSSION**

The MTA and its agencies currently purchase Maintenance, Repair and Operating Supplies & Related Products and Services (collectively, MRO) products via a multitude of contracts. This all-agency RFP will combine the volumes of the entire MTA and its agencies to achieve cost effective pricing, reduce administrative and overhead costs through the standardization of some commodities and through the use of e-commerce best practices for cataloguing, ordering and delivery systems.

A Request for Proposals (RFP) was publicly advertised and letters advising potential proposers of the RFP's availability were sent to 127 firms including 23 M/WBE firms. Vendors were invited to submit proposals for any number of the following categories: Electrical, Material Handling, Building Supplies, Industrial Supplies, Security & Safety, Hand/Power Tools (subcategories: Hilti Proprietary Items and Snap-On Proprietary Items), Fluid Power, Hardware. Proposers were required to provide all product requirements, either with the same or functionally equivalent items within each category. In all, twelve proposals were received for the 11 categories with between 2 to 7 proposals in each. Three proposals were received for the category that is the subject of this Staff Summary, the Hilti Proprietary Items category.

A single selection committee was used for all categories and it included representatives from NYCT, LIRR, MTAHQ, MNR, and MTA Bus. The evaluation criteria included: capabilities, experience, cost, and diversity. Proposals for the Hilti Proprietary Items category were received from Hilti, Inc., Colonial Hardware Corp., and Tanner Bolt and Nut, Inc. Tanner's proposal was incomplete, thus deemed non-responsive and disqualified. While both Hilti and Colonial were considered technically qualified and proceeded to negotiations, Colonial's cost proposal was over 40% higher than the MTA's estimate. Ultimately, Colonial decided not to submit a BAFO because they could not provide pricing in the competitive range. The selection committee recommended award to Hilti, Inc. based on both price and their significant resources.

MTA has conducted a responsibility review and other due diligence on Hilti and has deemed the firm to be responsible for award.

MTA estimated the value of this contract to be \$55,234,590 based on current usage. Through negotiations, Hilti's original price of \$59,722,415 was reduced to \$58,015,167, a savings of \$1,707,248 or 2.8%. Hilti's best and final offer is 5% or \$2,780,577 more than MTA's estimate, but it provides a 40% catalog discount and the following cost avoidance elements: (i) firm pricing based on Hilti's July 2018 product list through December 2019 while other customers have been subject to 6% increases due to tariffs & raw material costs; (ii) pricing held at 2016 levels for a building mortar product that is heavily used across by multiple MTA agencies (over \$3 million annually); and (iii) an annual escalation cap of 6%. Based on the above, the negotiated pricing is considered fair and reasonable

### **III. D/M/WBE INFORMATION**

The MTA Department of Diversity and Civil Rights (DDCR) has established 15%MBE and 15%WBE goals on this contract. Hilti, Inc. has requested a total waiver of the M/WBE goals due to the lack of subcontracting opportunities, but has demonstrated good faith effort towards meeting these goals. Hilti, Inc. has not completed any MTA contracts with MWDBE goals; therefore, no assessment of the firm's MWDBE performance can be determined at this time.

### **IV. IMPACT ON FUNDING**

The total cost for this contract is \$63,816,683 for Hilti, Inc. and will be funded by various agencies' operating budgets.

### **V. ALTERNATIVES**

Procure MRO supplies and services on an as-needed basis. This alternative is not recommended as it would result in an opportunity lost for the MTA to improve buying efficiencies and identify potential cost savings.

**DECEMBER 2018**

**LIST OF COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL**

**Procurements Requiring Majority Vote:**

**F. Personal Service Contracts**

(Staff Summaries required for items greater than: \$100K Sole Source; \$250K Other Non-Competitive, \$1M Competitive)

- |    |   |                                     |                                      |
|----|---|-------------------------------------|--------------------------------------|
| 3. | <b>Guidehouse LLP</b><br><b>Contact Center Assessment</b><br><b>Contract No. 0009000010</b><br>Competitively negotiated – 10 proposals – 6 months | <b>\$758,551</b><br>(not-to-exceed) | <b><u>Staff Summary Attached</u></b> |
|----|---|-------------------------------------|--------------------------------------|

Board approval is sought to award a competitively negotiated personal service contract to Guidehouse LLP (“Guidehouse” formerly known as “Pricewaterhouse Coopers Public Sector LLP”) for a Contact Center Assessment on for New York City Transit (“NYCT”), Bridges & Tunnels (“B&T”), Long Island Rail Road (“LIRR”) and Metro North Railroad (“MNR”) agencies. The consultant will assess the potential opportunity for external customer facing contact center service improvements and cost savings. The proposed contract term is six months for a fixed fee of \$758,551. Currently, each MTA Agency maintains its own call center(s), with separate infrastructure, software, processes and locations, leaving the potential for duplicative costs and disparate experiences for customers. The proposed assessment would review operations and make recommendations to improve efficiency and enhance the customer experience. Following a competitive Request for Proposal process, Guidehouse LLP was selected as the lowest price proposal. The proposed fully-loaded hourly rates used by Guidehouse to arrive at the fixed fee are inclusive of any expenses and ranged from \$130 for Business Analyst to \$399 for Engagement Partner levels. The rates used by Guidehouse are equal to or lower than those on a recent competitively awarded contract to Pricewaterhouse Coopers Public Sector LLP for IV&V services under contract 9000004. As a result of these analyses, and based on their having offered fixed fee pricing that is well below the pricing offered by either of the other vendors in the competitive range, Guidehouse’s proposed fixed fee of \$758,551 is determined to be fair and reasonable. A responsibility review revealed no significant adverse information regarding the firm within the All-Agency Responsibility Guidelines.

# Staff Summary

## Schedule F: Personal Service Contracts

<b>Item Number:</b> 3						<b>SUMMARY INFORMATION</b>	
<b>Dept &amp; Dept Head Name:</b> Business Service Center (BSC) / Wael Hibri						<b>Vendor Name:</b> Guidehouse LLP	
<b>Division &amp; Division Head Name:</b> Governance and Administration / Joseph Vartolone						<b>Contract Number:</b> 0009000010	
<b>Board Reviews</b>						<b>Description:</b> Contact Center Assessment	
<b>Order</b>	<b>To</b>	<b>Date</b>	<b>Approval</b>	<b>Info</b>	<b>Other</b>	<b>Total Amount:</b> \$758,551	
1	Finance	12/10/18	X			<b>Contract Term (Including Options, if any):</b> 6 months (1/2/2019 – 6/30/2019)	
2	Board	12/12/18	X			<b>Option(s) included in Total Amount?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
						<b>Renewal?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Internal Approvals</b>						<b>Procurement Type:</b> <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	
<b>Order</b>	<b>Approval</b>	<b>Order</b>	<b>Approval</b>				
1	Procurement	4	Legal				
2	Business Service Center	5	CFO				
3	DBA						
<b>Funding Source:</b> <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:						<b>Solicitation Type:</b> <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other: [e.g., Ride -- Contract]	

**Narrative**

**I. PURPOSE/RECOMMENDATION**

Board approval is sought to award a competitively negotiated personal service contract to Guidehouse LLP (“Guidehouse” formerly known as “Pricewaterhouse Coopers Public Sector LLP”) for a Contact Center Assessment on for New York City Transit (“NYCT”), Bridges & Tunnels (“B&T”), Long Island Rail Road (“LIRR”) and Metro North Railroad (“MNR”) agencies. The consultant will assess the potential opportunity for external customer facing contact center service improvements and cost savings. The proposed contract term is six months for a fixed fee of \$758,551.

**II. DISCUSSION**

Currently, each MTA Agency maintains its own call center(s), with separate infrastructure, software, processes and locations, leaving the potential for duplicative costs and disparate experiences for customers. The proposed assessment would review operations and make recommendations to improve efficiency and enhance the customer experience.

A Request for Proposals (“RFP”) was publicly advertised and letters advising potential proposers of the RFP’s availability were distributed to twenty-two vendors. Ten proposals were received. The selection committee members (SCM) included representatives from MTA Headquarter and all four agencies, all with expertise in managing contact centers. The evaluation criteria were: (i) project approach (ii) experience and expertise of the project team (iii) proposer qualifications (iv) cost and (v) diversity practices.

Proposals were received from ten proposers and IBM Corp (“IBM”), Praxidia USA (“Praxidia”) and Guidehouse LLP were determined to be the most technically qualified based on their ability to demonstrate specific contact center subject matter expertise. The committee also felt that these three vendors offered the strongest overall project approach, technological expertise and experience performing organizational assessments in the public sector.

From a total score perspective, IBM was ranked highest by one SCM, and Praxidia and Guidehouse were each scored highest by two. The SCM who scored IBM highest scored Praxidia as second highest, so Praxidia was scored higher than Guidepost by a majority of the committee. Noting that the difference in technical scores ascribed to Praxidia vis-à-vis Guidepost were modest, particularly in relation to the over 65% price differential, Procurement was unable to determine the Praxidia's pricing to be fair and reasonable. Accordingly, Procurement sought input from the evaluation committee. The committee, in turn, committee unanimously determined that any modest technical advantage of the higher-cost proposer (Praxidia) was not worth the extra cost, and recommended Guidehouse for award.

### Contract Cost and Terms

Proposer	Initial Proposal	Best and Final Offer
Guidehouse	\$775,191	\$758,551
IBM	\$3,426,704	\$2,956,739
Praxidia	\$1,462,618	\$1,273,213

The proposed fully-loaded hourly rates used by Guidehouse to arrive at the fixed fee are inclusive of any expenses and ranged from \$130 for Business Analyst to \$399 for Engagement Partner levels. The rates used by Guidehouse are equal to or lower than those on a recent competitively awarded contract to Pricewaterhouse Coopers Public Sector LLP for IV&V services under contract 9000004. As a result of these analyses, and based on their having offered fixed fee pricing that is well below the pricing offered by either of the other vendors in the competitive range, Guidehouse's proposed fixed fee of \$758,551 is determined to be fair and reasonable.

A responsibility review revealed no significant adverse information regarding the firm within the All-Agency Responsibility Guidelines.

### **III. D/M/WBE INFORMATION**

The MTA Department of Diversity and Civil Rights (DDCR) has established 15% MBE, 15% WBE and 6% SDVOB goals on this contract. Guidehouse LLP submitted an MWBE utilization plan to achieve 30% MWBE and 6% SDVOB goals on this contract. Guidehouse has not completed any MTA contracts; therefore, no assessment of the firm's MWDBE performance can be determined at this time.

### **IV. IMPACT ON FUNDING**

The total cost for this contract is for a fixed fee of \$758,551 and will be funded by the MTA's operating budget.

### **V. ALTERNATIVES**

1. Perform services in-house – This alternative is not practical, since the MTA does not have the specialized expertise or bandwidth in the existing workforce for this project. Hiring full and part time employees, including associated overhead costs would not be cost effective. This project is managed best by an independent outside firm capable of providing recommendations, which are unbiased and supported by market expertise.
2. Do not approve award – This would result in opportunity lost for the MTA to improve customer service and identify potential cost savings. This alternative is not recommended.

**DECEMBER 2018****LIST OF COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL**

- |           |  |                        |                                      |
|-----------|--|------------------------|--------------------------------------|
| <b>4.</b> | <b>Seibold Security Inc.</b>                       | <b>\$2,826,734</b>     | <b><u>Staff Summary Attached</u></b> |
|           | <b>Maintenance of Security System</b>              | <b>(not-to-exceed)</b> |                                      |
|           | <b>At Ridgewood and Maspeth</b>                    |                        |                                      |
|           | <b>Contract No. 60000000022555</b>                 |                        |                                      |
|           | Competitively negotiated – 3 proposals – 60 months |                        |                                      |

Board approval is sought to award a competitively negotiated personal services contract to Seibold Security Inc. (Seibold) for preventive and remedial maintenance of security systems at the Consolidated Revenue Center (CRF) located in Ridgewood, NY and the Disaster Recovery (DR) site in Maspeth, NY. These services are vital to operate and maintain critical revenue processing operations for NYCT. The contract will include an initial three-year term for \$1,975,234 and two one-year renewal options for \$851,500, totaling a full contract value of \$2,826,734 over five years. NYCT Revenue Control requested this all-inclusive contract to service and maintain electronic intrusion detection and access control systems, CCTV systems, audio/video intercom systems, and uninterruptible power supplies, which constitute the security systems at the CRF. The contract will also provide for training of the CRF's armed security guards on the operation of these systems. This multi-year maintenance contract will replace an expiring contract. Following a competitive RFP process, The Selection Committee ultimately determined that Seibold was the most technically qualified. Seibold also offered the lowest total price of the three vendors. Seibold's price for five years is \$2,826,734 and 44% less than Securitas' best and final offer. Their monthly rates will remain the same for the full term of the contract. MTA has conducted a responsibility review and other due diligence on Seibold and deemed it to be responsible for award.

# Staff Summary

## Schedule F: Personal Service Contracts

Item Number: 4					
Dept & Dept Head Name: Office of the Executive Vice President, Division of Revenue Control, Alan F. Putre					
Division & Division Head Name: Revenue Security Operations /Robert Jestic					
<b>Board Reviews</b>					
Order	To	Date	Approval	Info	Other
1	Finance	12/10/18			
2	Board	12/12/18			
<b>Internal Approvals</b>					
Order	Approval	Order	Approval		
1	Procurement	3	CFO		
2	Legal	4	DDCR		

<b>SUMMARY INFORMATION</b>	
Vendor Name: Seibold Security Inc.	Contract Number: 60000000022555
Description: Maintenance of Security Systems at Ridgewood and Maspeth	
Total Amount: \$2,826,734	
Contract Term (including Options, if any) January 1, 2019 – December 31, 2023	
Option(s) included in Total Amount? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Renewal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Procurement Type: <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	
Solicitation Type: <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	
Funding Source: <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:	

**Narrative**

**I. PURPOSE/RECOMMENDATION**

Board approval is sought to award a competitively negotiated personal services contract to Seibold Security Inc. (Seibold) for preventive and remedial maintenance of security systems at the Consolidated Revenue Center (CRF) located in Ridgewood, NY and the Disaster Recovery (DR) site in Maspeth, NY. These services are vital to operate and maintain critical revenue processing operations for NYCT. The contract will include an initial three-year term for \$1,975,234 and two one-year renewal options for \$851,500, totaling a full contract value of \$2,826,734 over five years.

**II. DISCUSSION**

NYCT Revenue Control requested this all-inclusive contract to service and maintain electronic intrusion detection and access control systems, CCTV systems, audio/video intercom systems, and uninterruptible power supplies, which constitute the security systems at the CRF. The contract will also provide for training of the CRF's armed security guards on the operation of these systems. This multi-year maintenance contract will replace an expiring contract.

**III. PROCUREMENT PROCESS**

A Request for Proposals was publicly advertised and sent to 13 firms, and proposals were received from Seibold Security, Securitas, and Boss Systems. The incumbent, Kratos Public Safety and Security, did not propose as they were recently acquired by Securitas. The Selection Committee included representatives from NYCT Revenue Security Operations and proposals were evaluated based on demonstrated understanding of RFP requirements, relevant expertise/experience of MTA's security equipment, preventive and remedial maintenance processes, project approach, scalability, methodology, staffing and price.

Boss Systems was disqualified after oral presentations as having limited amount of staff and requisite knowledge to support the complex and urgent demands required of the RFP. Seibold and Securitas were invited back for negotiations and asked to provide best and final offers. The Selection Committee ultimately determined that Seibold was the most technically qualified. Seibold also offered the lowest total price of the three vendors. MTA has conducted a responsibility review and other due diligence on Seibold and deemed it to be responsible for award.

Seibold's price for five years is \$2,826,734 and 44% less than Securitas' best and final offer. Their monthly rates will remain the same for the full term of the contract.

Seibold will supply one full-time residential service technician on-site at the CRF, as well as provide scheduled preventive maintenance; repair/replace equipment as needed; system upgrades; technical support and training; and, task order work as needed.

### **III. D/M/WBE INFORMATION**

The MTA Department of Diversity and Civil Rights (DDCR) has established 0% goals for MBE, WBE and SDVOB due the lack of certified firms in the marketplace capable of providing the security maintenance services required for this contract.

### **IV. IMPACT ON FUNDING**

Operating funds will be allocated by NYCT.

### **V. ALTERNATIVES**

1. Perform all services in-house. This alternative is not feasible. The MTA and its agencies do not have the resources or the expertise to perform these services.

2. Do not approve award of the contract. This is not practical. Ensuring security of revenue processing is vital to NYCT. Extending the agreement with Securitas is not acceptable since it has not been responsive to MTA's needs over the last year.

**[THIS PAGE INTENTIONALLY LEFT BLANK]**

Staff Summary



Item Number: 1					
Dept & Dept Head Name: Procurement & Logistics, Dennis Mahon Department Head Signature & Date <i>[Signature]</i> 12/10/18					
Division & Division Head Name: Department of Program Management, Paul Dietlin Division Head Signature & Date <i>[Signature]</i> 12/10/18					
<b>Board Reviews</b>					
Order	To	Date	Approval	Info	Other
1	LI Committee	12/10/18			
2	MTA Board	12/12/18			
<b>Internal Approvals</b>					
Order	Approval	Order	Approval		
6	President <i>[Signature]</i>	3	Sr. VP/Engineering <i>[Signature]</i>		
5	Executive VP <i>[Signature]</i>	2	VP & CFO <i>[Signature]</i>		
4	Sr. VP/Operations <i>[Signature]</i>	1	VP, Gen'l Counsel & Sec'y <i>[Signature]</i>		

<b>SUMMARY INFORMATION</b>	
Vendor Name Ansaldo STS USA, Inc. (ASTS)	Contract Number 6288
Description: Jamaica Capacity Improvements Phase-I, Design, Furnish and Delivery of Wired Signal Instrument Huts and Cases for Beaver Interlocking and Johnson Yard	
Total Amount: \$5,152,854 (Base) + \$297,000 (Option) = \$5,449,854	
Contract Term (including Options, if any): 1 Year, 2 Months Base + Option TBD	
Options(s) included in Total Amount: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Renewal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Procurement Type <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-Competitive	
Solicitation Type <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	
Funding Source <input type="checkbox"/> Operating <input type="checkbox"/> Capital <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Other:	

**I. PURPOSE/RECOMMENDATION**

Long Island Rail Road (LIRR) requests MTA Board approval to award a Public Works contract to Ansaldo STS USA, Inc. in the amount of \$5,152,854 to design, furnish and deliver manufactured signal equipment for the LIRR's new Beaver Interlocking and Johnson Avenue Yard, associated with Phase I of the Jamaica Capacity Improvements (JCI) project. This contract also contains an option for hardware warranty in the additional amount of \$297,000, to be exercised at LIRR's sole discretion.

**II. DISCUSSION**

Under the contract, Ansaldo STS USA, Inc. (ASTS) will progress the existing 30% design to 100% design, furnish and deliver wired signal instrument huts, battery huts, and signal cases, including the vital and non-vital software necessary for the functionality of the equipment being provided. The manufactured equipment will be utilized in both Johnson Avenue Yard (located south of the existing Jamaica Station, requiring signalization to facilitate opening day JCI Phase I Platform F operational requirements) and Beaver Interlocking (new interlocking to be installed on the Atlantic Branch east of Jamaica Station, being constructed as part of the JCI Phase I project to facilitate universal Jamaica Station-track access).

The MTA Board granted approval to issue the Request for Proposal (RFP) method to solicit qualified firms that are capable of designing, furnishing and delivering the signal huts at its September 2017 meeting. On June 21, 2018, LIRR publicly advertised the RFP for this project in the New York State Contract Reporter, New York Post, and on the MTA website.

A single proposal was received, from ASTS. Other prospective proposers who initially had expressed interest advised thereafter that they had workload issues; did not believe they could meet the technical requirements; or preferred to serve in a subcontracting capacity. LIRR conducted a technical evaluation of the proposal

## Staff Summary



submitted by ASTS. It was determined that ASTS demonstrated an acceptable approach to the work, utilized effective means and methods, and met the RFP's experience requirements. Therefore, LIRR entered into negotiations with ASTS, addressing various cost-savings initiatives and scope clarifications. As a result, ASTS's best and final offer reduced the proposed price by \$592,146.00 (10.3%), resulting in a final negotiated price of \$5,152,854 for the Base work and \$297,000 for an additional option for hardware warranty. ASTS's final price was reviewed by DPM Estimating and was compared to past competitively bid pricing for similar work and deemed acceptable.

In connection with a previous contract awarded to Ansaldo, Ansaldo<sup>1</sup> was found to be responsible notwithstanding significant adverse information (SAI) pursuant to the All-Agency Responsibility Guidelines and such responsibility finding was approved by the MTA Managing Director in consultation with the MTA General Counsel in November 2017. No new SAI has been found relating to Ansaldo and Ansaldo has been found to be responsible.

### **III. D/M/WBE INFORMATION**

The MTA Department of Diversity and Civil Rights (DDCR) has established a 20% DBE goal for this project. Ansaldo STS, USA Inc. has submitted a plan that could meet the goal. The approval of the plan is subject to review and approval by DDCR. Ansaldo has achieved its previous MWDBE goals on previous MTA contracts.

### **IV. IMPACT ON FUNDING**

Funding for this project is included in the LIRR's 2010-2014 Capital Program Budget.

### **V. ALTERNATIVES**

There are no alternatives, since LIRR does not have the ability to undertake the design and fabrication of these customized signal huts with in-house forces.

---

<sup>1</sup> The SAI relates to conduct of the ultimate parent, Hitachi Ltd., and not directly to Ansaldo nor its immediate parent, Ansaldo STS, Spa.

Schedule K: Ratification of Completed Procurement Actions



Item Number: 1

<b>Vendor Name (Location)</b> John P. Picone, Inc. (Lawrence, New York)
<b>Description</b> Renewal of Six Stations and Line Structure Repair on the Sea Beach Line, Borough of Brooklyn
<b>Contract Term (including Options, if any)</b> December 30, 2014–December 28, 2018
<b>Option(s) included in Total Amt?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a
<b>Procurement Type</b> <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Noncompetitive
<b>Solicitation Type</b> <input type="checkbox"/> RFP <input type="checkbox"/> Bid <input checked="" type="checkbox"/> Other: Modification
<b>Funding Source</b> <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:
<b>Requesting Dept./Div., Dept./Div. Head Name:</b> Capital Program Management, John O’Grady

<b>Contract Number</b> A-36090	<b>AWO/Mod. #</b> 275
<b>Original Amount:</b>	\$ 188,761,000
<b>Prior Modifications:</b>	\$ 13,611,880
<b>Prior Budgetary Increases:</b>	\$ 0
<b>Current Amount:</b>	\$ 202,372,880
<b>This Request:</b>	\$ 1,054,000
<b>% of This Request to Current Amt.:</b>	0.5%
<b>% of Modifications (including This Request) to Original Amount:</b>	7.8%

**Discussion**

This retroactive modification is for platform foundation work required to incorporate a new Americans with Disabilities Act (“ADA”) elevator on the southbound platform at the 8th Avenue Station (Sea Beach line). This is one of several modifications that will provide ADA elevators on the northbound and southbound platforms for this station.

The base contract provides for the renewal of six stations along the Sea Beach line in Brooklyn: 8th Avenue, Fort Hamilton Parkway, New Utrecht, 18th Avenue, 20th Avenue, and Bay Parkway. The work includes concrete repairs; repair of steel structural members; replacement of all interior/exterior stairs, windows, and doors; replacement/upgrade of existing electrical, security, and signal systems; demolition and replacement of platform columns, tunnel arches, parapets, canopies, and concrete platform slabs; construction of four new ADA elevators at New Utrecht Station; and construction of an ADA-compliant ramp at the 8th Avenue station’s northbound platform. (This has since changed to an elevator.)

The original Federal Transit Administration– (“FTA”) approved intent of the project was to provide ADA-compliant access for the 8th Avenue station’s southbound platform. During the design phase of the project it was determined that ADA-compliant access would block an adjoining property, and thus ADA southbound access was not part of the original contract. However, an agreement with the owner has been reached in principle which allows the reincorporation of ADA-compliant access for the southbound platform. This work requires several additional contract modifications. The other changes will relocate the roadway to the adjoining property; provide an ADA elevator; and reconfigure new stairs and the control house passageway above this new foundation work. It is anticipated that the additional modifications will be submitted to the Board in the future.

This modification provides for platform foundation work, additional support beams, and a widened section of the southbound platform slab. The work includes additional hand excavation to facilitate spall repair to front platform support beams; removal of existing footings, rear platform support beam, and associated excavation; furnish and installation of new concrete footings, and steel support beams to support the modified stairs and control house passageway; and installation of a new wider section of concrete platform with reinforcement. John P. Picone, Inc.’s (“Picone”) revised proposal was net \$1,392,824; NYC Transit’s revised estimate was net \$960,287. Negotiations resulted in the agreed-upon lump-sum price of \$1,054,000. Savings of \$338,824 were achieved. This price is found to be fair and reasonable.

The SVP, Capital Program Management approved a retroactive waiver and the SVP, Procurement & Supply Chain authorized a partial payment up to \$599,238, and on October 12, 2018, Picone commenced work. The contract’s substantial completion date of December 28, 2018, is not changed by this modification. An extension of time associated with other modifications is being negotiated.

In connection with a previous contract awarded to Picone, Picone was found to be responsible notwithstanding significant adverse information (“SAI”) pursuant to the All-Agency Responsibility Guidelines and such responsibility findings were approved by the MTA Chairman & CEO in consultation with the MTA General Counsel in December 2014. No new SAI has been found relating to Picone and Picone has been found to be responsible.

**[THIS PAGE INTENTIONALLY LEFT BLANK]**

# Staff Summary

Item Number: 1 (Final)					
Dept & Dept Head Name: Joe Keane, P.E., V.P. Chief Engineer <i>Joe Keane</i>					
Division & Division Head Name: Romolo DeSantis, P.E. <i>Romolo DeSantis</i>					
Board Reviews					
Order	To	Date	Approval	Info	Other
1	President	12/03/18			
2	MTA B&T Committee	12/10/18			
3	MTA Board	12/12/18			
Internal Approvals					
Order	Approval	Order	Approval		
1	Vice President & Chief Financial Officer <i>Joe Keane</i>	4	Executive Vice President		
2	Sr. Vice President & General Counsel <i>MMT</i>	5	Vice President, Chief of Staff <i>Joe Keane</i>		
3 <i>BB</i>	Vice President & Chief Procurement Officer	6	President <i>Joe Keane</i>		

SUMMARY INFORMATION	
Vendor Name: Navillus Tile, Inc. dba, Navillus Contracting	Contract Number: HC-07
Description: Design-Build Services for Ventilation System Rehabilitation and Fixed Fire Suppression System at the Hugh L. Carey Tunnel	
Total Amount \$70,750,000 – Contract Award \$ 300,000 – Stipend Total	
Contract Term (including Options, if any) Three (3) years	
Option(s) included in Total Amount? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Renewal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Procurement Type <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	
Solicitation Type <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	
Funding Source <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:	

**Narrative**

**I. PURPOSE/RECOMMENDATION**

B&T is seeking Board approval under the All Agency General Contract Procurement Guidelines to award a competitively solicited public work contract for design-build services for the ventilation system rehabilitation and installation of a fixed fire suppression system at the Hugh L. Carey Tunnel (HCT) to Navillus Tile, Inc. dba, Navillus Contracting (Navillus) for a period of three (3) years in the negotiated amount of \$70,750,000. In accordance with the MTA Design-Build Best Practice Guidance and in order to enhance competition and defray proposal costs, this solicitation included stipends in the amount of \$75,000 to be paid to each unsuccessful proposer whose proposal met defined proposal standards. Accordingly, approval is also requested to pay stipends totaling \$300,000 to the four unsuccessful proposers.

**II. DISCUSSION**

In July 2016, the Board authorized B&T to enter into a competitive Request for Proposal (RFP) process for design-build (D-B) services to perform upgrades at HCT to rehabilitate the ventilation system including, replacement of ventilation fan motors, fire hardening of components and installation of a prototype fire suppression system. The Work requires the design and construction services for the following: replacement of the original 104 ventilation fan motors with new high efficiency motors; reconfigure exhaust fan chambers to fire harden critical areas to minimize potential damage to critical ventilation systems and installation of a fixed fire suppression system prototype (FFSS) to maximize life safety capabilities in the tunnel and minimize damage to critical ventilation systems in the event of a fire.

(rev. 10/20/18)

## Staff Summary

The service requirements were publicly advertised and eight (8) firms submitted qualification information. Based on a review of their qualifications, five (5) firms were deemed qualified to receive the RFP and all five firms submitted proposals: Hugh Carey Tunnel Services, JV (Judlau Contracting/E-J Electric) (\$104,000,000); John P. Picone, Inc. (\$101,000,000); Navillus (\$77,000,000); Skanska USA Civil Northeast Inc. (\$74,500,000) and TAP Electrical Contracting/Forte Construction Corp, JV (\$98,440,000). The proposals and oral presentations were evaluated against established criteria set forth in the RFP including proposed price, technical approach, D-B experience, key personnel, schedule, and management approach.

In accordance with the MTA Design-Build Best Practice Guidance, Technical Proposals were evaluated by the Selection Committee (SC) prior to evaluation of the cost proposals. The SC unanimously recommended Navillus as the highest rated firm based on several factors. Navillus provided the highest rated technical proposal with specific detail regarding their research, evaluation and recommendation for the fan motor manufacturer, FFSS prototype and project integrator. They provided particular attention to the Programmable Motor Protector (PMP) upgrades, Supervisory Control and Data Acquisition system (SCADA) and removable partition scopes for the Project. Navillus' motor designs are at an advanced stage compared to those of the other proposers, which has a positive impact on the project schedule. Navillus expanded on their technical proposal at the evaluation meeting by providing additional information with motor and FFSS data, catalog cuts and additional analyses.

The other shortlisted firms provided responsive proposals, which were viewed as technically acceptable but did not display the depth of understanding shown by Navillus. The price proposals of the other shortlisted firms, other than Skanska were deemed not competitive and therefore not in B&T's best interest. Skanska proposed the lowest price, however Skanska's proposal did not make specific recommendations to B&T for the fan motor and fixed fire suppression system manufacturers. They also omitted sections of the FFSS. Skanska's proposal was deemed less complete as compared to Navillus and therefore not in B&T's best interest.

Navillus submitted a proposal in the amount of \$77,000,000. The Engineer's estimate is \$69,907,371. The Contract includes allowances totaling \$1,500,000. Negotiations were conducted with Navillus, which included discussion of technical requirements, design assumptions, and construction approach. Through negotiations and as a result of scope refinement, B&T and Navillus agreed to the negotiated contract amount totaling \$70,750,000, which is 1.2% above the estimate and is fair and reasonable. The negotiated Navillus proposal is deemed the best value and in B&T's best interest. Navillus is considered a responsible contractor.

### **III. D/M/WBE INFORMATION**

MTA Department of Diversity and Civil Rights has assigned goals of 15% MBE, 15% WBE and 6% SDVOB to this contract. Navillus has not completed any MTA contracts with goals; therefore, no assessment of the firm's MWBE performance can be determined at this time.

### **IV. IMPACT ON FUNDING**

Funding is available in the 2015-2019 Capital Program under project: D704HC07/D03612 in the amount of \$70,750,000. The four Design-Build Stipends totaling \$300,000 are funded under the 2015-2019 Capital Program under Project D704HC07.

### **V. ALTERNATIVES**

There are no recommended alternatives. The Authority does not possess the resources required to perform these services

# Staff Summary

Item Number: 2 (Final)					
Dept. & Dept. Head Name: <i>Joe Keane</i> Engineering and Construction, Joe Keane, P.E., V.P.					
Division & Division Head Name: <i>Romolo DeSantis</i> Engineering and Construction, Romolo DeSantis, P.E.					
Board Reviews					
Order	To	Date	Approval	Info	Other
1	President	12/03/18			
2	MTA B&T Committee	12/10/18			
3	MTA Board	12/12/18			
Internal Approvals					
Order	Approval	Order	Approval		
1	V.P. & Chief Financial Officer <i>[Signature]</i>	4	Executive Vice President		
2	SVP & General Counsel <i>[Signature]</i>	5	V. P. & Chief of Staff <i>[Signature]</i>		
3	V.P. & Chief Procurement Officer <i>[Signature]</i>	6	President <i>[Signature]</i>		

SUMMARY INFORMATION	
Vendor Name D'Onofrio General Contractors Corp.	Contract Number CB-18
Description: Design-Build Services for Replacement of Fender Systems and Scour Protection at CBB and Replacement of Fender Systems at MPB	
Total Amount \$52,583,000 – Award \$ 225,000 - Stipends	
Contract Term (including Options, if any) Two (2) Years, Six (6) Months	
Option(s) included in Total Amount? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Renewal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Procurement Type <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	
Solicitation Type <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	
Funding Source <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Capital <input type="checkbox"/> Federal <input type="checkbox"/> Other:	

**Narrative**

**I. PURPOSE/RECOMMENDATION**

B&T is seeking Board approval under the All Agency General Contract Procurement Guidelines to award a competitively solicited public work contract for Design-Build Services for Replacement of Fender Systems and Scour Protection at Cross Bay Veterans Memorial Bridge (CBB) and Replacement of Fender Systems at Marine Parkway-Gil Hodges Memorial Bridge (MPB) for a period of two (2) years, six (6) months in the negotiated amount totaling \$52,583,000.00. In accordance with the MTA Design-Build Best Practice Guidance and in order to enhance competition and defray proposal costs, this solicitation included stipends to be paid to each unsuccessful proposer in the amount of \$75,000 whose proposal met a defined standard. Accordingly, approval is also requested to pay stipends totaling \$225,000 to the three unsuccessful proposers.

**II. DISCUSSION**

In July 2016, the Board authorized B&T to enter into a competitive Request for Proposal (RFP) process for design-build (D-B) services at CBB and MPB. The work requires the design and construction services for replacement of fender systems and scour protection at CBB and replacement of fender systems at MPB.

(rev. 4/07/10)

## Staff Summary

The D-B requirements are as follows:

CBB – (i) Removal and replacement of existing timber fender systems at Piers 3 and 6; (ii) installation tri-timber dolphin fenders; (iii) navigational lighting, signs, access walkways and railings for the existing fender system; and (iv) subsurface debris removal prior to placement of pier scour protection countermeasures at various Piers.

MPB – (i) Removal and replacement of existing timber fender system at Piers 11, 12/13, 14/15, and 16; (ii) new timber facing at the concrete cofferdam cells (iii) installation of timber walkways, steel ladders from pier top to timber walkways, navigational lighting, and signs; and (iv) removal of submarine cable chutes.

The service requirements were publicly advertised; ten D-B teams submitted qualification information and based on a review of their qualifications, five teams were deemed qualified to receive the RFP. Four teams submitted proposals: D'Onofrio General Contractors Corp. (D'Onofrio) [\$55,483,000], Weeks Marine, Inc. [\$65,988,900], Trevcon Construction Co., Inc. (Trevcon) [\$69,795,000] and Posillico Civil, Inc. (Posillico) [\$100,680,000]. The proposals were evaluated against established criteria set forth in the RFP, including proposed price, D-B technical approach, key personnel and management approach, and oral presentations.

The Selection Committee unanimously recommended D'Onofrio as the highest rated firm based on several factors, including submission of the proposed lowest price. Although all four D-B teams proposed technically acceptable proposals, D'Onofrio's approach demonstrated the greatest understanding of the RFP. D'Onofrio proposed an efficient and less disruptive method of bringing the existing concrete cofferdam fender systems at the MPB into compliance with current design standards by utilizing piles. Their proposal contained significant consideration for the geotechnical conditions by allowing sufficient time for design and final permitting approvals. In addition, their proposed new fender systems do not encroach beyond the permitted limits of the existing fender systems, which minimizes the potential risk associated with obtaining permit modifications.

Both Weeks and Posillico proposed design and construction approaches limiting the number of piles required and thus limiting disruptions to the bay's eco-system. Their technical solutions met the requirements of the RFP, but the price proposals were much higher than that of D'Onofrio and deemed not in B&T's best interest. Trevcon proposed a modified configuration of the fender systems at CBB and MPB, which presented greater risks to secure permit modifications for their proposed fender systems. Trevcon's price proposal is approximately \$14.3M higher than D'Onofrio and deemed not in B&T's best interest. Also, Trevcon submitted an alternate fender proposal, which extended beyond the permitted existing footprint and the price was approximately \$4.0M above D'Onofrio's, which also was deemed not in B&T's best interest.

D'Onofrio submitted a proposal in the amount of \$55,483,000. The Engineer's Certified Estimate is \$48,047,743. The Contract includes allowances totaling \$2,100,000. Negotiations were conducted with D'Onofrio, which included discussion of the technical requirements, design assumptions, and construction approach. Through negotiations and as a result of scope refinement, B&T and D'Onofrio agreed to the negotiated contract amount totaling \$52,583,000, which is 9.4% above the estimate and is considered fair and reasonable. The negotiated D'Onofrio proposal is deemed the best value and in B&T's best interest. D'Onofrio is considered a responsible contractor.

### III. D/M/WBE INFORMATION

MTA Department of Diversity and Civil Rights has assigned goals of 15% MBE and 15% WBE to this contract. D'Onofrio has not completed any MTA contracts with goals; therefore, no assessment of the firm's MWBE performance can be determined at this time.

### IV. IMPACT ON FUNDING

Funding in the amount of \$52,583,000 is available in the 2015–2019 Capital Program under Project CB-18/D03581 and in the amount of \$225,000 for stipends under Project CB-18.

# Staff Summary

## V. ALTERNATIVES

There are no recommended alternatives. The Authority does not possess the resources required to perform these services.

(rev. 4/07/10)

**[THIS PAGE INTENTIONALLY LEFT BLANK]**

**MTA CONSOLIDATED**  
**EXPLANATION OF MAJOR VARIANCES BETWEEN NOVEMBER FORECAST AND ACTUAL**  
**OCTOBER 2018 YEAR-TO-DATE**  
**(\$ in millions)**

	<b>Favorable (Unfavorable)</b>		<b>Reason for Variance</b>
	<u>Variance</u>	<u>Percent</u>	
Total Revenue	(\$11.5)	-0.2%	<p><u>FMTAC</u> - (\$12.8M) unfavorable due to a higher loss in the market value of the invested asset portfolio and lower realized income from investments.</p> <p><u>MNR</u> - (\$4.8M) unfavorable, reflecting lower commutation yield per passenger and non-commutation ridership.</p> <p><u>NYCT</u> - \$3.1M favorable mainly due to higher subway farebox revenue.</p> <p><u>MTA Bus</u> - \$2.0M favorable primarily due to higher ridership.</p> <p><u>MTAHQ</u> - \$0.6M favorable mainly due to higher Transit Museum revenue.</p> <p><u>LIRR</u> - \$0.4M favorable, reflecting higher rental revenue and timing of miscellaneous revenue, partially offset by the timing of advertising and freight revenues.</p>
Total Expenses	\$129.2	0.9%	<p><u>MTA Bus</u> - \$46.5M favorable mainly due to the timing of the shop program, bus technology, SBS rollouts, new fare payment system, interagency billings and GASB 68 Pension Expense Adjustment. These results were partially offset by higher overtime expenses due to vacancies, traffic congestion, shuttles, availability, and claims expense.</p> <p><u>HQ</u> - \$40.3M favorable primarily due to the timing of professional service contracts, vacancies, the timing of OPEB payments, electric costs, maintenance and other service contracts and insurance, partially offset by the timing of OPEB liability adjustments, depreciation, GASB 68 Pension adjustments and higher overtime.</p> <p><u>LIRR</u> - \$28.9M favorable primarily due to vacant positions and associated fringe costs, the timing of reliability centered maintenance activities, miscellaneous inventory adjustments, lower bad debt and non-employee claim reserve adjustments. These results were partially offset by write-offs of various projects that are no longer capital eligible and higher emergency bussing.</p>

**MTA CONSOLIDATED**  
**EXPLANATION OF MAJOR VARIANCES BETWEEN NOVEMBER FORECAST AND ACTUAL**  
**OCTOBER 2018 YEAR-TO-DATE**  
**(\$ in millions)**

	<b>Favorable (Unfavorable)</b>		<b>Reason for Variance</b>
	<u>Variance</u>	<u>Percent</u>	
			<u>B&amp;T</u> - \$12.7M favorable mostly due to vacancies, lower overtime, and the timing of E-ZPass Customer Service Center costs and major maintenance projects.
			<u>MNR</u> - \$7.5M favorable due to the timing of maintenance services contracts, partially offset by unfavorable overtime costs resulting from higher-than-forecasted programmatic maintenance.
			<u>SIR</u> - \$2.0M favorable mostly due to the timing of maintenance contract expenses and lower depreciation and overtime expenses.
			<u>NYCT</u> - (\$2.9M) unfavorable primarily due to higher depreciation expenses, partially offset by lower operating expenses.
			<u>FMTAC</u> - (\$7.8M) unfavorable primarily due to the timing of claims expenses.
			<u>Other Expense Adjustments</u> - \$1.9M favorable mainly due to timing differences in project completions.
Subsidies	(108.8)	-1.8%	The unfavorable variance was mainly attributable to accrual timing delays for PMT, CDOT subsidies, PBT and City Subsidy for MTA Bus, offset by favorable Urban Tax transactions due to strong real estate activity in NYC, and MTA Aid due to timing.
Debt Service	(72.3)	-3.4%	Unfavorable variance of \$72.3 million primarily due to the pre-funding of debt service through November 15. This variance will be reversed in November 2018.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**Mid-Year and November Forecasts vs. Actual Results (Non-Reimbursable)**

October 2018 Year-to-Date

(\$ in millions)

	October Year-to-Date			Favorable/(Unfavorable) Variance			
	Mid-Year	November	Actual	Mid-Year Forecast		November Forecast	
	Forecast	Forecast		\$	%	\$	%
<b>Total Revenue</b>	\$7,319.5	\$7,312.7	\$7,301.2	(\$18.3)	(0.2)	(\$11.5)	(0.2)
<b>Total Expenses Before Non-Cash Liability Adjs</b>	<b>\$11,422.3</b>	<b>\$11,297.6</b>	<b>\$11,175.6</b>	<b>\$246.8</b>	<b>2.2</b>	<b>\$122.0</b>	<b>1.1</b>
Depreciation	\$2,198.4	\$2,226.0	\$2,235.8	(\$37.4)	(1.7)	(\$9.8)	(0.4)
OPEB Liability Adjustment	\$1,391.1	\$1,151.4	\$1,140.5	\$250.5	18.0	\$10.8	0.9
GASB 68 Pension Expense Adjustment	\$36.7	\$14.9	(\$3.1)	\$39.8	> 100.0	\$18.0	> 100.0
Environmental Remediation	\$4.7	\$5.1	\$18.9	(\$14.2)	<(100.0)	(\$13.8)	<(100.0)
<b>Total Expenses</b>	<b>\$15,053.2</b>	<b>\$14,694.9</b>	<b>\$14,567.6</b>	<b>\$485.5</b>	<b>3.2</b>	<b>\$127.3</b>	<b>0.9</b>
Less: B&T Depreciation & Post-Employment Adjustments	169.4	170.8	172.7	(3.3)	(1.9)	(1.9)	(1.1)
<b>Total Expenses</b>	<b>\$14,883.7</b>	<b>\$14,524.1</b>	<b>\$14,394.9</b>	<b>\$488.8</b>	<b>3.3</b>	<b>\$129.1</b>	<b>0.9</b>
<b>Net Surplus/(Deficit)</b>	<b>(\$7,564.2)</b>	<b>(\$7,211.4)</b>	<b>(\$7,093.7)</b>	<b>\$470.5</b>	<b>6.2</b>	<b>\$117.7</b>	<b>1.6</b>
<b>Subsidies</b>	<b>\$6,283.1</b>	<b>\$6,118.5</b>	<b>\$6,009.8</b>	<b>(\$273.3)</b>	<b>(4.4)</b>	<b>(\$108.8)</b>	<b>(1.8)</b>
<b>Debt Service</b>	<b>2,168.8</b>	<b>2,157.9</b>	<b>2,230.2</b>	<b>(61.4)</b>	<b>(2.8)</b>	<b>(72.3)</b>	<b>(3.4)</b>

Notes: Totals may not add due to rounding

Results are preliminary and subject to audit review.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Accrual Statement of Operations by Category**  
**October 2018 Monthly**  
(\$ in millions)

	Non-Reimbursable				Reimbursable				Total			
	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent
<b>Revenue</b>												
Farebox Revenue	\$548.0	\$551.8	\$3.8	0.7	\$0.0	\$0.0	\$0.0	N/A	\$548.0	\$551.8	\$3.8	0.7
Toll Revenue	169.2	170.9	1.7	1.0	0.0	0.0	0.0	N/A	169.2	170.9	1.7	1.0
Other Revenue	55.4	54.1	(1.3)	(2.4)	0.0	0.0	0.0	N/A	55.4	54.1	(1.3)	(2.4)
Capital and Other Reimbursements	0.0	0.0	0.0	N/A	200.3	201.3	1.0	0.5	200.3	201.3	1.0	0.5
<b>Total Revenues</b>	<b>\$772.6</b>	<b>\$776.8</b>	<b>\$4.2</b>	<b>0.5</b>	<b>\$200.3</b>	<b>\$201.3</b>	<b>\$1.0</b>	<b>0.5</b>	<b>\$972.9</b>	<b>\$978.1</b>	<b>\$5.2</b>	<b>0.5</b>
<b>Expenses</b>												
<b>Labor:</b>												
Payroll	\$450.3	\$437.3	\$12.9	2.9	\$66.9	\$61.6	\$5.3	7.9	\$517.1	\$498.9	\$18.2	3.5
Overtime	78.2	91.5	(13.3)	(17.1)	15.7	28.8	(13.2)	(84.0)	93.8	120.3	(26.5)	(28.2)
Health and Welfare	111.2	91.9	19.3	17.4	7.6	7.6	0.0	(0.1)	118.8	99.5	19.3	16.2
OPEB Current Payments	52.0	32.8	19.2	36.9	0.8	0.8	0.0	6.0	52.8	33.6	19.2	36.4
Pension	107.9	108.0	0.0	(0.0)	9.5	9.6	(0.1)	(1.3)	117.5	117.6	(0.1)	(0.1)
Other Fringe Benefits	74.4	69.7	4.7	6.4	22.1	23.3	(1.2)	(5.5)	96.5	93.0	3.5	3.6
Reimbursable Overhead	(37.2)	(45.1)	7.9	21.2	36.9	44.7	(7.8)	(21.3)	(0.3)	(0.4)	0.1	17.3
<b>Total Labor Expenses</b>	<b>\$836.8</b>	<b>\$786.1</b>	<b>\$50.7</b>	<b>6.1</b>	<b>\$159.4</b>	<b>\$176.5</b>	<b>(\$17.0)</b>	<b>(10.7)</b>	<b>\$996.2</b>	<b>\$962.6</b>	<b>\$33.6</b>	<b>3.4</b>
<b>Non-Labor:</b>												
Electric Power	\$40.2	\$39.9	\$0.3	0.9	\$0.1	\$0.1	\$0.0	(10.1)	\$40.3	\$40.0	\$0.3	0.8
Fuel	16.1	16.0	0.1	0.8	0.0	0.0	0.0	100.0	16.1	16.0	0.1	0.8
Insurance	1.7	0.4	1.4	79.7	1.5	1.3	0.2	15.4	3.2	1.6	1.6	50.2
Claims	26.9	43.0	(16.1)	(59.6)	0.0	0.0	0.0	N/A	26.9	43.0	(16.1)	(59.6)
Paratransit Service Contracts	35.1	43.0	(7.9)	(22.6)	0.0	0.0	0.0	N/A	35.1	43.0	(7.9)	(22.6)
Maintenance and Other Operating Contracts	73.7	58.6	15.1	20.5	9.9	11.5	(1.6)	(16.4)	83.6	70.1	13.5	16.1
Professional Services Contracts	60.7	55.6	5.1	8.3	13.0	(3.3)	16.3	> 100.0	73.8	52.4	21.4	29.0
Materials and Supplies	68.7	54.5	14.1	20.6	16.1	14.6	1.5	9.3	84.7	69.1	15.6	18.5
Other Business Expenses	18.7	16.2	2.5	13.2	0.3	0.7	(0.4)	<(100.0)	18.9	16.9	2.1	10.9
<b>Total Non-Labor Expenses</b>	<b>\$341.9</b>	<b>\$327.3</b>	<b>\$14.6</b>	<b>4.3</b>	<b>\$40.8</b>	<b>\$24.8</b>	<b>\$16.0</b>	<b>39.3</b>	<b>\$382.7</b>	<b>\$352.1</b>	<b>\$30.7</b>	<b>8.0</b>
<b>Other Expense Adjustments</b>												
Other	\$23.0	\$20.8	\$2.2	9.5	\$0.0	\$0.0	\$0.0	N/A	\$23.0	\$20.8	\$2.2	9.5
General Reserve	0.0	0.0	0.0	N/A	0.0	0.0	0.0	N/A	0.0	0.0	0.0	N/A
<b>Total Other Expense Adjustments</b>	<b>\$23.0</b>	<b>\$20.8</b>	<b>\$2.2</b>	<b>9.5</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>N/A</b>	<b>\$23.0</b>	<b>\$20.8</b>	<b>\$2.2</b>	<b>9.5</b>
<b>Total Expenses Before Non-Cash Liability Adjs.</b>	<b>\$1,201.7</b>	<b>\$1,134.1</b>	<b>\$67.5</b>	<b>5.6</b>	<b>\$200.3</b>	<b>\$201.3</b>	<b>(\$1.0)</b>	<b>(0.5)</b>	<b>\$1,401.9</b>	<b>\$1,335.4</b>	<b>\$66.5</b>	<b>4.7</b>
Depreciation	\$230.7	\$225.6	\$5.1	2.2	\$0.0	\$0.0	\$0.0	N/A	\$230.7	\$225.6	\$5.1	2.2
OPEB Liability Adjustment	39.4	35.5	3.9	9.9	0.0	0.0	0.0	N/A	39.4	35.5	3.9	9.9
GASB 68 Pension Expense Adjustment	6.9	0.0	6.9	100.0	0.0	0.0	0.0	N/A	6.9	0.0	6.9	100.0
Environmental Remediation	0.2	14.5	(14.4)	<(100.0)	0.0	0.0	0.0	N/A	0.2	14.5	(14.4)	<(100.0)
<b>Total Expenses After Non-Cash Liability Adjs.</b>	<b>\$1,478.8</b>	<b>\$1,409.8</b>	<b>\$69.0</b>	<b>4.7</b>	<b>\$200.3</b>	<b>\$201.3</b>	<b>(\$1.0)</b>	<b>(0.5)</b>	<b>\$1,679.1</b>	<b>\$1,611.1</b>	<b>\$68.0</b>	<b>4.1</b>
Less: B&T Depreciation & GASB Adjustments	\$16.9	\$18.1	(\$1.2)	(6.9)	\$0.0	\$0.0	\$0.0	0.0	\$16.9	\$18.1	(\$1.2)	(6.9)
<b>Adjusted Total Expenses</b>	<b>\$1,461.9</b>	<b>\$1,391.7</b>	<b>\$70.2</b>	<b>4.8</b>	<b>\$200.3</b>	<b>\$201.3</b>	<b>(\$1.0)</b>	<b>(0.5)</b>	<b>\$1,662.2</b>	<b>\$1,593.0</b>	<b>\$69.2</b>	<b>4.2</b>
<b>Net Surplus/(Deficit) excl. Subsidies and Debt Service</b>	<b>(\$689.3)</b>	<b>(\$614.9)</b>	<b>\$74.4</b>	<b>10.8</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>N/A</b>	<b>(\$689.3)</b>	<b>(\$614.9)</b>	<b>\$74.4</b>	<b>10.8</b>
<b>Total Subsidies</b>	<b>\$305.2</b>	<b>\$178.8</b>	<b>(\$126.5)</b>	<b>(41.4)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>N/A</b>	<b>\$305.2</b>	<b>\$178.8</b>	<b>(\$126.5)</b>	<b>(41.4)</b>
<b>Debt Service</b>	<b>204.6</b>	<b>274.6</b>	<b>(70.0)</b>	<b>(34.2)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>N/A</b>	<b>204.6</b>	<b>274.6</b>	<b>(70.0)</b>	<b>(34.2)</b>

Notes: Totals may not add due to rounding

Results are based on the preliminary close of the general ledger and are subject to review and adjustment. Please note that the current months' actuals do not include post-close adjustments, which will be captured in the subsequent month's YTD results.

The impact of LIRR's Forward Plan, MNR's Way Ahead, and the MTA Bus Action Plan, which were captured as MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, have been allocated to specific Agencies and captured within their baseline Mid-Year Forecasts.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Accrual Statement of Operations by Category**  
**October 2018 Year-to-Date**  
(\$ in millions)

	Non-Reimbursable				Reimbursable				Total			
	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent	Mid-Year Forecast	Actual	-Variance: Fav/(Unfav)- Dollars	Fav/(Unfav)- Percent
<b>Revenue</b>												
Farebox Revenue	\$5,146.7	\$5,139.8	(\$6.9)	(0.1)	\$0.0	\$0.0	\$0.0	N/A	\$5,146.7	\$5,139.8	(\$6.9)	(0.1)
Toll Revenue	1,632.5	1,641.7	9.2	0.6	0.0	0.0	0.0	N/A	1,632.5	1,641.7	9.2	0.6
Other Revenue	540.3	519.7	(20.7)	(3.8)	0.0	0.0	0.0	N/A	540.3	519.7	(20.7)	(3.8)
Capital and Other Reimbursements	0.0	0.0	0.0	N/A	1,941.7	2,056.9	115.2	5.9	1,941.7	2,056.9	115.2	5.9
<b>Total Revenues</b>	<b>\$7,319.5</b>	<b>\$7,301.2</b>	<b>(\$18.3)</b>	<b>(0.2)</b>	<b>\$1,941.7</b>	<b>\$2,056.9</b>	<b>\$115.2</b>	<b>5.9</b>	<b>\$9,261.2</b>	<b>\$9,358.1</b>	<b>\$96.9</b>	<b>1.0</b>
<b>Expenses</b>												
<b>Labor:</b>												
Payroll	\$4,326.8	\$4,277.2	\$49.6	1.1	\$641.2	\$613.6	\$27.6	4.3	\$4,968.0	\$4,890.8	\$77.2	1.6
Overtime	790.1	884.8	(94.7)	(12.0)	177.4	267.9	(90.5)	(51.1)	967.4	1,152.7	(185.2)	(19.1)
Health and Welfare	1,089.9	1,054.5	35.5	3.3	67.4	69.5	(2.1)	(3.1)	1,157.4	1,124.0	33.4	2.9
OPEB Current Payments	517.6	500.7	16.9	3.3	8.3	7.7	0.5	6.2	525.8	508.4	17.4	3.3
Pension	1,102.4	1,104.2	(1.8)	(0.2)	86.8	91.2	(4.3)	(5.0)	1,189.2	1,195.4	(6.2)	(0.5)
Other Fringe Benefits	763.8	756.8	7.0	0.9	223.9	238.9	(15.0)	(6.7)	987.6	995.6	(8.0)	(0.8)
Reimbursable Overhead	(374.6)	(440.7)	66.1	17.6	372.0	437.8	(65.8)	(17.7)	(2.7)	(3.0)	0.3	11.6
<b>Total Labor Expenses</b>	<b>\$8,215.9</b>	<b>\$8,137.4</b>	<b>\$78.5</b>	<b>1.0</b>	<b>\$1,576.9</b>	<b>\$1,726.5</b>	<b>(\$149.6)</b>	<b>(9.5)</b>	<b>\$9,792.8</b>	<b>\$9,863.9</b>	<b>(\$71.1)</b>	<b>(0.7)</b>
<b>Non-Labor:</b>												
Electric Power	\$412.9	\$396.2	\$16.7	4.0	\$1.2	\$1.4	(\$0.2)	(16.7)	\$414.1	\$397.6	\$16.5	4.0
Fuel	152.7	156.0	(3.3)	(2.2)	0.0	0.3	(0.3)	<(100.0)	152.7	156.3	(3.6)	(2.3)
Insurance	7.5	(6.4)	14.0	> 100.0	12.5	11.1	1.4	11.3	20.1	4.7	15.4	76.7
Claims	286.9	324.4	(37.4)	(13.0)	0.0	0.0	0.0	N/A	286.9	324.4	(37.4)	(13.0)
Paratransit Service Contracts	345.4	374.6	(29.2)	(8.4)	0.0	0.0	0.0	N/A	345.4	374.6	(29.2)	(8.4)
Maintenance and Other Operating Contracts	651.1	547.4	103.7	15.9	91.1	88.8	2.3	2.5	742.2	636.2	105.9	14.3
Professional Services Contracts	472.9	427.8	45.1	9.5	113.6	87.3	26.3	23.2	586.5	515.1	71.4	12.2
Materials and Supplies	568.8	532.8	35.9	6.3	146.3	136.3	10.0	6.8	715.0	669.1	45.9	6.4
Other Business Expenses	191.1	180.5	10.7	5.6	0.1	5.1	(5.1)	<(100.0)	191.2	185.6	5.6	2.9
<b>Total Non-Labor Expenses</b>	<b>\$3,089.3</b>	<b>\$2,933.2</b>	<b>\$156.1</b>	<b>5.1</b>	<b>\$364.9</b>	<b>\$330.4</b>	<b>\$34.5</b>	<b>9.4</b>	<b>\$3,454.2</b>	<b>\$3,263.6</b>	<b>\$190.6</b>	<b>5.5</b>
<b>Other Expense Adjustments</b>												
Other	\$117.1	\$104.9	\$12.1	10.4	\$0.0	\$0.0	\$0.0	N/A	\$117.1	\$104.9	\$12.1	10.4
General Reserve	0.0	0.0	0.0	N/A	0.0	0.0	0.0	N/A	0.0	0.0	0.0	N/A
<b>Total Other Expense Adjustments</b>	<b>\$117.1</b>	<b>\$104.9</b>	<b>\$12.1</b>	<b>10.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>N/A</b>	<b>\$117.1</b>	<b>\$104.9</b>	<b>\$12.1</b>	<b>10.4</b>
<b>Total Expenses Before Non-Cash Liability Adjs.</b>	<b>\$11,422.3</b>	<b>\$11,175.6</b>	<b>\$246.8</b>	<b>2.2</b>	<b>\$1,941.8</b>	<b>\$2,056.9</b>	<b>(\$115.1)</b>	<b>(5.9)</b>	<b>\$13,364.1</b>	<b>\$13,232.5</b>	<b>\$131.6</b>	<b>1.0</b>
Depreciation	\$2,198.4	\$2,235.8	(\$37.4)	(1.7)	\$0.0	\$0.0	\$0.0	N/A	\$2,198.4	\$2,235.8	(\$37.4)	(1.7)
OPEB Liability Adjustment	1,391.1	1,140.5	250.5	18.0	0.0	0.0	0.0	N/A	1,391.1	1,140.5	250.5	18.0
GASB 68 Pension Expense Adjustment	36.7	(3.1)	39.8	> 100.0	0.0	0.0	0.0	N/A	36.7	(3.1)	39.8	>100.0
Environmental Remediation	4.7	18.9	(14.2)	<(100.0)	0.0	0.0	0.0	N/A	4.7	18.9	(14.2)	<(100.0)
<b>Total Expenses After Non-Cash Liability Adjs.</b>	<b>\$15,053.2</b>	<b>\$14,567.6</b>	<b>\$485.5</b>	<b>3.2</b>	<b>\$1,941.8</b>	<b>\$2,056.9</b>	<b>(\$115.1)</b>	<b>(5.9)</b>	<b>\$16,994.9</b>	<b>\$16,624.5</b>	<b>\$370.4</b>	<b>2.2</b>
Less: B&T Depreciation & GASB Adjustments	\$169.4	\$172.7	(\$3.3)	(1.9)	\$0.0	\$0.0	\$0.0	0.0	\$169.4	\$172.7	(\$3.3)	(1.9)
<b>Adjusted Total Expenses</b>	<b>\$14,883.7</b>	<b>\$14,394.9</b>	<b>\$488.8</b>	<b>3.3</b>	<b>\$1,941.8</b>	<b>\$2,056.9</b>	<b>(\$115.1)</b>	<b>(5.9)</b>	<b>\$16,825.5</b>	<b>\$16,451.8</b>	<b>\$373.6</b>	<b>2.2</b>
<b>Net Surplus/(Deficit) excl. Subsidies and Debt Service</b>	<b>(\$7,564.2)</b>	<b>(\$7,093.7)</b>	<b>\$470.5</b>	<b>6.2</b>	<b>(\$0.1)</b>	<b>\$0.0</b>	<b>\$0.1</b>	<b>N/A</b>	<b>(\$7,564.3)</b>	<b>(\$7,093.7)</b>	<b>\$470.6</b>	<b>6.2</b>
<b>Total Subsidies</b>	<b>\$6,283.1</b>	<b>\$6,009.8</b>	<b>(\$273.3)</b>	<b>(4.4)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>N/A</b>	<b>\$6,283.1</b>	<b>\$6,009.8</b>	<b>(\$273.3)</b>	<b>(4.4)</b>
<b>Debt Service</b>	<b>2,168.8</b>	<b>2,230.2</b>	<b>(61.4)</b>	<b>(2.8)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>N/A</b>	<b>2,168.8</b>	<b>2,230.2</b>	<b>(61.4)</b>	<b>(2.8)</b>

Notes: Totals may not add due to rounding

Results are based on the preliminary close of the general ledger and are subject to review and adjustment. Please note that the current months' actuals do not include post-close adjustments, which will be captured in the subsequent month's YTD results.

The impact of LIRR's Forward Plan, MNR's Way Ahead, and the MTA Bus Action Plan, which were captured as MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, have been allocated to specific Agencies and captured within their baseline Mid-Year Forecasts.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST  
EXPLANATION OF VARIANCES BETWEEN MID-YEAR FORECAST AND ACTUAL ACCRUAL BASIS  
OCTOBER 2018  
(\$ in millions)**

Generic Revenue or Expense Category	Nonreimb or Reimb	OCTOBER		Reason for Variance	YEAR-TO-DATE		Reason for Variance
		Favorable (Unfavorable)	%		Favorable (Unfavorable)	%	
Farebox Revenue	NR	\$ 3.8	0.7	NYCT was \$3.0M favorable mainly due to higher average fares and a slight uptick in subway ridership and similarly the LIRR was \$1.5M favorable due to higher ridership. These results were partially offset by the impact of lower ridership and yields of (\$0.8M) at MNR.	(6.9)	(0.1)	Lower ridership primarily drives the YTD unfavorable variance of (\$5.9M) at MNR, (\$2.0M) at the LIRR, and (\$1.8M) at NYCT. These results were partially offset by a favorable variance of \$2.9M at MTA Bus.
Vehicle Toll Revenue	NR	1.7	1.0	Toll revenues were favorable due to higher traffic volume.	9.2	0.6	YTD results reflect higher traffic volume.
Other Operating Revenue	NR	(1.3)	(2.4)	The unfavorable outcome was mostly due to a negative shift in the market value of the invested asset portfolio at FMTAC (\$4.7M); and a shortfall of advertising revenue at MNR (\$0.5M) and E-ZPass administrative fees at B&T (\$0.5M). These results were partially offset by the favorable timing of student fare reimbursements at NYCT \$3.8M. Other Agency variances were minor.	(20.7)	(3.8)	Ongoing drivers noted for the month continue, producing unfavorable YTD results of (\$15.1M) at FMTAC and (\$3.3M) at MNR (including lower net GCT retail income). The timing of student fare reimbursements was mostly responsible for unfavorable variances of (\$4.3M) at NYCT (including lower advertising/real estate revenues), and (\$1.1M) at MTA Bus. These results were partially offset by higher Transit Museum revenue at MTAHQ \$2.1M, and higher revenue from E-ZPass administrative fees at B&T \$1.1M.
Payroll	NR	12.9	2.9	The favorable variance was due mainly to vacancies and timing, \$5.7M at NYCT, \$4.2M at the LIRR (including lower vacation pay accruals and sick pay law claim credits), \$2.7M at B&T, \$1.1M at MTAHQ, and \$0.9M at MTA Bus. Partially offsetting these results was an unfavorable outcome due to an increase in the reserve requirements resulting from revised agreement contract terms for the payout of sick, vacation, and retiree compensation at MNR (\$1.7M).	49.6	1.1	The drivers for the YTD variance remain the same as those noted for the month, but with favorable results of \$31.3M at NYCT, \$13.8M at the LIRR (excepting for higher sick pay claim credits), and \$12.0M at B&T. Partially offsetting these results were unfavorable variances of (\$4.2M) at MNR caused by the same factors noted for the month; timing at MTA Bus (\$2.6M); and higher MTA PD vacation pay accrual adjustments, and IT and Procurement salaries at MTAHQ (\$0.9M)
Overtime	NR	(13.3)	(17.1)	Subway service delays, maintenance work due in part to the Subway Action Plan, and higher vacancy/absentee coverage requirements were the primary causes of the (\$6.8M) overage at NYCT. Other contributors to the overage were due to higher programmatic/routine maintenance, scheduled/unscheduled service and vacancy/absentee coverage at the LIRR (\$3.1M); higher programmatic/routine maintenance, vacancy/absentee requirements, and weather-related coverage at MNR (\$2.0M); and higher levels of bus maintenance and traffic congestion at MTA Bus (\$1.5M). (See Overtime Decomposition Report for more details)	(94.7)	(12.0)	The drivers of the YTD variance remain the same as those noted for the month at NYCT (including timing), MTA Bus, the LIRR, and MNR. By Agency, variances are (\$80.5M) at NYCT, (\$5.4M) at MTA Bus, (\$3.9M) at the LIRR, and (\$3.9M) at MNR. Other overage drivers were attributable to higher vacancies at MTAHQ and SIR (including timing) (\$1.4M) and (\$1.0M), respectively. A favorable variance of \$1.4M at B&T primarily due to lower scheduled service requirements and timing partly offset these results. (See Overtime Decomposition Report for more details)
Health and Welfare	NR	19.3	17.4	NYCT was \$19.7M favorable due to higher rebates from a third-party healthcare agency and vacancies were responsible for the favorable variance of \$0.9M at the LIRR. These results were partially offset by unfavorable variances of (\$1.2M) at MNR due to higher labor expenses and rates, and (\$0.6M) at MTAHQ due to an unbudgeted additional pay period in the month.	35.5	3.3	Drivers noted for the month also apply to the YTD favorable variances of \$36.1M at NYCT and \$6.2M at the LIRR. Vacancies and timing were responsible for favorable variances of \$1.8M at B&T and \$0.9M at SIR respectively. These results were partially offset by unfavorable variances of (\$5.8M) at MNR due to the same drivers of the monthly variance, and (\$2.0M) at MTA Bus and (\$1.7M) at MTAHQ due to higher medical expenses.
OPEB - Current Payment	NR	19.2	36.9	Timing was mostly responsible for the favorable variance of \$18.1M at NYCT. The LIRR was favorable by \$0.6M due to fewer retirees. Other Agency variances were minor.	16.9	3.3	Drivers noted for the month also apply to the YTD favorable variances of \$10.8M at NYCT and \$3.3M at the LIRR, while timing was primarily responsible for the favorable variances of \$3.2M at MTAHQ, \$0.9M at MTA Bus, and \$0.5M at B&T. These results were partially offset by an unfavorable variance of (\$2.0M) at MNR due to additional retirees and higher rates.
Pensions	NR	0.0	(0.0)	Timing was mainly responsible for the favorable variance of \$0.5M at the LIRR. Other agency variances were minor.	(1.8)	(0.2)	Timing was mainly responsible for the favorable variances of \$3.6M at the LIRR and \$1.2M at MNR, and the unfavorable variances of (\$4.7M) at NYCT and (\$2.1M) at MTAHQ.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST  
EXPLANATION OF VARIANCES BETWEEN MID-YEAR FORECAST AND ACTUAL ACCRUAL BASIS  
OCTOBER 2018  
(\$ in millions)**

Generic Revenue or Expense Category	Nonreimb or Reimb	OCTOBER		Reason for Variance	YEAR-TO-DATE		Reason for Variance
		Favorable (Unfavorable)			Favorable (Unfavorable)		
		\$	%		\$	%	
Other Fringe Benefits	NR	4.7	6.4	Timing was responsible for favorable variances of \$1.5M at MTA Bus and \$0.7M at MTAHQ. NYCT was favorable by \$1.2M due to higher overhead credits resulting from higher reimbursable work. The LIRR was \$0.9M favorable due to lower Railroad Retirement taxes.	7.0	0.9	Drivers for the month apply to the YTD favorable variances of \$3.7M at MTA Bus, \$2.2M at MTAHQ, and \$1.4M at NYCT, while B&T was favorable by \$1.5M due to vacancies. These results were partially offset by an unfavorable variance of (\$1.5M) at MNR due to higher employee claims reserves.
Reimbursable Overhead	NR	7.9	21.2	The favorable variance was due to higher capital project activity at NYCT \$5.9M, timing at the LIRR \$2.2M, and higher project activity at MNR \$0.6M, partially offset by the timing of Procurement and BSC reimbursements at MTAHQ (\$0.7M).	66.1	17.6	Ongoing factors noted for the month continue, producing favorable YTD results of \$43.2M at NYCT, \$16.4M at the LIRR, and \$1.8M at MNR. Other favorable variances at MTAHQ \$4.6M and MTA Bus \$0.9M were due to timing and higher project activity. These results were partially offset by an unfavorable variance of (\$1.2M) at B&T also due to the timing of project activity.
Electric Power	NR	0.3	0.9	The favorable variance was due to lower consumption at the LIRR \$0.6M, partially offset by higher consumption and prices at NYCT (\$0.6M). Other Agency variances were minor.	16.7	4.0	Timing, lower prices and consumption were the major drivers of the favorable variance of \$13.1M at NYCT. Savings resulting from replacing LED bulbs at 2 Broadway, revised assumptions on the BSC and Madison Avenue properties, and lower costs for the MTA PD Metropolitan Radio Regional System Project were the main drivers for the favorable variance of \$2.4M at MTAHQ. Other favorable outcomes of \$0.9M at both B&T and the LIRR were due to lower rates and consumption, respectively. These favorable outcomes were partly offset by higher rates at MNR (\$1.2M).
Fuel	NR	0.1	0.8	MTA Bus was \$0.7M favorable primarily due to a CNG rebate. Other agency variances were minor.	(3.3)	(2.2)	Higher prices and consumption were mostly responsible for the unfavorable variance of (\$4.4M) at NYCT, partially offset by a favorable variance of \$0.7M at MTA Bus due to a favorable CNG rebate. Other agency variances were minor.
Insurance	NR	1.4	79.7	Timing was responsible for a favorable variance of \$1.3M at FMTAC.	14.0	*	Reflects favorable timing variances of \$11.3M at FMTAC and \$2.3M at MTAHQ, and \$0.6M at the LIRR due to lower property and liability reserve requirements.
Claims	NR	(16.1)	(59.6)	NYCT was (\$9.0M) unfavorable mainly due to higher reserve requirements, while timing was largely responsible for the unfavorable variance of (\$7.9M) at FMTAC. These results were partially offset by a favorable variance of \$0.6M at the LIRR due mostly to lower reserve requirements.	(37.4)	(13.0)	The drivers of the YTD variances for FMTAC, NYCT and the LIRR were mainly the same as those noted in the month. Accordingly, YTD unfavorable variances were (\$22.6M) and (\$17.9M), and a favorable \$2.7M respectively. Additionally, MTAHQ was \$0.5M favorable due primarily to lower reserve requirements.
Paratransit Service Contracts	NR	(7.9)	(22.6)	The overage mainly reflects the impact of increased utilization of e-hail trips.	(29.2)	(8.4)	The overage mainly reflects the impact of increased utilization of e-hail trips.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST  
EXPLANATION OF VARIANCES BETWEEN MID-YEAR FORECAST AND ACTUAL ACCRUAL BASIS  
OCTOBER 2018  
(\$ in millions)**

Generic Revenue or Expense Category	Nonreimb or Reimb	OCTOBER		Reason for Variance	YEAR-TO-DATE		Reason for Variance
		Favorable (Unfavorable)			Favorable (Unfavorable)		
		\$	%		\$	%	
Maintenance and Other Operating Contracts	NR	15.1	20.5	The overall favorable result was mainly attributable to revised spending assumptions and timing. These factors resulted in lower costs of \$5.2M at B&T for the E-ZPass Customer Service Center, the timing of major maintenance, and miscellaneous routine maintenance; \$3.3M at NYCT due to the transfer of some operating vehicles to capital and the timing of paratransit vehicle purchases; \$2.8M at MTA Bus due to delays in shop programs and roll-outs of new bus technology, and Select Bus Service; \$2.4M at MNR due to delays in the Bridgeport derailment M-8 car repairs, and lower expenses for miscellaneous maintenance and GCT utilities; \$1.4M at the LIRR associated with platform investments, construction services, security systems, hazardous waste clean-up and Port Authority clean-up; and \$0.5M at SIR due to the timing of non-revenue vehicle purchases and maintenance work requirements. These results were partially offset by an unfavorable variance of (\$0.5M) at MTAHQ, mainly due to the timing of IT telephone services.	103.7	15.9	The drivers of the YTD variances for NYCT, MNR, B&T, MTA Bus, the LIRR and SIR remain the same as those noted for the month. YTD favorable variances however were \$45.3M, \$17.0M, \$15.2M, \$12.7M, 7.5M and \$2.6M, respectively. Additionally, MTAHQ was favorable by \$3.3M due to the timing of maintenance and repairs, Gowanus HOV lane expenses, security, and janitorial services; NYCT was favorable due to the timing of revenue vehicle maintenance; MNR was favorable due to delays in locomotive overhauls; and the LIRR was favorable due to the timing of ticket vending machine maintenance, equipment rentals, non-revenue vehicle purchases, elevator/escalator maintenance and joint facilities services.
Professional Service Contracts	NR	5.1	8.3	The overall favorable result was mainly attributable to revised spending assumptions and timing: \$9.4M at NYCT for various professional service contracts; \$2.2M at the LIRR due to Enterprise Asset Management initiatives, advertising, market research, consulting and MTA chargebacks, \$1.4M at B&T due to consulting and engineering services; and \$1.3M at MTA Bus due to interagency charges. Partially offsetting these results were unfavorable variances of (\$4.8M) at MNR due to the timing of the New Haven Line share of IT allocations and the misclassification of reimbursable Positive Train Control (PTC) expenses to non-reimbursable which will be reversed in the following month; and (\$4.5M) at MTAHQ due to the timing of expense recoveries and various professional service contracts.	45.1	9.5	The drivers of the YTD variances for MTA Bus and B&T were mainly the same as those noted for the month. YTD favorable variances however were \$3.8M and \$3.0M, respectively. Additionally, MTAHQ was favorable by \$42.4M due to the timing of IT expenses, various professional services, expense recoveries, the Railroad Grade Crossing Project, legal services and audit services. These results were partially offset by an unfavorable timing variance of (\$3.1M) at NYCT for various professional service contract requirements; and (\$1.6M) at the LIRR due to the write-off of project work no longer capital-eligible.
Materials & Supplies	NR	14.1	20.6	NYCT was \$8.6M favorable, reflecting the timing of maintenance material requirements and favorable inventory/obsolescence adjustments. Other favorable outcomes included \$3.3M at MTA Bus due to revised timing of the new fare payment system, \$1.6M at the LIRR due to the timing of fleet modifications and Reliability Centered Maintenance (RCM) activities, and \$0.6M at MTAHQ due to the timing of 2 Broadway plumbing and lighting supplies expenses.	35.9	6.3	Drivers of the YTD variances remain the same as those noted for the month, with favorable results of \$28.0M at the LIRR (including M7 maintenance); \$14.3M at MTA Bus (including the timing of general maintenance expenses); and \$0.5M at MTAHQ. Partially offsetting these variances were unfavorable results due to the timing of non-revenue vehicle maintenance requirements at NYCT (\$4.8M), and higher usage of materials for infrastructure repairs and RCM programs at MNR (\$2.0M). Other Agency variances were minor.
Other Business Expenses	NR	2.5	13.2	FMTAC was favorable by \$1.8M due to lower general & administrative, commissions, and safety loss control expenses. The LIRR was favorable by \$0.5M mainly due to higher restitution on property damage and lower office supplies expenses. These results were partially offset by an unfavorable variance of (\$0.5M) at NYCT due to higher credit card fees.	10.7	5.6	The LIRR was \$7.7M favorable mainly due to higher restitution of property damages and a reversal of bad debt expense. FMTAC was favorable by \$3.3M for reasons noted for the month. Other favorable variances of \$2.0M at B&T and \$0.7M at MTA Bus were due to timing; while MTAHQ was \$1.6M favorable mainly due to stricter spending on non-essential expenses. These results were partially offset by unfavorable variances of (\$4.0M) at NYCT due to timing, and (\$0.5M) at MNR due to higher subsidy payments to New Jersey Transit and lower expense recoveries from Amtrak.
Other Expense Adjustments	NR	2.2	9.5	Variance due to timing differences in project completions.	12.1	10.4	Variance due to timing differences in project completions.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST  
EXPLANATION OF VARIANCES BETWEEN MID-YEAR FORECAST AND ACTUAL ACCRUAL BASIS  
OCTOBER 2018  
(\$ in millions)**

Generic Revenue or Expense Category	Nonreimb or Reimb	OCTOBER		Reason for Variance	Favorable (Unfavorable)		Reason for Variance
		Favorable (Unfavorable)	%		\$	%	
Depreciation	NR	\$ 5.1	2.2	Timing differences in project completions and assets reaching beneficial use resulted in favorable variances of \$6.7M at NYCT, \$1.7M at MNR, and \$0.6M at MTA Bus, and unfavorable variances of (\$2.5M) at the LIRR, (\$1.2M) at B&T and (\$0.5M) at SIR.	(37.4)	(1.7)	The same drivers of the monthly variance were responsible for unfavorable results of (\$28.8M) at the LIRR, (\$18.0M) at NYCT, (\$3.3M) at B&T and (\$2.6M) at SIR, and the favorable variances of \$12.0M at MNR, \$1.9M at MTAHQ, and \$1.3M at MTA Bus.
OPEB Liability Adjustment	NR	3.9	9.9	The GASB adjustment reflects the value associated with the unfunded accrued liability for post employment health benefits. The favorable variance of \$5.3M at MTA Bus was partially offset by an unfavorable variance of (\$1.3M) at MTAHQ. Other agency variances were minor.	250.5	18.0	The GASB adjustment reflects the value associated with the unfunded accrued liability for post employment health benefits. Favorable variances of \$226.7M at NYCT, \$24.6M at MTA Bus and \$3.7M at MNR, were partially offset by unfavorable variances of (\$3.6M) at MTAHQ and (\$1.2M) at the LIRR.
GASB 68 Pension Adjustment	NR	6.9	*	Reflects Agencies' adjustments to account for net pension liability. MTA Bus was favorable by \$6.9M.	39.8	*	Reflects Agencies' adjustments to account for net pension liability. MTA Bus, MNR and SIR were favorable by \$33.2M, \$5.8M, and \$0.9M, respectively.
Environmental Remediation	NR	(14.4)	*	MNR was (\$14.4M) unfavorable due to the recognition of environmental abatement and disposal costs associated with the demolition and excavation activities required for the Harmon Shop Improvement Project.	(14.2)	*	The drivers of the YTD variance for MNR were mainly the same as those noted for the month, however, YTD was (\$13.9M). Other agency variances were minor.

Reimbursable revenue and expense activity are primarily influenced by the nature and timing of project activity. Accordingly, variances reflect the impact of the aforementioned influences as well as changes in reimbursement and vacancy assumptions, refinements to project scheduling, as well as project delays/accelerations. At MTAHQ, impacts reflect reimbursable directed patrol (police coverage) requirements. The following lists the major contributors of the variance by Agency.

Capital & Other Reimbursements	R	1.0	0.5	Favorable variances: \$12.1M at NYCT and \$10.4M at the LIRR. Unfavorable variances: (\$12.1M) at MTAHQ, (\$6.4M) at MNR, (\$2.1M) at MTACC, and (\$1.1M) at B&T.	115.2	5.9	Favorable variances: \$84.2M at the LIRR, \$57.3M at NYCT, \$11.7M at MTAHQ, and \$0.7M at SIR. Unfavorable variances: (\$32.1M) at MNR, (\$4.6M) at MTACC, and (\$1.9M) at B&T.
Payroll	R	5.3	7.9	Favorable variances: \$4.0M at NYCT and \$0.5M at MTACC. Other Agency variances were minor.	27.6	4.3	Favorable variances: \$26.0M at NYCT, \$3.8M at MNR, \$1.6M at MTACC, and \$1.0M at MTAHQ. Unfavorable variances: (\$3.7M) at the LIRR and (\$0.7M) at MTA Bus.
Overtime	R	(13.2)	(84.0)	Unfavorable variances: (\$9.5M) at NYCT, (\$3.2M) at the LIRR, and (\$0.5M) at MNR. (See Overtime Decomposition Report for more details)	(90.5)	(51.1)	Unfavorable variances: (\$65.6M) at NYCT, (\$24.3M) at the LIRR, (\$1.3M) at MNR, and (\$0.6M) at MTAHQ. Favorable variance: \$1.0M at B&T. (See Overtime Decomposition Report for more details)
Health and Welfare	R	0.0	(0.1)	Unfavorable variance: (\$0.5M) at the LIRR. Other Agency variances were minor.	(2.1)	(3.1)	Unfavorable variance: (\$4.5M) at the LIRR. Favorable variances: \$1.0M at MNR, \$0.8M at MTA Bus, and \$0.5M at MTACC.
OPEB Current Payment	R	0.0	6.0	Agency variances were minor.	0.5	6.2	Favorable variance: \$0.5M at the NYCT.
Pensions	R	(0.1)	(1.3)	Unfavorable variances: (\$0.5M) at the LIRR. Other agency variances were minor.	(4.3)	(5.0)	Unfavorable variances: (\$3.6M) at the LIRR and (\$2.2M) at NYCT. Favorable variances: \$0.8M at MTACC and \$0.5M at MNR.
Other Fringe Benefits	R	(1.2)	(5.5)	Unfavorable variances: (\$0.7M) at both the LIRR and NYCT.	(15.0)	(6.7)	Unfavorable variances: (\$9.8M) at NYCT and (\$5.8M) at the LIRR. Favorable variance: \$0.6M at MNR.
Reimbursable Overhead	R	(7.8)	(21.3)	Unfavorable variances: (\$5.9M) at NYCT, (\$2.2M) at the LIRR, and (\$0.5M) at MNR. Favorable variance: \$0.7M at MTAHQ. Other Agency variances were minor.	(65.8)	(17.7)	Unfavorable variances: (\$43.2M) at NYCT, (\$16.4M) at the LIRR, (\$4.6M) at MTAHQ, (\$1.5M) at MNR, and (\$0.9M) at MTA Bus. Favorable variance: \$1.2M at B&T.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST  
EXPLANATION OF VARIANCES BETWEEN MID-YEAR FORECAST AND ACTUAL ACCRUAL BASIS  
OCTOBER 2018  
(\$ in millions)**

Generic Revenue or Expense Category	Nonreimb or Reimb	OCTOBER		Reason for Variance	YEAR-TO-DATE		Reason for Variance
		Favorable (Unfavorable)			Favorable (Unfavorable)		
		\$	%		\$	%	
Electric Power	R	(0.0)	(10.1)	Agency variances were minor.	(0.2)	(16.7)	Agency variances were minor.
Fuel	R	0.0	100.0	Agency variances were minor.	(0.3)	*	Agency variances were minor.
Insurance	R	0.2	15.4	Agency variances were minor.	1.4	11.3	Favorable variance: \$1.4M at the MNR.
Maintenance and Other Operating Contracts	R	(1.6)	(16.4)	Unfavorable variance: (\$3.6M) at the LIRR. Favorable variance: \$1.0M at both NYCT and MNR.	2.3	2.5	Favorable variances: \$20.4M at NYCT and \$0.5M at MTACC. Unfavorable variances: (\$9.5M) at the LIRR and (\$9.3M) at MNR.
Professional Service Contracts	R	16.3	*	Favorable variances: \$11.3M at MTAHQ, \$4.4M at MNR, \$1.1M at MTACC and \$0.6M at NYCT. Unfavorable variance: (\$1.1M) at the LIRR.	26.3	23.2	Favorable variances: \$27.2M at MNR, \$10.3M at NYCT and \$1.0M at MTACC. Unfavorable variances: (\$8.0M) at MTAHQ and (\$4.4M) at the LIRR.
Materials & Supplies	R	1.5	9.3	Favorable variances: \$1.4M at both MNR and the LIRR. Unfavorable variance: (\$1.3M) at NYCT.	10.0	6.8	Favorable variances: \$11.0M at NYCT, \$9.8M at MNR, and \$0.6M at MTA Bus. Unfavorable variance: (\$11.1M) at the LIRR.
Other Business Expenses	R	(0.4)	*	Agency variances were minor.	(5.1)	*	Unfavorable variance: (\$4.4M) at NYCT and (\$0.8M) at the LIRR.
Subsidies	NR	(126.5)	(41.4)	The unfavorable accrual variance of (\$126.5M) was mainly due to lower-than-budgeted PMT revenues of (\$108.9M) and NYC Subsidy to SIR of (48.8M), both attributable to timing of accruals. This was offset by favorable accruals for Urban Tax of \$31.9M, and CDOT Subsidies of \$5.8M due to timing.	(273.3)	(4.4)	The unfavorable variance of (\$273.3M) was mainly due to lower-than-budgeted accruals for PMT of (\$153.5M), NYS Operating Support for SAP of (\$60.0M), City Subsidy to SIR of (\$48.8M), NYC Operating Support for SAP (\$36.9M), City Subsidy to MTA Bus of (\$32.0M) and MTA Aid of (\$31.4M), all due primarily to the timing of accruals. This was offset by favorable accruals for Urban Tax of \$103.4M.
Debt Service	NR	(70.0)	(34.2)	Unfavorable variance of \$70.0 million due to the partial prefunding of November 2018 debt service.	(61.4)	(2.8)	Unfavorable Year-to-Date variance of \$61.4 million primarily due to the partial prefunding of November 2018 debt service, offset by savings resulting from lower variable rates.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**Overtime Decomposition Report**  
**Mid-Year Forecast vs. Actuals**  
**October 2018**

The attached table presents consolidated results of overtime followed by an overtime legend. For detailed overtime results, please refer to the Agency reports located in the financial reporting sections of Agency operating committee agendas. Below is a summary of the major consolidated variances.

**October 2018 Overtime Reporting - Preliminary Results**

**Month – Non-Reimbursable**

Total overtime was (\$13.3M), or (17.1%), unfavorable to the Mid-Year Forecast. NYCT generated just over half of this overage, (\$6.8M) or 50.7% of the total. While a portion of this variance is attributable to the Subway Action Plan (SAP), funding of this initiative by New York State and New York City will cover all related SAP costs.

*Programmatic/Routine Maintenance* was (\$5.6M) unfavorable, mainly due to undercutting track maintenance (removal of contaminated gravel and mud) and thermite welding within the Engineering Department at the LIRR (\$1.9M). NYCT was (\$1.5M) unfavorable as a result of operational/maintenance requirements for car maintainers and cleaners, track workers and bus maintainers and dispatchers (includes SAP-related work). MTA Bus was (\$1.1M) unfavorable mainly due to increased maintenance work required to keep outmoded fleet in a state of good repair, while MNR was (\$1.0M) unfavorable due to higher infrastructure repair work.

*Vacancy/Absentee Coverage* was (\$4.5M) unfavorable, reflecting overall higher coverage requirements for station agents, bus operators, and track hourly employees at NYCT (\$3.8M); higher vacation, sick, and vacancy coverage requirements at MNR (\$0.6M); and lower availability within the Station and Equipment departments at the LIRR (\$0.5M).

*Unscheduled Service* was (\$2.8M) unfavorable and reflects mostly the impact of subway service delays at NYCT (\$2.2M).

*Scheduled Service* was (\$1.0M) unfavorable, mainly due to higher crew book overtime and greater holiday coverage at the LIRR (\$0.4M), and higher coverage requirements at MNR (\$0.4M).

*Weather Emergencies* were unfavorable by (\$0.8M), reflecting higher repairs required along the right-of-way due to rain storms at MNR (\$0.5M).

*Other* was \$1.1M favorable and mainly caused by timing at NYCT \$1.0M.

**Month - Reimbursable**

*Reimbursable Overtime* exceeded the Mid-Year Forecast by (\$13.2M), mainly due to vacancy/absentee coverage, Subway Action Plan (SAP) job overruns, and other additional capital support requirements at NYCT (\$9.5M); Main Line double-track work, East Side Access,

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**Overtime Decomposition Report**  
**Mid-Year Forecast vs. Actuals**  
**October 2018**

East Rail Yard, Jamaica capacity improvements, Concrete Ties Program, and Hicksville Station improvements at the LIRR (\$3.2M); and Stamford Catenary Improvement, Turnouts Yards-Sidings, and Harmon Shop Improvements at MNR (\$0.5M).

**YTD – Non-Reimbursable**

Total overtime was (\$94.7M), or (12.0%), unfavorable to the Mid-Year Forecast. NYCT comprised the majority of the overage, (\$80.5M) or 85.0%. While a portion of this variance is attributable to the SAP, funding of this initiative by New York State and New York City will cover all related SAP costs.

*Unscheduled Service* was (\$40.1M) unfavorable. YTD results reflect the continuance of factors noted for the month at NYCT (\$36.4M); longer bus route running times due to increased street traffic at MTA Bus, (\$2.3M); and additional operational support required to improve on-time performance at the LIRR (\$1.4M).

*Programmatic/Routine Maintenance* was (\$23.0M) unfavorable. YTD unfavorable results reflect the continuance of monthly factors at NYCT (\$16.5M), MTA Bus (\$4.2M), the LIRR (\$1.3M) and MNR (\$0.5M), and higher maintenance requirements at B&T (\$0.5M).

*Vacancy/Absentee Coverage* was (\$19.5M) unfavorable, mainly due to the same drivers of the monthly variance (including SAP requirements and coverage for signal employees) at NYCT (\$21.6M), and at MNR (\$0.8M). MTAHQ was (\$1.1M) unfavorable due to non-sickness related backfill for the MTAPD. Partially offsetting these results were favorable variances at MTA Bus due to improved availability among bus operators (\$2.0M); fewer tours and higher availability within the Transportation Department at the LIRR \$1.5M; and lower requirements at B&T \$0.5M.

*Other* was (\$9.2M) unfavorable, mainly due to a timing lag of reimbursable charges and the timing of a targeted reduction in training expenses at NYCT (\$6.6M); higher wage rates at the LIRR (\$1.1M) coverage requirements at SIR (\$1.0M); and timing-related differences between payroll and calendar cutoff dates at MNR (\$0.6M).

*Weather Emergencies* were unfavorable by (\$5.9M), mainly reflecting greater coverage requirements at MNR (\$3.3M), and NYCT (\$2.0M).

*Scheduled Service* was \$2.5M favorable, mainly due to timing and vacancies within the Department of Buses at NYCT, \$2.1M as well as lower requirements at MNR \$0.9M, and B&T \$0.7M. Partially offsetting these results were unfavorable variances of (\$0.7M) at MTA Bus and the continuance of factors noted for the month at the LIRR (\$0.5M).

*Safety/Security/Law Enforcement* was \$0.6M favorable, mainly due to the timing of expenses at NYCT \$0.5M.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**Overtime Decomposition Report**  
**Mid-Year Forecast vs. Actuals**  
**October 2018**

**YTD – Reimbursable**

*Reimbursable Overtime* exceeded the Mid-Year Forecast by (\$90.5M), mainly reflecting a continuance of factors noted for the month at NYCT (\$65.6M), at the LIRR (\$24.3M), and at MNR (\$1.3M); and higher reimbursable coverage requirements at MTAHQ (\$0.6M). Partially offsetting these results was a favorable variance of \$1.0M at B&T due to lower requirements for the capital program.

**Metropolitan Transportation Authority  
2018 July Financial Plan  
Non-Reimbursable/Reimbursable Overtime  
(\$ in millions)**

	October			October Year-to-Date		
	Mid-Year Forecast	Actuals	Var-Fav(Unfav)	Mid-Year Forecast	Actuals	Var-Fav(Unfav)
<b>Non-Reimbursable Overtime</b>						
<u>Scheduled Service</u>	\$20.7	\$21.6	(\$1.0) -4.7%	\$200.7	\$198.2	\$2.5 1.3%
<u>Unscheduled Service</u>	\$12.5	\$15.3	(\$2.8) -22.4%	\$123.7	\$163.8	(\$40.1) -32.4%
<u>Programmatic/Routine Maintenance</u>	\$31.0	\$36.6	(\$5.6) -18.0%	\$284.5	\$307.6	(\$23.0) -8.1%
<u>Unscheduled Maintenance</u>	\$0.2	\$0.2	(\$0.0) -20.5%	\$2.0	\$2.2	(\$0.1) -4.9%
<u>Vacancy/Absentee Coverage</u>	\$9.6	\$14.1	(\$4.5) -46.4%	\$98.7	\$118.1	(\$19.5) -19.8%
<u>Weather Emergencies</u>	\$0.3	\$1.1	(\$0.8) *	\$51.1	\$57.0	(\$5.9) -11.6%
<u>Safety/Security/Law Enforcement</u>	\$1.2	\$1.0	\$0.2 18.2%	\$19.0	\$18.4	\$0.6 3.1%
<u>All Other</u>	\$2.7	\$1.5	\$1.1 42.8%	\$10.4	\$19.6	(\$9.2) -88.7%
<b>Subtotal</b>	<b>\$78.1</b>	<b>\$91.5</b>	<b>(\$13.3)</b> -17.1%	<b>\$790.1</b>	<b>\$884.8</b>	<b>(\$94.7)</b> -12.0%
<b>Reimbursable Overtime</b>	<b>\$15.7</b>	<b>\$28.8</b>	<b>(\$13.2)</b> -84.0%	<b>\$177.3</b>	<b>\$267.9</b>	<b>(\$90.5)</b> -51.1%
<b>Total Overtime</b>	<b>\$93.8</b>	<b>\$120.3</b>	<b>(\$26.5)</b> -28.2%	<b>\$967.4</b>	<b>\$1,152.6</b>	<b>(\$185.2)</b> -19.1%

\* Exceeds 100%

NOTES: Totals may not add due to rounding.  
Percentages are based on each type of Overtime and not on Total Overtime.  
SIR Overtime data is included in "Other"

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**2018 Overtime Reporting**  
**Overtime Legend**

<u>Type</u>	<u>Definition</u>
<i>Scheduled Service</i>	Crew book/Regular Run/Shift hours (above 8 hours) required by train crews, bus/tower/block operators, transportation supervisors/dispatchers, fare sales and collection, Train & Engineers, as well as non-transportation workers whose work is directly related to providing service (includes coverage for holidays).
<i>Unscheduled Service</i>	Service coverage resulting from extraordinary events not related to weather, such as injuries, mechanical breakdowns, unusual traffic, tour length, late tour relief, and other requirements that arise that are non-absence related.
<i>Programmatic/Routine Maintenance</i>	<i>Program Maintenance</i> work for which overtime is planned (e.g. Railroad Tie Replacement, Sperry Rail Testing, Running Board Replacement Programs). This also includes <i>Routine Maintenance</i> work for which OT has been planned, as well as all other maintenance <u>not resulting from extraordinary events</u> , including running repairs. Program/Routine maintenance work is usually performed during hours that are deemed more practical in order to minimize service disruptions, and includes contractual scheduled pay over 8 hours.
<i>Unscheduled Maintenance</i>	Resulting from an <u>extraordinary event</u> (not weather-related) requiring the use of unplanned maintenance to perform repairs on trains, buses, subway and bus stations, depots, tracks and administrative and other facilities, including derailments, tour length and weekend coverage.
<i>Vacancy/Absentee Coverage</i>	Provides coverage for an absent employee or a vacant position.
<i>Weather Emergencies</i>	Coverage necessitated by extreme weather conditions (e.g. snow, flooding, hurricane, and tornadoes), as well as preparatory and residual costs.
<i>Safety/Security/Law Enforcement</i>	Coverage required to provide additional customer & employee protection and to secure MTA fleet facilities, transportation routes, and security training.
<i>Other</i>	Includes overtime coverage for clerical, administrative positions that are eligible for overtime, and miscellaneous overtime.
<i>Reimbursable Overtime</i>	Overtime incurred to support projects that are reimbursed from the MTA Capital Program and other funding sources.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Consolidated Accrual Subsidy Detail**  
**October 2018**  
(\$ in millions)

	Current Month			Year-to-Date		
	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance
<b>Accrued Subsidies:</b>						
<b>Dedicated Taxes</b>						
Mass Transportation Operating Assistance Fund (MMTOA)	\$0.0	\$0.0	\$0.0	\$1,686.6	\$1,686.6	\$0.0
Petroleum Business Tax	-	-	-	470.1	474.9	4.8
MRT 1 (Gross)	29.0	29.0	-	264.9	257.5	(7.4)
MRT 2 (Gross)	14.5	14.5	-	120.6	113.2	(7.4)
Other MRT(b) Adjustments	-	-	-	(7.7)	(7.7)	(0.0)
Urban Tax	32.7	64.6	31.9	463.7	567.2	103.4
Investment Income	-	0.3	0.3	0.9	1.2	0.3
	<b>\$76.2</b>	<b>\$108.4</b>	<b>\$32.2</b>	<b>\$2,999.1</b>	<b>\$3,092.9</b>	<b>\$93.8</b>
<b>New State Taxes and Fees</b>						
Payroll Mobility Taxes	108.1	(0.8)	(108.9)	1,310.2	1,156.8	(153.5)
Payroll Mobility Tax Replacement Funds	-	-	-	146.6	146.6	-
MTA Aid Taxes <sup>1</sup>	-	-	-	224.8	193.4	(31.4)
	<b>\$108.1</b>	<b>(\$0.8)</b>	<b>(\$108.9)</b>	<b>\$1,681.5</b>	<b>\$1,496.7</b>	<b>(\$184.8)</b>
<b>New Funding Sources</b>						
NYS Operating Support for SAP	0.0	-	-	254.0	194.0	(60.0)
NYC Operating Support for SAP	0.0	-	-	254.0	217.1	(36.9)
	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$508.0</b>	<b>\$411.1</b>	<b>(\$96.9)</b>
<b>State and Local Subsidies</b>						
NYS Operating Assistance	-	-	-	187.9	187.9	-
NYC and Local 18b:						
New York City	-	-	-	125.5	125.5	(0.0)
Nassau County	-	-	-	11.6	11.6	-
Suffolk County	-	-	-	7.5	7.5	-
Westchester County	-	-	-	7.3	7.3	-
Putnam County	-	-	-	0.4	0.4	-
Dutchess County	-	-	-	0.4	0.4	-
Orange County	-	-	-	0.1	0.1	-
Rockland County	-	-	-	0.0	0.0	-
Station Maintenance	14.6	14.1	(0.5)	142.3	140.3	(2.1)
	<b>\$14.6</b>	<b>\$14.1</b>	<b>(\$0.5)</b>	<b>\$483.2</b>	<b>\$481.1</b>	<b>(\$2.1)</b>
<b>Sub-total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$198.9</b>	<b>\$121.7</b>	<b>(\$77.2)</b>	<b>\$5,671.8</b>	<b>\$5,481.8</b>	<b>(\$190.0)</b>
<b>Other Funding Adjustments</b>						
City Subsidy to MTA Bus	47.7	41.5	(6.2)	451.1	419.1	(32.0)
City Subsidy to SIRTOA	48.8	-	(48.8)	48.8	-	(48.8)
CDOT Subsidies	9.8	15.6	5.8	111.3	108.9	(2.5)
	<b>\$106.3</b>	<b>\$57.1</b>	<b>(\$49.3)</b>	<b>\$611.3</b>	<b>\$528.0</b>	<b>(\$83.3)</b>
<b>Total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$305.2</b>	<b>\$178.8</b>	<b>(\$126.5)</b>	<b>\$6,283.1</b>	<b>\$6,009.8</b>	<b>(\$273.3)</b>
<b>Inter-Agency Subsidy Transactions</b>						
B&T Operating Surplus Transfer	44.2	58.5	14.3	540.6	601.3	60.7
<b>Total Accrued Subsidies</b>	<b>\$349.4</b>	<b>\$237.3</b>	<b>(\$112.2)</b>	<b>\$6,823.6</b>	<b>\$6,611.0</b>	<b>(\$212.6)</b>

<sup>1</sup> License, Vehicle Registration, Taxi and Auto Rental Fees

Note: Differences are due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Consolidated Accrual Subsidy Detail**  
**Explanation of Variances**  
(\$ in millions)

**October 2018**

<b>Accrued Subsidies</b>	<b>Variance \$</b>	<b>Variance %</b>	<b>Explanations</b>
Urban Tax	31.9	97.4%	The favorable variance for the month was primarily due to higher-than-forecasted real estate transactions in New York City.
Payroll Mobility Taxes	(108.9)	> (100%)	PMT transactions for the month and year-to-date were unfavorable primarily due to timing of booking accruals by MTA Accounting.
CDOT	5.8	58.8%	The favorable variance for the month was due primarily to timing; YTD results were close to the forecast.
City Subsidy to MTA Bus	(6.2)	-13.0%	The unfavorable variances for the month and year-to-date were timing related.
City Subsidy to SIRTOA	(48.8)	-100.0%	The unfavorable variances for the month and year-to-date were timing related.
B&T Operating Surplus Transfer	14.3	32.3%	The favorable variances for the month and year-to-date were due to the timing of accruals.

**Year-to-Date**

<b>Accrued Subsidies</b>	<b>Variance \$</b>	<b>Variance %</b>	<b>Explanations</b>
MRT(b) 2 (Gross)	(7.4)	-6.1%	Year-to-date MRT-2 transactions were below budget due to lower-than-expected MRT-2 mortgage activity.
Urban Tax	103.4	22.3%	The favorable year-to-date variance was primarily due to higher-than-forecasted real estate transactions in New York City and to timing of accruals.
Payroll Mobility Taxes	(153.5)	-11.7%	See explanation for the month.
MTA Aid Taxes	(31.4)	-14.0%	Year-to-date MTA Aid transactions were unfavorable primarily due to timing of booking accruals by MTA Accounting.
NYS Operating Support for SAP	(60.0)	-23.6%	The unfavorable year-to-date variance for NYS Operating Support for SAP was due to timing.
NYC Operating Support for SAP	(36.9)	-14.5%	The unfavorable year-to-date variance for NYC Operating Support for SAP was due to timing.
CDOT Subsidies	(2.5)	-2.2%	See explanation for the month.
City Subsidy to MTA Bus	(32.0)	-7.1%	See explanation for the month.
City Subsidy to SIRTOA	(48.8)	-100.0%	See explanation for the month.
B&T Operating Surplus Transfer	60.7	11.2%	See explanation for the month.

METROPOLITAN TRANSPORTATION AUTHORITY  
 July Financial Plan - 2018 Mid-Year Forecast  
 Cash Subsidy Detail by Agency  
 (\$ in millions)

October 2018

	NYC Transit			Commuter Railroads			SIR			MTA Bus			MTAHQ			TOTAL		
	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance
<b>Cash Subsidies:</b>																		
<b>Dedicated Taxes</b>																		
MMTOA <sup>(a)</sup>	\$133.4	\$130.2	-\$3.2	\$64.2	\$67.3	\$3.2	\$0.5	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$198.0	\$198.0	\$0.0
Petroleum Business Tax	52.7	55.0	2.3	9.3	9.7	0.4	-	-	-	-	-	-	-	-	62.0	64.7	2.7	
MRT <sup>(b)</sup> 1 (Gross)	-	-	-	-	-	-	-	-	-	-	-	-	27.6	21.6	(5.9)	27.6	21.6	(5.9)
MRT <sup>(b)</sup> 2 (Gross)	-	-	-	-	-	-	-	-	-	-	-	-	12.1	10.4	(1.7)	12.1	10.4	(1.7)
Urban Tax	46.3	44.6	(1.7)	-	-	-	-	-	-	-	-	-	-	-	46.3	44.6	(1.7)	
Investment Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>\$232.3</b>	<b>\$229.8</b>	<b>(\$2.5)</b>	<b>\$73.5</b>	<b>\$77.0</b>	<b>\$3.6</b>	<b>\$0.5</b>	<b>\$0.5</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$39.6</b>	<b>\$32.0</b>	<b>(\$7.6)</b>	<b>\$345.9</b>	<b>\$339.3</b>	<b>(\$6.6)</b>
<b>New State Taxes and Fees</b>																		
Payroll Mobility Tax	49.5	50.2	0.7	19.0	19.3	0.3	-	-	-	-	-	-	35.3	35.8	0.5	103.7	105.3	1.5
Payroll Mobility Tax Replacement Funds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MTA Aid <sup>(c)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>\$49.5</b>	<b>\$50.2</b>	<b>\$0.7</b>	<b>\$19.0</b>	<b>\$19.3</b>	<b>\$0.3</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$35.3</b>	<b>\$35.8</b>	<b>\$0.5</b>	<b>\$103.7</b>	<b>\$105.3</b>	<b>\$1.5</b>
<b>New Funding Sources</b>																		
NYS Operating Support for SAP	28.2	-	(28.2)	-	-	-	-	-	-	-	-	-	-	-	-	28.2	0.0	(28.2)
NYC Operating Support for SAP	42.3	-	(42.3)	-	-	-	-	-	-	-	-	-	-	-	-	42.3	0.0	(42.3)
	<b>\$70.6</b>	<b>\$0.0</b>	<b>(\$70.6)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$70.6</b>	<b>\$0.0</b>	<b>(\$70.6)</b>
<b>State and Local Subsidies</b>																		
NYS Operating Assistance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NYC and Local 18b:																		
New York City	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nassau County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Suffolk County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Westchester County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Putnam County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dutchess County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orange County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rockland County	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CDOT Subsidies	-	-	-	9.8	4.1	(5.7)	-	-	-	-	-	-	-	-	-	9.8	4.1	(5.7)
Station Maintenance	-	-	-	90.0	-	(90.0)	-	-	-	-	-	-	-	-	-	90.0	-	(90.0)
NYCT Charge Back of MTA Bus Debt Service	-	(11.5)	(11.5)	-	-	-	-	-	-	-	-	-	-	-	-	-	(11.5)	(11.5)
	<b>\$0.0</b>	<b>(\$11.5)</b>	<b>(\$11.5)</b>	<b>\$99.8</b>	<b>\$4.1</b>	<b>(\$95.8)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$99.8</b>	<b>(\$7.4)</b>	<b>(\$107.3)</b>
<b>Sub-total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$352.4</b>	<b>\$268.5</b>	<b>(\$83.9)</b>	<b>\$192.3</b>	<b>\$100.4</b>	<b>(\$91.9)</b>	<b>\$0.5</b>	<b>\$0.5</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$74.9</b>	<b>\$67.8</b>	<b>(\$7.1)</b>	<b>\$620.1</b>	<b>\$437.2</b>	<b>(\$182.9)</b>
City Subsidy to MTA Bus	-	-	-	-	-	-	-	-	-	78.1	56.7	(21.4)	-	-	-	78.1	56.7	(21.4)
City Subsidy to SIRTOA	-	-	-	-	-	-	58.5	58.5	-	-	-	-	-	-	-	58.5	58.5	0.0
<b>Total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$352.4</b>	<b>\$268.5</b>	<b>(\$83.9)</b>	<b>\$192.3</b>	<b>\$100.4</b>	<b>(\$91.9)</b>	<b>\$59.0</b>	<b>\$59.0</b>	<b>\$0.0</b>	<b>\$78.1</b>	<b>\$56.7</b>	<b>(\$21.4)</b>	<b>\$74.9</b>	<b>\$67.8</b>	<b>(\$7.1)</b>	<b>\$756.7</b>	<b>\$552.4</b>	<b>(\$204.3)</b>
<b>Inter-Agency Subsidy Transactions</b>																		
B&T Operating Surplus Transfer	11.3	14.2	2.9	20.1	22.5	2.4	-	-	-	-	-	-	-	-	-	31.5	36.8	5.3
	<b>\$11.3</b>	<b>\$14.2</b>	<b>\$2.9</b>	<b>\$20.1</b>	<b>\$22.5</b>	<b>\$2.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$31.5</b>	<b>\$36.8</b>	<b>\$5.3</b>
<b>Total Cash Subsidies</b>	<b>\$363.7</b>	<b>\$282.8</b>	<b>(\$81.0)</b>	<b>\$212.4</b>	<b>\$122.9</b>	<b>(\$89.5)</b>	<b>\$59.0</b>	<b>\$59.0</b>	<b>\$0.0</b>	<b>\$78.1</b>	<b>\$56.7</b>	<b>(\$21.4)</b>	<b>\$74.9</b>	<b>\$67.8</b>	<b>(\$7.1)</b>	<b>\$788.2</b>	<b>\$589.2</b>	<b>(\$199.0)</b>

<sup>a</sup> License, Vehicle Registration, Taxi and Auto Rental Fees  
 Note: Differences are due to rounding.

METROPOLITAN TRANSPORTATION AUTHORITY  
 July Financial Plan - 2018 Mid-Year Forecast  
 Cash Subsidy Detail by Agency  
 (\$ in millions)

Year-to-Date

	NYC Transit			Commuter Railroads			SIR			MTA Bus			MTAHQ			TOTAL		
	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance	Mid-Year Forecast	Actual	Variance
<b>Cash Subsidies:</b>																		
<b>Dedicated Taxes</b>																		
MIMTOA <sup>(a)</sup>	\$659.4	\$659.4	\$0.0	\$318.9	\$318.9	\$0.0	\$2.4	\$2.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$980.6	\$980.6	\$0.0
Petroleum Business Tax	449.8	454.0	4.2	79.4	80.0	0.6	-	-	-	-	-	-	-	-	-	529.2	534.0	4.8
MRT <sup>(b)</sup> 1 (Gross)	-	-	-	-	-	-	-	-	-	-	-	-	261.2	253.9	(7.3)	261.2	253.9	(7.3)
MRT <sup>(b)</sup> 2 (Gross)	-	-	-	-	-	-	-	-	-	-	-	-	111.3	109.8	(1.5)	111.3	109.8	(1.5)
Urban Tax	514.8	567.6	52.8	-	-	-	-	-	-	-	-	-	-	-	-	514.8	567.6	52.8
	<b>\$1,624.0</b>	<b>\$1,681.0</b>	<b>\$57.0</b>	<b>\$399.2</b>	<b>\$399.5</b>	<b>\$0.3</b>	<b>\$2.4</b>	<b>\$2.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$368.7</b>	<b>\$360.0</b>	<b>(\$8.8)</b>	<b>\$2,394.2</b>	<b>\$2,442.8</b>	<b>\$48.6</b>
<b>New State Taxes and Fees</b>																		
Payroll Mobility Tax	592.6	603.9	11.3	227.5	243.5	16.0	-	-	-	-	-	-	422.4	386.5	(35.9)	1,242.5	1,233.9	(8.6)
Payroll Mobility Tax Replacement Funds	105.9	105.9	-	40.7	40.7	-	-	-	-	-	-	-	-	-	-	146.6	146.6	-
MTA Aid <sup>(c)</sup>	152.8	144.5	(8.3)	58.7	53.1	(5.6)	-	-	-	-	-	-	-	-	-	211.5	197.6	(13.9)
	<b>\$851.4</b>	<b>\$854.3</b>	<b>\$2.9</b>	<b>\$326.8</b>	<b>\$337.3</b>	<b>\$10.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$422.4</b>	<b>\$386.5</b>	<b>(\$35.9)</b>	<b>\$1,600.6</b>	<b>\$1,578.0</b>	<b>(\$22.5)</b>
<b>New Funding Sources</b>																		
NYS Operating Support for SAP	197.6	194.0	(3.6)	-	-	-	-	-	-	-	-	-	-	-	-	197.6	194.0	(3.6)
NYC Operating Support for SAP	169.3	217.1	47.8	-	-	-	-	-	-	-	-	-	-	-	-	169.3	217.1	47.8
	<b>\$366.9</b>	<b>\$411.1</b>	<b>\$44.2</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$366.9</b>	<b>\$411.1</b>	<b>\$44.2</b>
<b>State and Local Subsidies</b>																		
NYS Operating Assistance	79.1	79.1	-	14.6	14.6	-	0.3	0.3	(0.0)	-	-	-	-	-	-	94.0	94.0	-
NYC and Local 18b:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New York City	123.1	123.1	-	1.4	0.9	(0.5)	0.6	0.6	-	-	-	-	-	-	-	125.1	124.6	(0.5)
Nassau County	-	-	-	8.7	8.7	0.0	-	-	-	-	-	-	-	-	-	8.7	8.7	0.0
Suffolk County	-	-	-	5.6	5.6	(0.0)	-	-	-	-	-	-	-	-	-	5.6	5.6	(0.0)
Westchester County	-	-	-	5.5	5.5	0.0	-	-	-	-	-	-	-	-	-	5.5	5.5	0.0
Putnam County	-	-	-	0.3	0.3	(0.0)	-	-	-	-	-	-	-	-	-	0.3	0.3	(0.0)
Dutchess County	-	-	-	0.3	0.3	(0.0)	-	-	-	-	-	-	-	-	-	0.3	0.3	(0.0)
Orange County	-	-	-	0.1	0.1	0.0	-	-	-	-	-	-	-	-	-	0.1	0.1	0.0
Rockland County	-	-	-	0.0	0.0	(0.0)	-	-	-	-	-	-	-	-	-	0.0	0.0	(0.0)
CDOT Subsidies	-	-	-	105.1	100.4	(4.6)	-	-	-	-	-	-	-	-	-	105.1	100.4	(4.6)
Station Maintenance	-	-	-	168.7	169.2	0.6	-	-	-	-	-	-	-	-	-	168.7	169.2	0.6
Inter-Agency Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NYCT Charge Back of MTA Bus Debt Service	(11.5)	(11.5)	-	-	-	-	-	-	-	-	-	-	-	-	-	(11.5)	(11.5)	-
	<b>\$190.7</b>	<b>\$190.7</b>	<b>\$0.0</b>	<b>\$310.3</b>	<b>\$305.7</b>	<b>(\$4.6)</b>	<b>\$0.8</b>	<b>\$0.8</b>	<b>(\$0.0)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$501.8</b>	<b>\$497.2</b>	<b>(\$4.6)</b>
<b>Sub-total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$3,032.9</b>	<b>\$3,137.1</b>	<b>\$104.2</b>	<b>\$1,036.3</b>	<b>\$1,042.5</b>	<b>\$6.2</b>	<b>\$3.2</b>	<b>\$3.2</b>	<b>(\$0.0)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$791.1</b>	<b>\$746.4</b>	<b>(\$44.7)</b>	<b>\$4,863.5</b>	<b>\$4,929.2</b>	<b>\$65.7</b>
City Subsidy to MTA Bus	-	-	-	-	-	-	-	-	-	368.3	402.0	33.7	-	-	-	368.3	402.0	33.7
City Subsidy to SIRTOA	-	-	-	-	-	-	58.5	58.5	-	-	-	-	-	-	-	58.5	58.5	0.0
<b>Total Dedicated Taxes &amp; State and Local Subsidies</b>	<b>\$3,032.9</b>	<b>\$3,137.1</b>	<b>\$104.2</b>	<b>\$1,036.3</b>	<b>\$1,042.5</b>	<b>\$6.2</b>	<b>\$61.7</b>	<b>\$61.7</b>	<b>\$0.0</b>	<b>\$368.3</b>	<b>\$402.0</b>	<b>\$33.7</b>	<b>\$791.1</b>	<b>\$746.4</b>	<b>(\$44.7)</b>	<b>\$5,290.3</b>	<b>\$5,389.7</b>	<b>\$99.4</b>
<b>Inter-Agency Subsidy Transactions</b>																		
B&T Operating Surplus Transfer	224.4	246.4	22.1	325.9	345.6	19.7	-	-	-	-	-	-	-	-	-	550.3	592.0	41.7
	<b>\$224.4</b>	<b>\$246.4</b>	<b>\$22.1</b>	<b>\$325.9</b>	<b>\$345.6</b>	<b>\$19.7</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$550.3</b>	<b>\$592.0</b>	<b>\$41.7</b>
<b>Total Cash Subsidies</b>	<b>\$3,257.2</b>	<b>\$3,383.5</b>	<b>\$126.3</b>	<b>\$1,362.2</b>	<b>\$1,388.0</b>	<b>\$25.9</b>	<b>\$61.7</b>	<b>\$61.7</b>	<b>\$0.0</b>	<b>\$368.3</b>	<b>\$402.0</b>	<b>\$33.7</b>	<b>\$791.1</b>	<b>\$746.4</b>	<b>(\$44.7)</b>	<b>\$5,840.6</b>	<b>\$5,981.8</b>	<b>\$141.1</b>

<sup>a</sup> Metropolitan Mass Transportation Operating Assistance Fund

Note: Differences are due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Consolidated Subsidy Cash**  
**Explanation of Variances**  
(\$ in millions)

**October 2018**

<b>Cash Subsidies</b>	<b>Variance \$</b>	<b>Variance %</b>	<b>Explanations</b>
Petroleum Business Tax	2.7	4.4%	PBT cash receipts for the month were slightly favorable; year-to-date receipts were on target with the forecast.
MRT <sup>(b)</sup> 1 (Gross)	(5.9)	-21.5%	MRT-1 cash receipts were below the forecast for the month; year-to-date receipts were close to the target.
MRT <sup>(b)</sup> 2 (Gross)	(1.7)	-14.1%	MRT-2 cash receipts were unfavorable for the month; year-to-date receipts were on target with the forecast.
Urban Tax	(1.7)	-3.6%	Urban Tax receipts for the month were slightly unfavorable, but year-to-date receipts were favorable due to better-than-expected real estate activity in NYC.
NYS Operating Support for SAP	(28.2)	-100.0%	The unfavorable variance for the month was due to timing of transfer of funds by New York State; YTD receipts were on target with the forecast.
NYC Operating Support for SAP	(42.3)	-100.0%	The unfavorable variance for the month was due to timing; year-to-date receipts were favorable also due to timing of transfer of funds by the City.
CDOT Subsidies	(5.7)	-58.3%	Unfavorable variances for the month and year-to-date were due to timing of receipt of payment.
Station Maintenance	(90.0)	-100.0%	Unfavorable variance for the month was due to timing of receipts of payment; year-to-date receipts were close to the forecast.
City Subsidy to MTA Bus	(21.4)	-27.4%	The unfavorable variance for the month was mostly timing related. Year-to-date variance was favorable also due to timing.
B&T Operating Surplus Transfer	5.3	16.9%	The favorable variances for the month and year-to-date were due to the timing of accruals.

**Year-to-Date**

<b>Cash Subsidies</b>	<b>Variance \$</b>	<b>Variance %</b>	<b>Explanations</b>
Petroleum Business Tax	4.8	0.9%	See explanation for the month.
MRT <sup>(b)</sup> 1 (Gross)	(7.3)	-2.8%	See explanation for the month.
MRT <sup>(b)</sup> 2 (Gross)	(1.5)	-1.3%	See explanation for the month.
Urban Tax	52.8	10.3%	See explanation for the month.
MTA Aid <sup>(c)</sup>	(13.9)	-6.6%	MTA Aid receipts, received on quarterly basis, were unfavorable year-to-date due to timing.
NYS Operating Support for SAP	(3.6)	-1.8%	See explanation for the month.
NYC Operating Support for SAP	47.8	28.2%	See explanation for the month.
CDOT Subsidies	(4.6)	-4.4%	See explanation for the month.
Station Maintenance	0.6	0.3%	See explanation for the month.
City Subsidy to MTA Bus	33.7	9.1%	The favorable year-to-date variance was mostly due to timing.
B&T Operating Surplus Transfer	41.7	7.6%	See explanation for the month.

(millions)

	<u>Current Month Stabilization Fund</u>			<u>Year to Date Stabilization Fund</u>		
	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>
	<u>(General Fd)</u>	<u>(TA Stab)</u>		<u>(General Fd)</u>	<u>(TA Stab)</u>	
From Date:	11/01/18	11/01/18	11/01/18	01/01/18	01/01/18	01/01/18
To Date:	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18
<b>Opening Balance</b>	-\$68.043	\$81.985	\$13.941	\$37.609	\$180.101	\$217.710
<b>RECEIPTS</b>						
Interest Earnings	0.027	0.265	0.293	-1.216	2.711	1.495
NYCT Employee Health Contribution GASB Account - Fd #	0.000	0.000	0.000	0.000	56.472	56.472
NYCT NYCERS Savings GASB Account - Fund #1116	0.000	0.000	0.000	0.000	19.497	19.497
MTA BC GASB Employee Health Contribution Account - F	0.000	0.000	0.000	0.000	0.000	0.000
Operating to Capital - PAYGO	0.000	0.000	0.000	0.000	0.000	0.000
Real Estate Advertising Revenue	0.000	11.625	11.625	0.000	102.143	102.143
<b>New York State</b>						
State and regional mass transit taxes - MMTOA	72.160	149.215	221.375	388.552	813.426	1,201.978
MTTF New York State	7.350	41.650	49.000	87.450	495.550	583.000
Total Dedicated Taxes Received	79.510	190.865	270.375	476.002	1,308.976	1,784.978
Less DTF Debt Service	3.951	18.833	22.784	60.774	291.788	352.562
Net Dedicated Taxes for Operations	75.559	172.032	247.591	415.227	1,017.188	1,432.416
Payroll Mobility Tax	0.000	0.000	0.000	294.052	918.956	1,213.008
MTA Aid Trust Taxes	0.000	0.000	0.000	32.808	87.219	120.028
New York City Operating Assistance	0.000	0.000	0.000	0.000	193.672	193.672
Operating Assistance - 18b	7.313	39.668	46.981	21.939	119.004	140.943
NYC School Fares	0.000	0.000	0.000	0.000	0.000	0.000
NYC Subway Action Plan	0.000	0.000	0.000	0.000	217.137	217.137
NYS Subway Action Plan	0.000	0.000	0.000	0.000	194.000	194.000
NYS School Fares	0.000	6.313	6.313	0.000	18.938	18.938
Additional Mass Transp Operating Assistance	0.000	n/a	0.000	0.000	n/a	0.000
Total - New York State	\$82.872	\$218.013	\$300.884	\$764.027	\$2,766.115	\$3,530.141
<b>Local</b>						
Dutchess County						
Operating Assistance - 18b	\$0.095	n/a	\$0.095	\$0.380	n/a	\$0.380
Station Maintenance	0.000	n/a	0.000	2.472	n/a	2.472
Nassau County						
Operating Assistance - 18b	0.000	n/a	0.000	11.584	n/a	11.584
Station Maintenance	0.000	n/a	0.000	29.983	n/a	29.983
New York City						
Operating Assistance - 18b	0.936	0.000	0.936	1.404	0.000	1.404
Urban - Real Property & Mortgage Recording Tax	n/a	64.617	64.617	n/a	610.176	610.176
Additional Assistance New York City	n/a	0.000	0.000	n/a	0.000	0.000
Station Maintenance	0.000	n/a	0.000	96.006	n/a	96.006
Orange County						
Operating Assistance - 18b	0.000	n/a	0.000	0.146	n/a	0.146
Station Maintenance	0.000	n/a	0.000	0.511	n/a	0.511
Putnam County						
Operating Assistance - 18b	0.000	n/a	0.000	0.380	n/a	0.380
Station Maintenance	0.000	n/a	0.000	0.967	n/a	0.967
Rockland County						
Operating Assistance - 18b	0.000	n/a	0.000	0.015	n/a	0.015
Station Maintenance	0.000	n/a	0.000	0.054	n/a	0.054
Sulfolk County						
Operating Assistance - 18b	1.879	n/a	1.879	7.518	n/a	7.518

MTA Subsidy, Interagency Loan and Stabilization Fund Transactions - Cash Basis  
(millions)

		<u>Current Month Stabilization Fund</u>			<u>Year to Date Stabilization Fund</u>		
		<u>Commuter</u>	<u>Transit</u>		<u>Commuter</u>	<u>Transit</u>	
		<u>(General Fd)</u>	<u>(TA Stab)</u>	<u>Total</u>	<u>(General Fd)</u>	<u>(TA Stab)</u>	<u>Total</u>
From Date:		11/01/18	11/01/18	11/01/18	01/01/18	01/01/18	01/01/18
To Date:		11/30/18	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18
Westchester County	Station Maintenance	0.000	n/a	0.000	18.493	n/a	18.493
	Operating Assistance - 18b	0.000	n/a	0.000	7.342	n/a	7.342
	Station Maintenance	0.000	n/a	0.000	20.736	n/a	20.736
Total - Local		\$2.911	\$64.617	\$67.527	\$197.992	\$610.176	\$808.168

(millions)

	<u>Current Month Stabilization Fund</u>			<u>Year to Date Stabilization Fund</u>		
	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>
	<u>(General Fd)</u>	<u>(TA Stab)</u>		<u>(General Fd)</u>	<u>(TA Stab)</u>	
From Date:	11/01/18	11/01/18	11/01/18	01/01/18	01/01/18	01/01/18
To Date:	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18
<b><u>MTA Bridges and Tunnels- Surplus Transfers</u></b>	30.590	22.079	52.669	376.165	268.528	644.693
Total Subsidy and Other Receipts	\$116.372	\$304.708	\$421.081	\$1,338.183	\$3,644.819	\$4,983.002
<b><u>MTA Sources for Interagency Loans</u></b>						
Retro Payment Reserve - Fund#1302	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
Inter Agency Loan	0.000	0.000	0.000	0.000	560.000	560.000
MTA Capital Program - Non-Resolution Funds	0.000	0.000	0.000	0.000	0.000	0.000
MRT-2 Corporate Account	0.000	0.000	0.000	0.000	0.000	0.000
Transfer from fund 1030 (NYCTA Op Fund)	0.000	0.000	0.000	0.000	0.000	0.000
Total Loans	\$0.000	\$0.000	\$0.000	\$0.000	\$560.000	\$560.000
<b>Total Receipts and Loans Received</b>	<b>\$116.400</b>	<b>\$316.599</b>	<b>\$432.998</b>	<b>\$1,336.967</b>	<b>\$4,385.642</b>	<b>\$5,722.609</b>

Continued on Next Page

Continued on Next Page

(millions)

	<u>Current Month Stabilization Fund</u>			<u>Year to Date Stabilization Fund</u>		
	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>
	<u>(General Fd)</u>	<u>(TA Stab)</u>		<u>(General Fd)</u>	<u>(TA Stab)</u>	
From Date:	11/01/18	11/01/18	11/01/18	01/01/18	01/01/18	01/01/18
To Date:	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18
<b><u>Brought forward from prior page</u></b>						
Opening Balance	-\$68.043	\$81.985	\$13.941	\$37.609	\$180.101	\$217.710
Total Receipts and Loans Received	116.400	316.599	432.998	1,336.967	4,385.642	5,722.609
Total Cash and Receipts Available	\$48.356	\$398.583	\$446.940	\$1,374.577	\$4,565.743	\$5,940.319
<b><u>DISBURSEMENTS</u></b>						
Revenue Supported Debt Service	12.239	18.984	31.222	525.727	822.627	1,348.354
<b><u>Agency Operations</u></b>						
MTA Long Island Railroad	45.230	0.000	45.230	575.410	0.000	575.410
MTA Metro-North Rail Road	37.361	0.000	37.361	316.297	0.000	316.297
MTA New York City Transit	0.000	261.625	261.625	0.000	2,927.143	2,927.143
MTA NYCT for SIRTOA	0.000	0.000	0.000	0.000	0.680	0.680
MTA Bond Admin Cost	1.599	2.691	4.290	5.215	8.852	14.067
MNR Repayment of 525 North Broadway loan	0.000	0.000	0.000	0.000	0.000	0.000
Retro Payment Reserve - Fund#1300	0.000	0.000	0.000	0.000	0.000	0.000
Committed to Capital - PAYGO	0.000	0.000	0.000	0.000	0.000	0.000
Total Debt Service and Operations	\$96.429	\$283.300	\$379.728	\$1,422.649	\$3,759.302	\$5,181.951
<b><u>Repayment of Interagency Loans</u></b>						
Payback - Trans Non-bond - Fd#1028	0.000	0.000	0.000	0.000	0.000	0.000
Transfer to Fund 1030 (NYCTA Op Fund)	0.000	0.000	0.000	0.000	600.000	600.000
Transfer to Fund 1052 (MTA Bus Co Stab Fund)	0.000	0.000	0.000	0.000	11.506	11.506
NYCT Employee Health Contribution GASB Account - Fd #	0.000	0.000	0.000	0.000	56.702	56.702
MTA BC GASB Employee Health Contribution Account - F	0.000	0.000	0.000	0.000	22.948	22.948
MRT-2 Corporate Account	0.000	0.000	0.000	0.000	0.000	0.000
2012 OPEB Loan	0.000	0.000	0.000	0.000	0.000	0.000
Total Loans Payback	\$0.000	\$0.000	\$0.000	\$0.000	\$691.157	\$691.157
Total Disbursements	\$96.429	\$283.300	\$379.728	\$1,422.649	\$4,450.459	\$5,873.108
<b><u>STABILIZATION FUND BALANCE</u></b>	<b>-\$48.072</b>	<b>\$115.283</b>	<b>\$67.211</b>	<b>-\$48.072</b>	<b>\$115.283</b>	<b>\$67.211</b>
<b><u>Ending Loan Balances</u></b>						
B&T Necessary Reconstruction Reserve	0.000	0.000	0.000	0.000	0.000	0.000
MTA Capital Program - Non-Resolution Funds	0.000	0.000	0.000	0.000	0.000	0.000
MRT-2 Corporate Account	0.000	0.000	0.000	0.000	0.000	0.000
2012 OPEB Loan	0.000	0.000	0.000	0.000	0.000	0.000
	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
<b><u>End of Month NYCT Operating Fund borrowing from MTA Invest Pool not included in Ending Loan Balances above</u></b>						
	n/a	-\$244.061	-\$244.061	n/a	-\$244.061	-\$244.061
<b><u>Total Loan Balances (including negative Operating and negative Stabilization Fund Balances)</u></b>				\$48.072	-\$359.344	-\$311.272

		<u>Current Month Stabilization Fund</u>			<u>Year to Date Stabilization Fund</u>		
		<u>Commuter</u>	<u>Transit</u>	<u>Total</u>	<u>Commuter</u>	<u>Transit</u>	<u>Total</u>
		<u>(General Fd)</u>	<u>(TA Stab)</u>		<u>(General Fd)</u>	<u>(TA Stab)</u>	
From Date:		11/01/18	11/01/18	11/01/18	01/01/18	01/01/18	01/01/18
To Date:		11/30/18	11/30/18	11/30/18	11/30/18	11/30/18	11/30/18

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - Adopted Budget**

**Debt Service**

**October 2018**

(\$ in millions)

	<b>Mid-Year Forecast</b>	<b>Actual</b>	<b>Variance</b>	<b>% Var</b>	<b>Explanation</b>
<i>Dedicated Tax Fund:</i>					
NYC Transit	\$11.5	\$6.7	\$4.7		
Commuter Railroads	2.5	1.4	1.1		
<b>Dedicated Tax Fund Subtotal</b>	<b>\$14.0</b>	<b>\$8.1</b>	<b>\$5.8</b>	<b>41.7%</b>	Timing of debt service deposits.
<i>MTA Transportation Revenue:</i>					
NYC Transit	\$78.9	\$114.2	(\$35.3)		
Commuter Railroads	51.9	74.3	(22.4)		
MTA Bus	2.1	1.0	1.1		
SIRTOA	0.1	0.1	0.1		
<b>MTA Transportation Revenue Subtotal</b>	<b>\$133.1</b>	<b>\$189.6</b>	<b>(\$56.5)</b>	<b>-42.5%</b>	Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
<i>2 Broadway COPs:</i>					
NYC Transit	\$0.6	\$0.3	\$0.3		
Bridges & Tunnels	0.1	0.1	0.0		
MTA HQ	0.0	0.0	0.0		
Commuter Railroads	0.2	0.1	0.1		
<b>2 Broadway COPs Subtotal</b>	<b>\$0.9</b>	<b>\$0.5</b>	<b>\$0.4</b>	<b>47.8%</b>	
<i>TBTA General Resolution (2):</i>					
NYC Transit	\$16.7	\$22.8	(\$6.1)		
Commuter Railroads	7.6	10.3	(2.7)		
Bridges & Tunnels	22.2	29.7	(7.5)		
<b>TBTA General Resolution Subtotal</b>	<b>\$46.5</b>	<b>\$62.7</b>	<b>(\$16.3)</b>	<b>-35.1%</b>	Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
<i>TBTA Subordinate (2):</i>					
NYC Transit	\$5.7	\$7.7	(\$1.9)		
Commuter Railroads	3.0	4.0	(1.0)		
Bridges & Tunnels	1.4	1.9	(0.5)		
<b>TBTA Subordinate Subtotal</b>	<b>\$10.2</b>	<b>\$13.6</b>	<b>(\$3.5)</b>	<b>-34.0%</b>	Timing of debt service deposits as partial prefunding of November 2018 debt service. Variance should reverse in November 2018.
<b>Total Debt Service</b>	<b>\$204.6</b>	<b>\$274.6</b>	<b>(\$70.0)</b>	<b>-34.2%</b>	
<i>Debt Service by Agency:</i>					
NYC Transit	\$113.5	\$151.7	(\$38.3)		
Commuter Railroads	65.2	90.1	(25.0)		
MTA Bus	2.1	1.0	1.1		
SIRTOA	0.1	0.1	0.1		
Bridges & Tunnels	23.7	31.7	(8.0)		
MTAHQ	0.0	0.0	0.0		
<b>Total Debt Service</b>	<b>\$204.6</b>	<b>\$274.6</b>	<b>(\$70.0)</b>	<b>-34.2%</b>	

**Notes:**

(1) Forecasted debt service is calculated based upon projected monthly deposits from available pledged revenues into debt service accounts. Actual payments to bondholders are made from the debt service accounts when due as required for each series of bonds and do not conform to this schedule.

(2) Generally, the calendarization of monthly debt service deposits is calculated by dividing projected annual debt service by 12. Month to month variations ("timing differences") on the existing debt portfolio can occur based upon, among other things, (a) for all bonds, the date when income from the securities in which the debt service accounts are invested becomes available varies, (b) for variable rate financings, differences between (i) the budgeted interest rate and the actual interest rate, (ii) projected interest payment dates to bondholders and actual interest payment dates to bondholders, and (iii) projected monthly funding dates for accrued debt service and actual funding dates, (c) for transactions with swaps, the difference between when MTA/TBTA funds debt service and the receipt of the corresponding swap payment by the counterparty, and difference between rates received and rates paid and (d) for commercial paper, the interest payment date is the date of the maturity of the commercial paper and the dealers set the term of the commercial paper from 1 to 270 days, which is not foreseeable at the time the annual debt service budgets are prepared.

(3) Debt service is allocated among Transit, Commuter, MTA Bus, and TBTA categories based on actual spending of bond proceeds for approved capital projects. Allocation of 2 Broadway COPs is based on occupancy.

Totals may not add due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY  
JULY FINANCIAL PLAN - Adopted Budget**

**Debt Service**

**October 2018 Year-to-Date**

(\$ in millions)

	<b>Mid-Year Forecast</b>	<b>Actual</b>	<b>Variance</b>	<b>% Var</b>	<b>Explanation</b>
<i>Dedicated Tax Fund:</i>					
NYC Transit	\$274.6	\$274.3	\$0.3		
Commuter Railroads	58.2	57.1	1.1		
<b>Dedicated Tax Fund Subtotal</b>	<b>\$332.8</b>	<b>\$331.4</b>	<b>\$1.4</b>	<b>0.4%</b>	
<i>MTA Transportation Revenue:</i>					
NYC Transit	\$764.7	\$804.2	(\$39.6)		
Commuter Railroads	495.5	515.0	(19.6)		
MTA Bus	14.4	8.0	6.4		
SIRTOA	1.0	0.9	0.2		
<b>MTA Transportation Revenue Subtotal</b>	<b>\$1,275.6</b>	<b>\$1,328.1</b>	<b>(\$52.5)</b>	<b>-4.1%</b>	Same as monthly explanation
<i>2 Broadway COPs:</i>					
NYC Transit	\$5.0	\$3.4	\$1.6		
Bridges & Tunnels	0.8	0.5	0.2		
MTA HQ	0.0	0.0	0.0		
Commuter Railroads	1.5	1.0	0.5		
<b>2 Broadway COPs Subtotal</b>	<b>\$7.3</b>	<b>\$4.9</b>	<b>\$2.4</b>	<b>32.3%</b>	
<i>TBTA General Resolution (2):</i>					
NYC Transit	\$162.4	\$167.4	(\$5.0)		
Commuter Railroads	73.4	75.7	(2.2)		
Bridges & Tunnels	213.2	217.7	(4.5)		
<b>TBTA General Resolution Subtotal</b>	<b>\$449.1</b>	<b>\$460.8</b>	<b>(\$11.7)</b>	<b>-2.6%</b>	
<i>TBTA Subordinate (2):</i>					
NYC Transit	\$58.1	\$58.7	(\$0.6)		
Commuter Railroads	29.0	29.3	(0.3)		
Bridges & Tunnels	17.0	17.1	(0.1)		
<b>TBTA Subordinate Subtotal</b>	<b>\$104.0</b>	<b>\$105.0</b>	<b>(\$1.0)</b>	<b>-1.0%</b>	
<b>Total Debt Service</b>	<b>\$2,168.8</b>	<b>\$2,230.2</b>	<b>(\$61.4)</b>	<b>-2.8%</b>	
<i>Debt Service by Agency:</i>					
NYC Transit	\$1,264.8	\$1,307.9	(\$43.1)		
Commuter Railroads	657.6	678.1	(20.5)		
MTA Bus	14.4	8.0	6.4		
SIRTOA	1.0	0.9	0.2		
Bridges & Tunnels	230.9	235.3	(4.4)		
MTAHQ	0.0	0.0	0.0		
<b>Total Debt Service</b>	<b>\$2,168.8</b>	<b>\$2,230.2</b>	<b>(\$61.4)</b>	<b>-2.8%</b>	

**Notes:**

(1) Forecasted debt service is calculated based upon projected monthly deposits from available pledged revenues into debt service accounts. Actual payments to bondholders are made from the debt service accounts when due as required for each series of bonds and do not conform to this schedule.

(2) Generally, the calendarization of monthly debt service deposits is calculated by dividing projected annual debt service by 12. Month to month variations ("timing differences") on the existing debt portfolio can occur based upon, among other things, (a) for all bonds, the date when income from the securities in which the debt service accounts are invested becomes available varies, (b) for variable rate financings, differences between (i) the budgeted interest rate and the actual interest rate, (ii) projected interest payment dates to bondholders and actual interest payment dates to bondholders, and (iii) projected monthly funding dates for accrued debt service and actual funding dates, (c) for transactions with swaps, the difference between when MTA/TBTA funds debt service and the receipt of the corresponding swap payment by the counterparty, and difference between rates received and rates paid and (d) for commercial paper, the interest payment date is the date of the maturity of the commercial paper and the dealers set the term of the commercial paper from 1 to 270 days, which is not foreseeable at the time the annual debt service budgets are prepared.

(3) Debt service is allocated among Transit, Commuter, MTA Bus, and TBTA categories based on actual spending of bond proceeds for approved capital projects. Allocation of 2 Broadway COPs is based on occupancy.

Totals may not add due to rounding.

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Total Positions by Function and Agency**  
**October 2018**

Function/Agency	Mid-Year Forecast	Actual	Variance Favorable/ (Unfavorable)
<b>Administration</b>	<b>4,822</b>	<b>4,438</b>	<b>385</b>
NYC Transit	1,401	1,300	101
Long Island Rail Road	520	469	51
Metro-North Railroad	533	504	30
Bridges & Tunnels	96	79	17
Headquarters	2,070	1,914	156
Staten Island Railway	28	28	-
Capital Construction Company	21	18	3
Bus Company	153	126	27
<b>Operations</b>	<b>31,693</b>	<b>31,235</b>	<b>458</b>
NYC Transit	24,230	23,835	395
Long Island Rail Road	2,657	2,640	17
Metro-North Railroad	2,034	2,003	31
Bridges & Tunnels	98	87	11
Headquarters	-	-	-
Staten Island Railway	111	110	1
Capital Construction Company	-	-	-
Bus Company	2,563	2,560	3
<b>Maintenance</b>	<b>33,340</b>	<b>32,623</b>	<b>717</b>
NYC Transit	23,178	22,637	541
Long Island Rail Road	4,329	4,305	24
Metro-North Railroad	4,046	3,945	101
Bridges & Tunnels	387	370	17
Headquarters	-	-	-
Staten Island Railway	189	193	(4)
Capital Construction Company	-	-	-
Bus Company	1,211	1,173	38
<b>Engineering/Capital</b>	<b>2,237</b>	<b>2,037</b>	<b>200</b>
NYC Transit	1,438	1,394	44
Long Island Rail Road	214	186	28
Metro-North Railroad	121	113	8
Bridges & Tunnels	253	201	52
Headquarters	-	-	-
Staten Island Railway	14	9	5
Capital Construction Company	160	107	53
Bus Company	37	27	10
<b>Public Safety</b>	<b>2,209</b>	<b>2,106</b>	<b>103</b>
NYC Transit	644	630	14
Long Island Rail Road	-	-	-
Metro-North Railroad	-	-	-
Bridges & Tunnels	665	615	50
Headquarters	882	848	34
Staten Island Railway	-	-	-
Capital Construction Company	-	-	-
Bus Company	18	13	5
<b>Total Positions</b>	<b>74,300</b>	<b>72,438</b>	<b>1,862</b>

Note: Totals may differ due to rounding

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Total Positions by Function and Agency**  
**October 2018**

<b>Category</b>	<b>Mid-Year Forecast</b>	<b>Actual</b>	<b>Variance Favorable/ (Unfavorable)</b>
<b>Total Positions</b>	<b>74,300</b>	<b>72,438</b>	<b>1,862</b>
NYC Transit	50,890	49,796	1,094
Long Island Rail Road	7,720	7,600	120
Metro-North Railroad	6,734	6,564	170
Bridges & Tunnels	1,499	1,352	147
Headquarters	2,952	2,762	190
Staten Island Railway	342	340	2
Capital Construction Company	181	125	56
Bus Company	3,982	3,899	83
<b>Non-reimbursable</b>	<b>66,086</b>	<b>64,935</b>	<b>1,152</b>
NYC Transit	45,245	44,546	699
Long Island Rail Road	6,360	6,319	42
Metro-North Railroad	5,978	5,945	33
Bridges & Tunnels	1,412	1,265	147
Headquarters	2,821	2,667	154
Staten Island Railway	328	331	(3)
Capital Construction Company	-	-	-
Bus Company	3,942	3,862	80
<b>Reimbursable</b>	<b>8,214</b>	<b>7,503</b>	<b>711</b>
NYC Transit	5,645	5,250	395
Long Island Rail Road	1,360	1,281	79
Metro-North Railroad	756	619	137
Bridges & Tunnels	87	87	-
Headquarters	131	95	36
Staten Island Railway	14	9	5
Capital Construction Company	181	125	56
Bus Company	40	37	3
<b>Total Full Time</b>	<b>74,085</b>	<b>72,224</b>	<b>1,861</b>
NYC Transit	50,694	49,594	1,100
Long Island Rail Road	7,720	7,600	120
Metro-North Railroad	6,733	6,563	170
Bridges & Tunnels	1,499	1,352	147
Headquarters	2,952	2,762	190
Staten Island Railway	342	340	2
Capital Construction Company	181	125	56
Bus Company	3,964	3,888	76
<b>Total Full-Time Equivalents</b>	<b>215</b>	<b>214</b>	<b>1</b>
NYC Transit	196	202	(6)
Long Island Rail Road	-	-	-
Metro-North Railroad	1	1	-
Bridges & Tunnels	-	-	-
Headquarters	-	-	-
Staten Island Railway	-	-	-
Capital Construction Company	-	-	-
Bus Company	18	11	7

Note: Totals may differ due to rounding

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**July Financial Plan - 2018 Mid-Year Forecast**  
**Total Positions by Function and Occupational Group**  
**October 2018**

<b>FUNCTION/OCCUPATIONAL GROUP</b>	<b>Mid-Year Forecast</b>	<b>Actual</b>	<b>Variance Favorable/ (Unfavorable)</b>
<b>Administration</b>	<b>4,822</b>	<b>4,438</b>	<b>385</b>
Managers/Supervisors	1,615	1,426	189
Professional, Technical, Clerical	3,054	2,878	176
Operational Hourlies	152	133	19
<b>Operations</b>	<b>31,693</b>	<b>31,235</b>	<b>458</b>
Managers/Supervisors	3,830	3,672	158
Professional, Technical, Clerical	971	924	47
Operational Hourlies	26,892	26,639	254
<b>Maintenance</b>	<b>33,340</b>	<b>32,623</b>	<b>717</b>
Managers/Supervisors	5,911	5,772	139
Professional, Technical, Clerical	2,051	1,789	262
Operational Hourlies	25,378	25,062	317
<b>Engineering/Capital</b>	<b>2,237</b>	<b>2,037</b>	<b>200</b>
Managers/Supervisors	635	578	57
Professional, Technical, Clerical	1,591	1,451	140
Operational Hourlies	11	8	3
<b>Public Safety</b>	<b>2,209</b>	<b>2,106</b>	<b>103</b>
Managers/Supervisors	641	596	45
Professional, Technical, Clerical	164	134	30
Operational Hourlies	1,404	1,376	28
<b>Total Positions</b>	<b>74,300</b>	<b>72,438</b>	<b>1,862</b>
Managers/Supervisors	12,632	12,044	587
Professional, Technical, Clerical	7,831	7,176	655
Operational Hourlies	53,837	53,217	620

Note: Totals may differ due to rounding

**METROPOLITAN TRANSPORTATION AUTHORITY**  
**Farebox Recovery and Operating Ratios**  
**2018 Mid-Year Forecast and Actuals**

**FAREBOX RECOVERY RATIOS**

	<b>2018 Mid-Year Forecast Full Year</b>	<b>2018 Actual Oct YTD</b>
New York City Transit	35.4%	36.5%
Staten Island Railway	9.6%	9.8%
Long Island Rail Road	29.6%	31.1%
Metro-North Railroad	39.6%	39.6%
MTA Bus Company	22.0%	25.2%
<b>MTA Total Agency Average</b>	<b>34.2%</b>	<b>35.3%</b>

**FAREBOX OPERATING RATIOS**

	<b>2018 Mid-Year Forecast Full Year</b>	<b>2018 Actual Oct YTD</b>
New York City Transit	52.8%	53.8%
Staten Island Railway	14.0%	14.8%
Long Island Rail Road	44.9%	50.1%
Metro-North Railroad	55.6%	55.2%
MTA Bus Company	28.6%	30.2%
<b>MTA Total Agency Average</b>	<b>50.3%</b>	<b>51.8%</b>

*Farebox recovery ratio has a long-term focus. It includes costs that are not funded in the current year, except in an accounting-ledger sense, but are, in effect, passed on to future years. Those costs include depreciation and interest on long-term debt. Approximately 20% (and sometimes more) of MTA costs are not recovered in the current year from farebox revenues, other operating revenues or subsidies. That is why MTA operating statements generally show deficits. In addition, the recovery ratio allocates centralized MTA services to the Agencies, such as Security, the costs of the Inspector General, Civil Rights, Audit, Risk Management, Legal and Shared Services.*

*Farebox operating ratio focuses on Agency operating financial performance. It reflects the way MTA meets its statutory and bond-covenant budget-balancing requirements, and it excludes certain costs that are not subject to Agency control, but are provided centrally by the MTA.*

*In the agenda materials for the Meeting of the Metro-North and Long Island Committees, the calculations of the farebox operating and recovery ratios for the LIRR and MNR use a revised methodology to put the railroads on a more comparable basis. Those statistics, which are included in the respective financial and ridership reports of both Agencies, differ from the statistics presented in this table.*



**Metropolitan Transportation Authority**

State of New York

New York City Transit  
Long Island Rail Road  
Metro-North Railroad  
Bridges and Tunnels  
Bus Company

## **Report on Revenue Passengers and Vehicles Ridership Data Through October, 2018**

**NOTE: Ridership data are preliminary and subject to revision as well as adjustments warranted by annual audit review.**

Prepared by:  
MTA Division of Management & Budget

Friday, November 30, 2018

## Revenue Passengers in October

	2016	2017	% Change	2018	% Change
<b>MTA New York City Transit</b>	205,199,171	207,541,739	1.14%	206,027,466	-0.73%
MTA New York City Subway	150,638,608	153,378,108	1.82%	154,063,048	0.45%
MTA New York City Bus	54,560,563	54,163,631	-0.73%	51,964,418	-4.06%
<b>MTA Staten Island Railway</b>	400,281	449,023	12.18%	443,780	-1.17%
<b>MTA Long Island Rail Road</b>	7,553,444	7,818,376	3.51%	8,172,734	4.53%
<b>MTA Metro-North Railroad</b>	7,443,609	7,747,597	4.08%	7,888,088	1.81%
<i><b>East of Hudson</b></i>	7,321,189	7,610,678	3.95%	7,737,800	1.67%
Harlem Line	2,403,597	2,493,758	3.75%	2,499,505	0.23%
Hudson Line	1,453,574	1,552,398	6.80%	1,596,154	2.82%
New Haven Line	3,464,018	3,564,522	2.90%	3,642,141	2.18%
<i><b>West of Hudson</b></i>	122,420	136,919	11.84%	150,288	9.76%
Port Jervis Line	76,555	85,570	11.78%	88,977	3.98%
Pascack Valley Line	45,865	51,349	11.96%	61,311	19.40%
<b>MTA Bus Company</b>	10,831,747	10,942,815	1.03%	11,325,167	3.49%
<b>MTA Bridges &amp; Tunnels</b>	26,022,431	27,068,258	4.02%	28,301,354	4.56%
<b>Total All Agencies</b>	<b>231,428,251</b>	<b>234,499,549</b>	<b>1.33%</b>	<b>233,857,235</b>	<b>-0.27%</b>
(Excludes Bridges & Tunnels)					
Weekdays:	20	21		22	
Holidays:	1	1		1	
Weekend Days:	10	9		8	
Days	31	31		31	

## Revenue Passengers Year-to-Date Through October

	2016	2017	% Change	2018	% Change
<b>MTA New York City Transit</b>	1,997,464,149	1,950,206,083	-2.37%	1,882,658,263	-3.46%
MTA New York City Subway	1,462,271,433	1,443,813,456	-1.26%	1,403,107,241	-2.82%
MTA New York City Bus	535,192,716	506,392,627	-5.38%	479,551,022	-5.30%
<b>MTA Staten Island Railway</b>	3,760,663	3,813,252	1.40%	3,779,353	-0.89%
<b>MTA Long Island Rail Road</b>	74,282,585	74,452,565	0.23%	74,705,593	0.34%
<b>MTA Metro-North Railroad</b>	71,840,486	72,073,359	0.32%	72,089,715	0.02%
<i><b>East of Hudson</b></i>	70,423,806	70,719,267	0.42%	70,712,325	-0.01%
Harlem Line	23,019,973	23,187,203	0.73%	22,887,401	-1.29%
Hudson Line	13,793,231	14,113,138	2.32%	14,294,997	1.29%
New Haven Line	33,610,602	33,418,926	-0.57%	33,529,927	0.33%
<i><b>West of Hudson</b></i>	1,416,680	1,354,092	-4.42%	1,377,390	1.72%
Port Jervis Line	843,513	811,849	-3.75%	798,568	-1.64%
Pascack Valley Line	573,167	542,243	-5.40%	578,822	6.75%
<b>MTA Bus Company</b>	105,099,614	102,391,120	-2.58%	101,794,461	-0.58%
<b>MTA Bridges &amp; Tunnels</b>	257,013,379	258,304,392	0.50%	268,757,934	4.05%
<b>Total All Agencies</b>	<b>2,252,447,497</b>	<b>2,202,936,379</b>	<b>-2.20%</b>	<b>2,135,027,385</b>	<b>-3.08%</b>
(Excludes Bridges & Tunnels)					
Weekdays:	210	210		211	
Holidays:	7	7		7	
Weekend Days:	88	87		86	
Days	305	304		304	

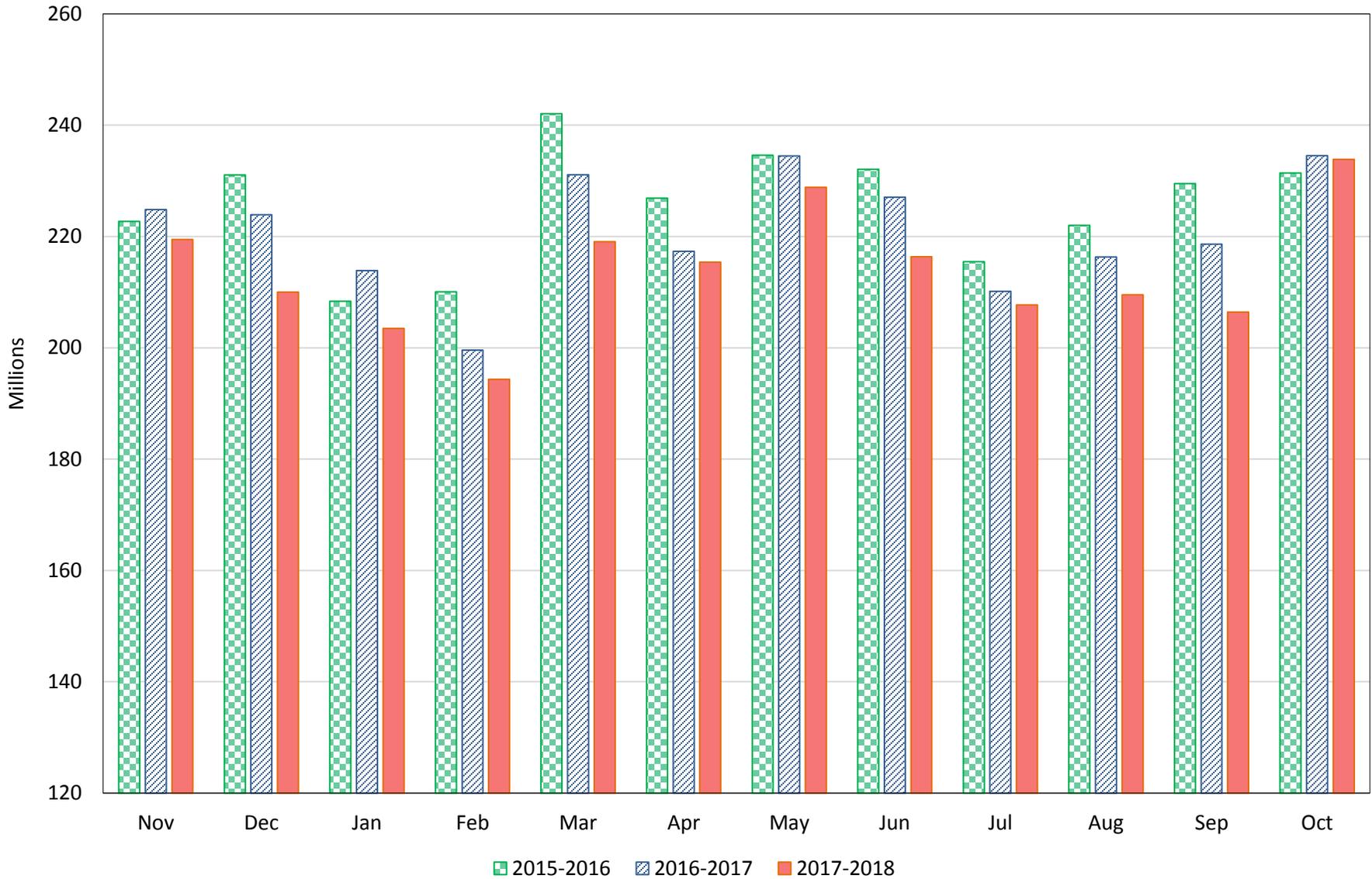
## 12 Month Average Revenue Passengers in October

	2016	2017	% Change	2018	% Change
<b>MTA New York City Transit</b>	200,015,749	195,664,154	-2.18%	188,536,595	-3.64%
MTA New York City Subway	146,470,125	144,863,069	-1.10%	140,555,033	-2.97%
MTA New York City Bus	53,545,624	50,801,085	-5.13%	47,981,563	-5.55%
<b>MTA Staten Island Railway</b>	377,858	382,057	1.11%	380,881	-0.31%
<b>MTA Long Island Rail Road</b>	7,422,649	7,460,138	0.51%	7,450,989	-0.12%
<b>MTA Metro-North Railroad</b>	7,205,910	7,227,083	0.29%	7,209,259	-0.25%
<i><b>East of Hudson</b></i>	7,064,147	7,091,979	0.39%	7,072,666	-0.27%
Harlem Line	2,308,507	2,323,996	0.67%	2,292,693	-1.35%
Hudson Line	1,379,110	1,410,307	2.26%	1,423,279	0.92%
New Haven Line	3,376,530	3,357,677	-0.56%	3,356,694	-0.03%
<i><b>West of Hudson</b></i>	141,762	135,104	-4.70%	136,593	1.10%
Port Jervis Line	84,354	81,105	-3.85%	79,365	-2.15%
Pascack Valley Line	57,408	53,999	-5.94%	57,228	5.98%
<b>MTA Bus Company</b>	10,495,734	10,242,389	-2.41%	10,134,806	-1.05%
<b>MTA Bridges &amp; Tunnels</b>	25,601,725	25,725,634	0.48%	26,704,238	3.80%
<b>Total All Agencies</b>	<b>225,517,900</b>	<b>220,975,821</b>	<b>-2.01%</b>	<b>213,712,530</b>	<b>-3.29%</b>
(Excludes Bridges & Tunnels)					
Weekdays:	20	21		22	
Holidays:	1	1		1	
Weekend Days:	10	9		8	
Days	31	31		31	

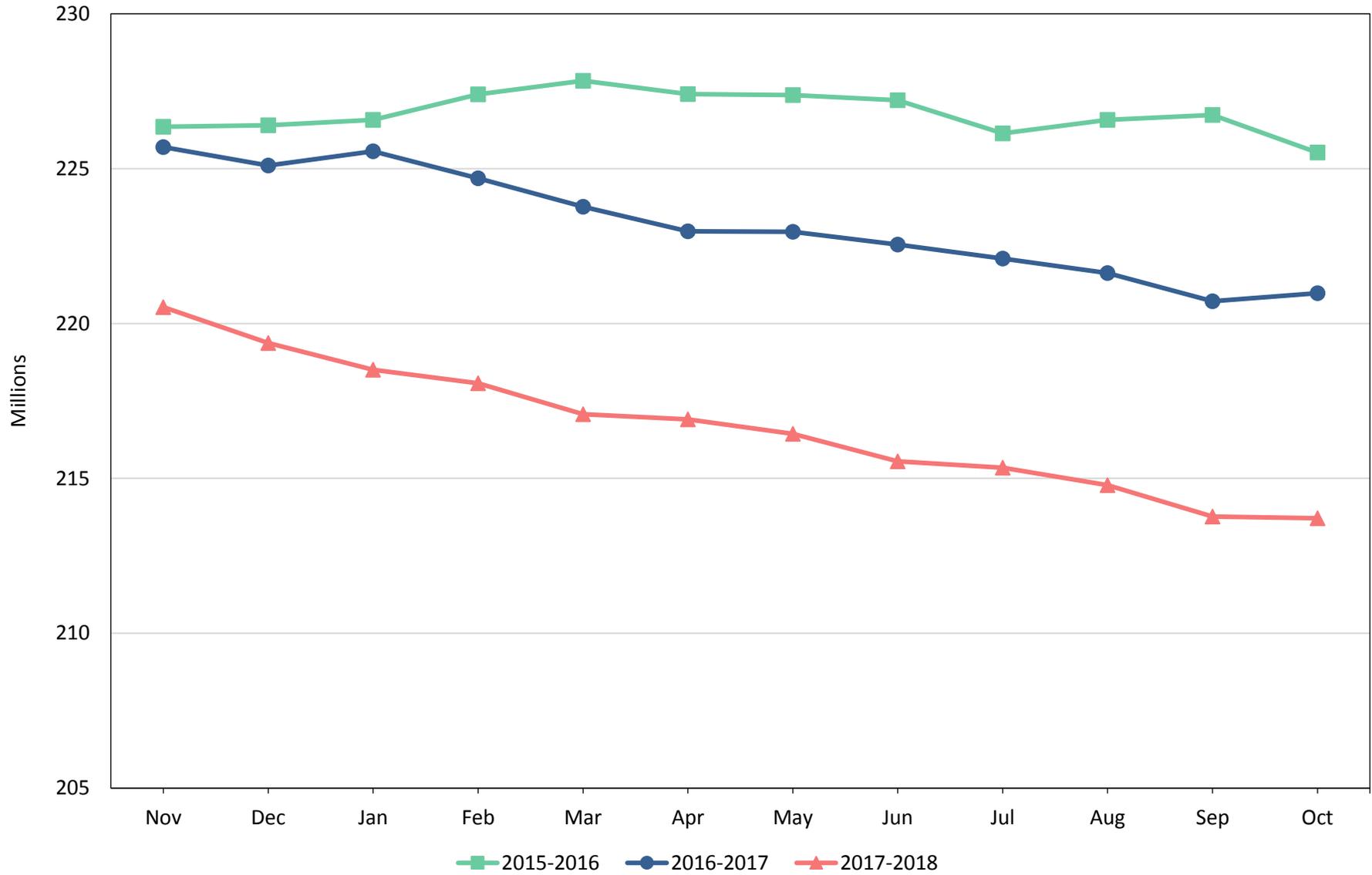
## Average Weekday Revenue Passengers in October

	2016	2017	% Change	2018	% Change
<b>MTA New York City Transit</b>	7,833,422	7,838,635	0.07%	7,643,491	-2.49%
MTA New York City Subway	5,759,591	5,808,527	0.85%	5,732,540	-1.31%
MTA New York City Bus	2,073,830	2,030,108	-2.11%	1,910,951	-5.87%
<b>MTA Staten Island Railway</b>	17,330	18,590	7.27%	17,845	-4.01%
<b>MTA Long Island Rail Road</b>	315,279	313,326	-0.62%	316,919	1.15%
<b>MTA Metro-North Railroad</b>	298,985	302,657	1.23%	301,176	-0.49%
<i><b>East of Hudson</b></i>	293,166	296,430	1.11%	294,628	-0.61%
Harlem Line	97,090	97,945	0.88%	96,017	-1.97%
Hudson Line	57,769	59,944	3.77%	60,349	0.68%
New Haven Line	138,307	138,540	0.17%	138,262	-0.20%
<i><b>West of Hudson</b></i>	5,819	6,227	7.01%	6,548	5.15%
Port Jervis Line	3,638	3,892	6.98%	3,878	-0.36%
Pascack Valley Line	2,181	2,335	7.06%	2,670	14.35%
<b>MTA Bus Company</b>	418,098	416,050	-0.49%	422,384	1.52%
<b>MTA Bridges &amp; Tunnels</b>	866,829	895,418	3.30%	930,110	3.87%
<b>Total All Agencies</b>	<b>8,883,114</b>	<b>8,889,258</b>	<b>0.07%</b>	<b>8,701,816</b>	<b>-2.11%</b>
(Excludes Bridges & Tunnels)					
Weekdays:	20	21		22	
Holidays:	1	1		1	
Weekend Days:	10	9		8	
Days	31	31		31	

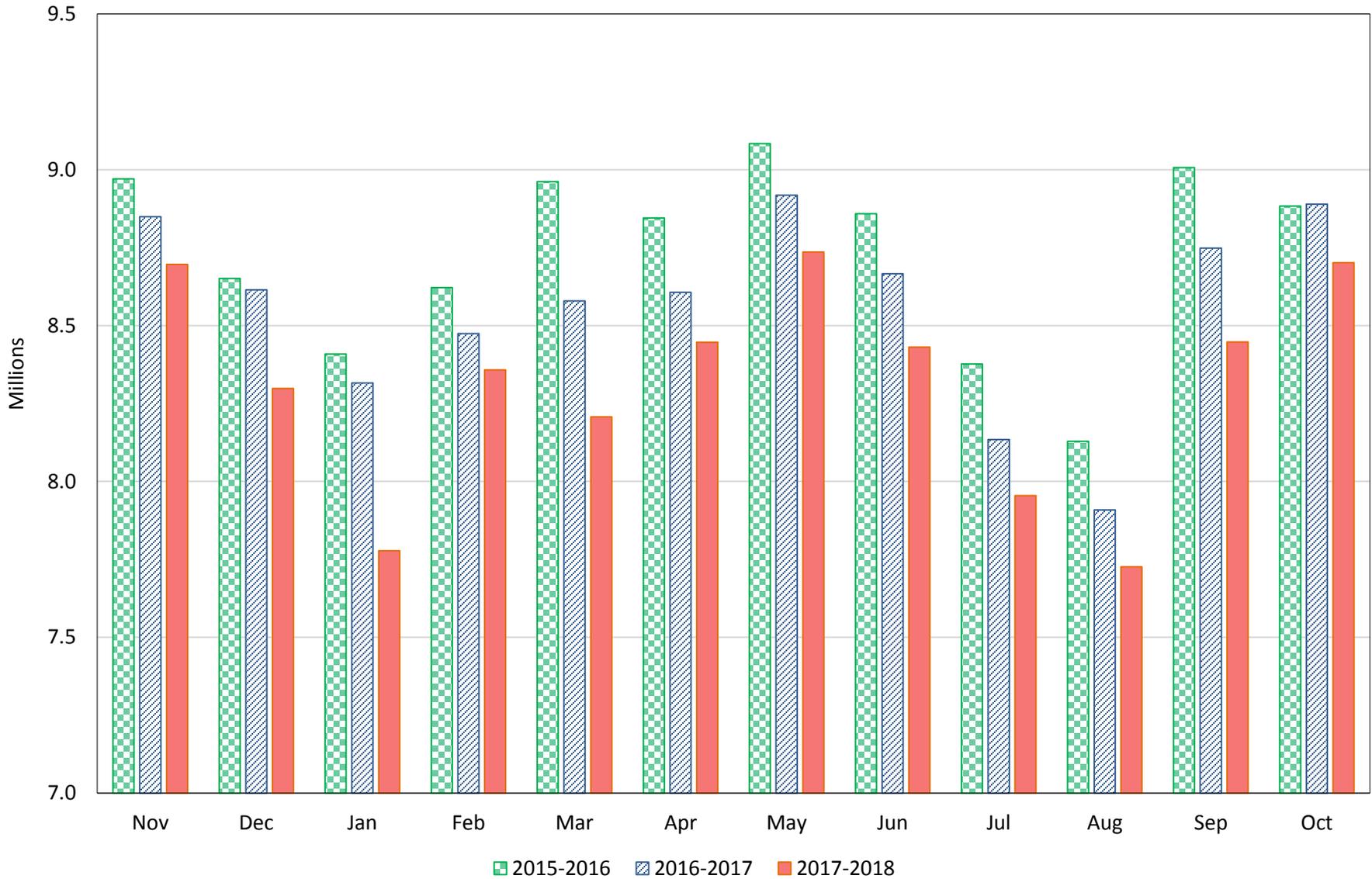
## Metropolitan Transportation Authority Revenue Passengers



### Metropolitan Transportation Authority Revenue Passengers - 12 Month Averages



### Metropolitan Transportation Authority Average Weekday Passengers



## Metropolitan Transportation Authority

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	222,702,079	224,847,343	0.96%	219,487,402	-2.38%
December	231,065,220	223,926,130	-3.09%	210,035,572	-6.20%
January	208,365,217	213,864,320	2.64%	203,484,027	-4.85%
February	210,062,462	199,588,920	-4.99%	194,360,061	-2.62%
March	242,057,167	231,082,742	-4.53%	219,058,081	-5.20%
April	226,900,984	217,326,458	-4.22%	215,395,817	-0.89%
May	234,618,531	234,464,126	-0.07%	228,848,542	-2.40%
June	232,054,396	227,061,370	-2.15%	216,382,612	-4.70%
July	215,495,486	210,140,452	-2.48%	207,692,129	-1.17%
August	221,983,217	216,298,894	-2.56%	209,534,089	-3.13%
September	229,481,785	218,609,547	-4.74%	206,414,792	-5.58%
<b>October</b>	<b>231,428,251</b>	<b>234,499,549</b>	<b>1.33%</b>	<b>233,857,235</b>	<b>-0.27%</b>
<b>Year-to-Date</b>	<b>2,252,447,497</b>	<b>2,202,936,379</b>	<b>-2.20%</b>	<b>2,135,027,385</b>	<b>-3.08%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	226,355,195	225,696,672	-0.29%	220,529,159	-2.29%
December	226,401,243	225,101,748	-0.57%	219,371,613	-2.55%
January	226,575,973	225,560,006	-0.45%	218,506,588	-3.13%
February	227,403,123	224,687,211	-1.19%	218,070,850	-2.94%
March	227,838,811	223,772,676	-1.78%	217,068,795	-3.00%
April	227,405,936	222,974,798	-1.95%	216,907,908	-2.72%
May	227,372,563	222,961,931	-1.94%	216,439,943	-2.93%
June	227,212,056	222,545,846	-2.05%	215,550,046	-3.14%
July	226,135,923	222,099,593	-1.78%	215,346,019	-3.04%
August	226,571,499	221,625,899	-2.18%	214,782,286	-3.09%
September	226,734,499	220,719,879	-2.65%	213,766,056	-3.15%
<b>October</b>	<b>225,517,900</b>	<b>220,975,821</b>	<b>-2.01%</b>	<b>213,712,530</b>	<b>-3.29%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	8,970,657	8,848,948	-1.36%	8,696,449	-1.72%
December	8,651,329	8,614,513	-0.43%	8,298,078	-3.67%
January	8,408,241	8,315,657	-1.10%	7,777,663	-6.47%
February	8,621,692	8,474,101	-1.71%	8,357,451	-1.38%
March	8,961,385	8,578,555	-4.27%	8,207,563	-4.32%
April	8,845,525	8,606,574	-2.70%	8,446,832	-1.86%
May	9,083,871	8,917,853	-1.83%	8,735,756	-2.04%
June	8,858,944	8,666,226	-2.18%	8,430,971	-2.71%
July	8,377,158	8,134,147	-2.90%	7,954,086	-2.21%
August	8,128,520	7,908,074	-2.71%	7,725,838	-2.30%
September	9,007,037	8,748,522	-2.87%	8,447,398	-3.44%
<b>October</b>	<b>8,883,114</b>	<b>8,889,258</b>	<b>0.07%</b>	<b>8,701,816</b>	<b>-2.11%</b>

## MTA New York City Transit

<b>Revenue Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	197,975,727	199,416,515	0.73%	194,193,319	-2.62%
December	204,749,107	198,347,249	-3.13%	185,587,561	-6.43%
January	185,585,948	189,946,869	2.35%	180,082,272	-5.19%
February	187,018,360	177,193,798	-5.25%	172,152,646	-2.84%
March	214,962,054	204,878,541	-4.69%	193,734,798	-5.44%
April	201,573,103	192,930,582	-4.29%	190,494,850	-1.26%
May	208,519,995	207,994,572	-0.25%	202,154,565	-2.81%
June	205,225,083	200,591,083	-2.26%	190,346,850	-5.11%
July	190,299,489	185,271,335	-2.64%	182,215,116	-1.65%
August	195,759,687	190,438,818	-2.72%	183,617,094	-3.58%
September	203,321,259	193,418,747	-4.87%	181,832,606	-5.99%
<b>October</b>	<b>205,199,171</b>	<b>207,541,739</b>	<b>1.14%</b>	<b>206,027,466</b>	<b>-0.73%</b>
<b>Year-to-Date</b>	<b>1,997,464,149</b>	<b>1,950,206,083</b>	<b>-2.37%</b>	<b>1,882,658,263</b>	<b>-3.46%</b>

<b>12 Month Averages</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	201,087,770	200,135,814	-0.47%	195,228,888	-2.45%
December	201,103,934	199,602,326	-0.75%	194,165,580	-2.72%
January	201,255,504	199,965,736	-0.64%	193,343,531	-3.31%
February	201,957,173	199,147,023	-1.39%	192,923,435	-3.13%
March	202,300,424	198,306,730	-1.97%	191,994,789	-3.18%
April	201,900,680	197,586,520	-2.14%	191,791,812	-2.93%
May	201,841,500	197,542,735	-2.13%	191,305,144	-3.16%
June	201,649,514	197,156,568	-2.23%	190,451,458	-3.40%
July	200,668,870	196,737,555	-1.96%	190,196,773	-3.32%
August	201,020,002	196,294,149	-2.35%	189,628,296	-3.40%
September	201,157,770	195,468,940	-2.83%	188,662,785	-3.48%
<b>October</b>	<b>200,015,749</b>	<b>195,664,154</b>	<b>-2.18%</b>	<b>188,536,595</b>	<b>-3.64%</b>

<b>Average Weekday Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	7,914,613	7,793,452	-1.53%	7,647,522	-1.87%
December	7,630,448	7,590,923	-0.52%	7,291,265	-3.95%
January	7,427,622	7,327,845	-1.34%	6,837,308	-6.69%
February	7,637,655	7,482,722	-2.03%	7,368,302	-1.53%
March	7,928,251	7,577,527	-4.42%	7,221,603	-4.70%
April	7,819,074	7,595,620	-2.86%	7,437,683	-2.08%
May	8,035,683	7,884,233	-1.88%	7,693,437	-2.42%
June	7,806,867	7,630,605	-2.26%	7,387,753	-3.18%
July	7,354,909	7,129,419	-3.07%	6,948,786	-2.53%
August	7,146,334	6,941,224	-2.87%	6,754,630	-2.69%
September	7,945,242	7,701,788	-3.06%	7,396,837	-3.96%
<b>October</b>	<b>7,833,422</b>	<b>7,838,635</b>	<b>0.07%</b>	<b>7,643,491</b>	<b>-2.49%</b>

## MTA New York City Subway

<b>Revenue Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	144,542,523	147,033,943	1.72%	144,404,634	-1.79%
December	150,827,541	147,509,424	-2.20%	139,148,517	-5.67%
January	136,413,951	140,288,294	2.84%	134,683,435	-4.00%
February	136,690,795	130,465,060	-4.55%	127,432,835	-2.32%
March	156,297,328	151,384,924	-3.14%	143,982,923	-4.89%
April	147,291,655	143,284,553	-2.72%	141,950,369	-0.93%
May	151,910,204	153,470,353	1.03%	150,320,833	-2.05%
June	151,007,041	149,360,780	-1.09%	142,709,768	-4.45%
July	139,851,426	137,447,659	-1.72%	136,167,499	-0.93%
August	143,703,034	141,721,056	-1.38%	136,806,572	-3.47%
September	148,467,391	143,012,669	-3.67%	134,989,959	-5.61%
<b>October</b>	<b>150,638,608</b>	<b>153,378,108</b>	<b>1.82%</b>	<b>154,063,048</b>	<b>0.45%</b>
<b>Year-to-Date</b>	<b>1,462,271,433</b>	<b>1,443,813,456</b>	<b>-1.26%</b>	<b>1,403,107,241</b>	<b>-2.82%</b>

<b>12 Month Averages</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	146,822,569	146,677,743	-0.10%	144,643,960	-1.39%
December	146,880,452	146,401,233	-0.33%	143,947,217	-1.68%
January	147,097,047	146,724,095	-0.25%	143,480,146	-2.21%
February	147,589,896	146,205,284	-0.94%	143,227,460	-2.04%
March	147,856,859	145,795,917	-1.39%	142,610,627	-2.18%
April	147,600,117	145,461,992	-1.45%	142,499,445	-2.04%
May	147,627,652	145,592,004	-1.38%	142,236,985	-2.30%
June	147,528,895	145,454,816	-1.41%	141,682,734	-2.59%
July	146,813,411	145,254,502	-1.06%	141,576,054	-2.53%
August	147,116,611	145,089,337	-1.38%	141,166,514	-2.70%
September	147,249,198	144,634,777	-1.78%	140,497,954	-2.86%
<b>October</b>	<b>146,470,125</b>	<b>144,863,069</b>	<b>-1.10%</b>	<b>140,555,033</b>	<b>-2.97%</b>

<b>Average Weekday Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	5,781,526	5,746,772	-0.60%	5,698,053	-0.85%
December	5,616,142	5,642,250	0.46%	5,468,971	-3.07%
January	5,450,158	5,410,721	-0.72%	5,122,325	-5.33%
February	5,597,172	5,529,330	-1.21%	5,479,225	-0.91%
March	5,771,631	5,609,555	-2.81%	5,388,832	-3.93%
April	5,728,003	5,662,289	-1.15%	5,564,686	-1.72%
May	5,868,961	5,836,342	-0.56%	5,743,481	-1.59%
June	5,763,243	5,698,402	-1.13%	5,569,036	-2.27%
July	5,445,341	5,330,092	-2.12%	5,232,455	-1.83%
August	5,276,450	5,197,367	-1.50%	5,068,468	-2.48%
September	5,816,860	5,713,700	-1.77%	5,524,451	-3.31%
<b>October</b>	<b>5,759,591</b>	<b>5,808,527</b>	<b>0.85%</b>	<b>5,732,540</b>	<b>-1.31%</b>

## MTA New York City Bus

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	53,433,204	52,382,572	-1.97%	49,788,685	-4.95%
December	53,921,566	50,837,825	-5.72%	46,439,044	-8.65%
January	49,171,997	49,658,575	0.99%	45,398,837	-8.58%
February	50,327,565	46,728,738	-7.15%	44,719,811	-4.30%
March	58,664,726	53,493,617	-8.81%	49,751,875	-6.99%
April	54,281,448	49,646,029	-8.54%	48,544,481	-2.22%
May	56,609,791	54,524,219	-3.68%	51,833,732	-4.93%
June	54,218,042	51,230,303	-5.51%	47,637,082	-7.01%
July	50,448,063	47,823,676	-5.20%	46,047,617	-3.71%
August	52,056,653	48,717,762	-6.41%	46,810,522	-3.91%
September	54,853,868	50,406,078	-8.11%	46,842,647	-7.07%
<b>October</b>	<b>54,560,563</b>	<b>54,163,631</b>	<b>-0.73%</b>	<b>51,964,418</b>	<b>-4.06%</b>
<b>Year-to-Date</b>	<b>535,192,716</b>	<b>506,392,627</b>	<b>-5.38%</b>	<b>479,551,022</b>	<b>-5.30%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	54,265,201	53,458,071	-1.49%	50,584,928	-5.37%
December	54,223,482	53,201,093	-1.89%	50,218,363	-5.61%
January	54,158,457	53,241,641	-1.69%	49,863,385	-6.35%
February	54,367,277	52,941,739	-2.62%	49,695,974	-6.13%
March	54,443,565	52,510,813	-3.55%	49,384,163	-5.95%
April	54,300,563	52,124,528	-4.01%	49,292,367	-5.43%
May	54,213,848	51,950,730	-4.17%	49,068,160	-5.55%
June	54,120,619	51,701,752	-4.47%	48,768,724	-5.67%
July	53,855,458	51,483,053	-4.41%	48,620,720	-5.56%
August	53,903,392	51,204,812	-5.01%	48,461,783	-5.36%
September	53,908,572	50,834,163	-5.70%	48,164,830	-5.25%
<b>October</b>	<b>53,545,624</b>	<b>50,801,085</b>	<b>-5.13%</b>	<b>47,981,563</b>	<b>-5.55%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	2,133,088	2,046,680	-4.05%	1,949,469	-4.75%
December	2,014,306	1,948,673	-3.26%	1,822,294	-6.49%
January	1,977,463	1,917,124	-3.05%	1,714,982	-10.54%
February	2,040,483	1,953,392	-4.27%	1,889,077	-3.29%
March	2,156,619	1,967,972	-8.75%	1,832,772	-6.87%
April	2,091,071	1,933,332	-7.54%	1,872,997	-3.12%
May	2,166,722	2,047,891	-5.48%	1,949,956	-4.78%
June	2,043,624	1,932,203	-5.45%	1,818,717	-5.87%
July	1,909,568	1,799,327	-5.77%	1,716,331	-4.61%
August	1,869,883	1,743,857	-6.74%	1,686,163	-3.31%
September	2,128,381	1,988,088	-6.59%	1,872,386	-5.82%
<b>October</b>	<b>2,073,830</b>	<b>2,030,108</b>	<b>-2.11%</b>	<b>1,910,951</b>	<b>-5.87%</b>

As of November 30, 2018

## MTA Bus

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	10,324,241	10,414,750	0.88%	10,230,691	-1.77%
December	10,524,956	10,102,793	-4.01%	9,592,517	-5.05%
January	9,464,783	9,840,105	3.97%	9,359,616	-4.88%
February	9,650,946	9,289,270	-3.75%	9,153,050	-1.47%
March	11,393,621	10,774,447	-5.43%	10,383,080	-3.63%
April	10,566,032	9,868,714	-6.60%	10,145,682	2.81%
May	11,022,447	10,948,782	-0.67%	11,008,565	0.55%
June	10,778,433	10,415,892	-3.36%	10,121,363	-2.83%
July	10,002,577	9,835,319	-1.67%	9,978,075	1.45%
August	10,491,025	10,182,683	-2.94%	10,270,251	0.86%
September	10,898,004	10,293,093	-5.55%	10,049,613	-2.37%
<b>October</b>	<b>10,831,747</b>	<b>10,942,815</b>	<b>1.03%</b>	<b>11,325,167</b>	<b>3.49%</b>
<b>Year-to-Date</b>	<b>105,099,614</b>	<b>102,391,120</b>	<b>-2.58%</b>	<b>101,794,461</b>	<b>-0.58%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	10,447,169	10,503,277	0.54%	10,227,050	-2.63%
December	10,449,964	10,468,096	0.17%	10,184,527	-2.71%
January	10,447,181	10,499,373	0.50%	10,144,487	-3.38%
February	10,492,034	10,469,233	-0.22%	10,133,135	-3.21%
March	10,521,786	10,417,636	-0.99%	10,100,521	-3.04%
April	10,506,285	10,359,526	-1.40%	10,123,602	-2.28%
May	10,511,918	10,353,387	-1.51%	10,128,584	-2.17%
June	10,521,786	10,323,175	-1.89%	10,104,039	-2.12%
July	10,483,570	10,309,237	-1.66%	10,115,936	-1.88%
August	10,515,039	10,283,542	-2.20%	10,123,233	-1.56%
September	10,537,568	10,233,133	-2.89%	10,102,943	-1.27%
<b>October</b>	<b>10,495,734</b>	<b>10,242,389</b>	<b>-2.41%</b>	<b>10,134,806</b>	<b>-1.05%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	418,413	412,102	-1.51%	405,862	-1.51%
December	398,969	393,484	-1.37%	383,636	-2.50%
January	387,423	386,330	-0.28%	359,321	-6.99%
February	398,129	394,036	-1.03%	394,753	0.18%
March	425,372	402,782	-5.31%	390,793	-2.98%
April	413,769	392,293	-5.19%	399,312	1.79%
May	428,947	417,065	-2.77%	419,462	0.57%
June	411,220	396,805	-3.51%	391,899	-1.24%
July	385,550	377,376	-2.12%	377,060	-0.08%
August	381,719	369,341	-3.24%	374,172	1.31%
September	428,697	412,007	-3.89%	409,993	-0.49%
<b>October</b>	<b>418,098</b>	<b>416,050</b>	<b>-0.49%</b>	<b>422,384</b>	<b>1.52%</b>

As of November 30, 2018

## MTA Staten Island Railway

<b>Revenue Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	376,346	395,065	4.97%	419,045	6.07%
December	397,292	376,371	-5.27%	372,172	-1.12%
January	363,383	379,316	4.38%	390,355	2.91%
February	335,796	328,169	-2.27%	340,527	3.77%
March	412,851	398,044	-3.59%	389,114	-2.24%
April	371,087	353,305	-4.79%	377,531	6.86%
May	394,816	414,213	4.91%	420,153	1.43%
June	402,135	403,043	0.23%	381,443	-5.36%
July	327,407	333,078	1.73%	331,968	-0.33%
August	348,194	353,616	1.56%	340,994	-3.57%
September	404,713	401,445	-0.81%	363,488	-9.46%
<b>October</b>	<b>400,281</b>	<b>449,023</b>	<b>12.18%</b>	<b>443,780</b>	<b>-1.17%</b>
<b>Year-to-Date</b>	<b>3,760,663</b>	<b>3,813,252</b>	<b>1.40%</b>	<b>3,779,353</b>	<b>-0.89%</b>

<b>12 Month Averages</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	372,853	379,418	1.76%	384,056	1.22%
December	375,161	377,675	0.67%	383,706	1.60%
January	377,377	379,003	0.43%	384,626	1.48%
February	379,400	378,367	-0.27%	385,655	1.93%
March	381,031	377,133	-1.02%	384,911	2.06%
April	380,577	375,651	-1.29%	386,930	3.00%
May	380,971	377,268	-0.97%	387,425	2.69%
June	380,587	377,343	-0.85%	385,625	2.19%
July	377,901	377,816	-0.02%	385,533	2.04%
August	379,287	378,268	-0.27%	384,481	1.64%
September	380,824	377,995	-0.74%	381,318	0.88%
<b>October</b>	<b>377,858</b>	<b>382,057</b>	<b>1.11%</b>	<b>380,881</b>	<b>-0.31%</b>

<b>Average Weekday Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	17,361	17,059	-1.74%	18,097	6.08%
December	16,372	16,270	-0.62%	16,611	2.10%
January	16,441	16,566	0.76%	16,387	-1.08%
February	15,738	15,676	-0.40%	16,166	3.13%
March	16,674	16,130	-3.26%	15,963	-1.03%
April	16,039	15,739	-1.87%	16,226	3.10%
May	16,949	17,185	1.39%	17,399	1.24%
June	16,613	16,675	0.37%	16,213	-2.77%
July	13,990	14,161	1.22%	13,786	-2.64%
August	13,672	13,787	0.84%	13,382	-2.94%
September	17,389	17,744	2.04%	17,089	-3.69%
<b>October</b>	<b>17,330</b>	<b>18,590</b>	<b>7.27%</b>	<b>17,845</b>	<b>-4.01%</b>

As of November 30, 2018

## MTA Long Island Rail Road

<b>Revenue Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	7,027,591	7,385,548	5.09%	7,376,934	-0.12%
December	7,761,607	7,683,544	-1.01%	7,329,341	-4.61%
January	6,483,006	6,958,391	7.33%	6,882,948	-1.08%
February	6,614,306	6,522,399	-1.39%	6,476,251	-0.71%
March	7,757,041	7,723,528	-0.43%	7,412,001	-4.03%
April	7,271,823	7,158,667	-1.56%	7,267,217	1.52%
May	7,483,655	7,642,164	2.12%	7,716,073	0.97%
June	7,969,169	7,943,275	-0.32%	7,940,642	-0.03%
July	7,621,000	7,455,744	-2.17%	7,752,358	3.98%
August	7,940,051	7,816,201	-1.56%	7,858,108	0.54%
September	7,589,091	7,413,822	-2.31%	7,227,262	-2.52%
<b>October</b>	<b>7,553,444</b>	<b>7,818,376</b>	<b>3.51%</b>	<b>8,172,734</b>	<b>4.53%</b>
<b>Year-to-Date</b>	<b>74,282,585</b>	<b>74,452,565</b>	<b>0.23%</b>	<b>74,705,593</b>	<b>0.34%</b>

<b>12 Month Averages</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	7,290,066	7,452,478	2.23%	7,459,420	0.09%
December	7,304,004	7,445,973	1.94%	7,429,903	-0.22%
January	7,314,062	7,485,588	2.35%	7,423,616	-0.83%
February	7,353,415	7,477,930	1.69%	7,419,771	-0.78%
March	7,384,444	7,475,137	1.23%	7,393,810	-1.09%
April	7,380,942	7,465,707	1.15%	7,402,856	-0.84%
May	7,399,358	7,478,916	1.08%	7,409,015	-0.93%
June	7,415,306	7,476,758	0.83%	7,408,796	-0.91%
July	7,394,248	7,462,987	0.93%	7,433,514	-0.39%
August	7,425,632	7,452,666	0.36%	7,437,006	-0.21%
September	7,433,757	7,438,060	0.06%	7,421,459	-0.22%
<b>October</b>	<b>7,422,649</b>	<b>7,460,138</b>	<b>0.51%</b>	<b>7,450,989</b>	<b>-0.12%</b>

<b>Average Weekday Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	319,904	323,360	1.08%	322,271	-0.34%
December	309,372	318,908	3.08%	315,487	-1.07%
January	298,683	304,399	1.91%	289,965	-4.74%
February	292,604	301,738	3.12%	299,493	-0.74%
March	301,360	300,813	-0.18%	298,352	-0.82%
April	305,742	310,565	1.58%	303,688	-2.21%
May	311,313	307,067	-1.36%	310,397	1.08%
June	319,475	317,303	-0.68%	328,561	3.55%
July	326,075	318,758	-2.24%	319,177	0.13%
August	303,263	299,106	-1.37%	301,170	0.69%
September	318,591	322,174	1.12%	327,002	1.50%
<b>October</b>	<b>315,279</b>	<b>313,326</b>	<b>-0.62%</b>	<b>316,919</b>	<b>1.15%</b>

As of November 30, 2018

## MTA Metro-North Rail Road

<b>Revenue Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	6,998,173	7,235,466	3.39%	7,267,413	0.44%
December	7,632,258	7,416,173	-2.83%	7,153,981	-3.54%
January	6,468,097	6,739,640	4.20%	6,768,836	0.43%
February	6,443,054	6,255,285	-2.91%	6,237,588	-0.28%
March	7,531,600	7,308,183	-2.97%	7,139,088	-2.31%
April	7,118,939	7,015,190	-1.46%	7,110,538	1.36%
May	7,197,619	7,464,395	3.71%	7,549,186	1.14%
June	7,679,577	7,708,077	0.37%	7,592,314	-1.50%
July	7,245,013	7,244,976	-0.00%	7,414,612	2.34%
August	7,444,260	7,507,575	0.85%	7,447,642	-0.80%
September	7,268,718	7,082,441	-2.56%	6,941,823	-1.99%
<b>October</b>	<b>7,443,609</b>	<b>7,747,597</b>	<b>4.08%</b>	<b>7,888,088</b>	<b>1.81%</b>
<b>Year-to-Date</b>	<b>71,840,486</b>	<b>72,073,359</b>	<b>0.32%</b>	<b>72,089,715</b>	<b>0.02%</b>

<b>12 Month Averages</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	7,157,338	7,225,684	0.95%	7,229,745	0.06%
December	7,168,180	7,207,677	0.55%	7,207,896	0.00%
January	7,181,849	7,230,306	0.67%	7,210,329	-0.28%
February	7,221,102	7,214,658	-0.09%	7,208,854	-0.08%
March	7,251,126	7,196,040	-0.76%	7,194,763	-0.02%
April	7,237,451	7,187,394	-0.69%	7,202,709	0.21%
May	7,238,815	7,209,626	-0.40%	7,209,775	0.00%
June	7,244,864	7,212,001	-0.45%	7,200,128	-0.16%
July	7,211,334	7,211,998	0.01%	7,214,264	0.03%
August	7,231,538	7,217,274	-0.20%	7,209,270	-0.11%
September	7,224,581	7,201,751	-0.32%	7,197,552	-0.06%
<b>October</b>	<b>7,205,910</b>	<b>7,227,083</b>	<b>0.29%</b>	<b>7,209,259</b>	<b>-0.25%</b>

<b>Average Weekday Passengers</b>	<b>2015-2016</b>	<b>2016-2017</b>	<b>% Change</b>	<b>2017-2018</b>	<b>% Change</b>
November	300,366	302,975	0.87%	302,697	-0.09%
December	296,167	294,928	-0.42%	291,078	-1.31%
January	278,072	280,517	0.88%	274,683	-2.08%
February	277,567	279,930	0.85%	278,737	-0.43%
March	289,729	281,303	-2.91%	280,851	-0.16%
April	290,902	292,357	0.50%	289,923	-0.83%
May	290,979	292,303	0.45%	295,061	0.94%
June	304,770	304,839	0.02%	306,545	0.56%
July	296,634	294,434	-0.74%	295,276	0.29%
August	283,532	284,615	0.38%	282,483	-0.75%
September	297,118	294,809	-0.78%	296,476	0.57%
<b>October</b>	<b>298,985</b>	<b>302,657</b>	<b>1.23%</b>	<b>301,176</b>	<b>-0.49%</b>

As of November 30, 2018

## MTA Metro-North East-of-Hudson

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	6,859,735	7,104,082	3.56%	7,134,492	0.43%
December	7,486,228	7,280,396	-2.75%	7,025,175	-3.51%
January	6,340,920	6,610,352	4.25%	6,638,414	0.42%
February	6,313,644	6,134,790	-2.83%	6,120,024	-0.24%
March	7,378,875	7,162,514	-2.93%	6,997,930	-2.30%
April	6,980,262	6,885,596	-1.36%	6,978,582	1.35%
May	7,052,626	7,323,535	3.84%	7,406,943	1.14%
June	7,526,378	7,563,718	0.50%	7,449,782	-1.51%
July	7,097,402	7,111,253	0.20%	7,271,157	2.25%
August	7,288,957	7,363,555	1.02%	7,298,723	-0.88%
September	7,123,553	6,953,276	-2.39%	6,812,970	-2.02%
<b>October</b>	<b>7,321,189</b>	<b>7,610,678</b>	<b>3.95%</b>	<b>7,737,800</b>	<b>1.67%</b>
<b>Year-to-Date</b>	<b>70,423,806</b>	<b>70,719,267</b>	<b>0.42%</b>	<b>70,712,325</b>	<b>-0.01%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	7,011,885	7,084,510	1.04%	7,094,513	0.14%
December	7,022,701	7,067,357	0.64%	7,073,245	0.08%
January	7,036,662	7,089,810	0.76%	7,075,583	-0.20%
February	7,075,312	7,074,905	-0.01%	7,074,353	-0.01%
March	7,105,313	7,056,875	-0.68%	7,060,637	0.05%
April	7,092,439	7,048,986	-0.61%	7,068,386	0.28%
May	7,093,630	7,071,562	-0.31%	7,075,337	0.05%
June	7,099,913	7,074,674	-0.36%	7,065,842	-0.12%
July	7,067,182	7,075,828	0.12%	7,079,167	0.05%
August	7,086,735	7,082,044	-0.07%	7,073,765	-0.12%
September	7,080,143	7,067,855	-0.17%	7,062,073	-0.08%
<b>October</b>	<b>7,064,147</b>	<b>7,091,979</b>	<b>0.39%</b>	<b>7,072,666</b>	<b>-0.27%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	293,087	296,403	1.13%	296,048	-0.12%
December	289,518	288,459	-0.37%	284,646	-1.32%
January	271,386	274,050	0.98%	268,461	-2.04%
February	271,103	273,604	0.92%	272,565	-0.38%
March	283,078	274,959	-2.87%	274,432	-0.19%
April	284,305	285,896	0.56%	283,647	-0.79%
May	284,071	285,889	0.64%	288,585	0.94%
June	297,803	298,274	0.16%	299,766	0.50%
July	289,263	287,756	-0.52%	288,441	0.24%
August	276,763	278,338	0.57%	275,994	-0.84%
September	290,202	288,358	-0.64%	289,713	0.47%
<b>October</b>	<b>293,166</b>	<b>296,430</b>	<b>1.11%</b>	<b>294,628</b>	<b>-0.61%</b>

As of November 30, 2018

## MTA Metro-North Harlem Line

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	2,239,569	2,322,328	3.70%	2,329,438	0.31%
December	2,442,546	2,378,417	-2.63%	2,295,482	-3.49%
January	2,098,696	2,189,026	4.30%	2,206,702	0.81%
February	2,097,939	2,036,882	-2.91%	2,030,072	-0.33%
March	2,435,142	2,398,995	-1.48%	2,306,324	-3.86%
April	2,295,023	2,252,524	-1.85%	2,272,242	0.88%
May	2,290,681	2,406,553	5.06%	2,385,749	-0.86%
June	2,439,435	2,470,479	1.27%	2,389,946	-3.26%
July	2,277,356	2,288,211	0.48%	2,304,551	0.71%
August	2,348,207	2,373,087	1.06%	2,313,467	-2.51%
September	2,333,897	2,277,688	-2.41%	2,178,843	-4.34%
<b>October</b>	<b>2,403,597</b>	<b>2,493,758</b>	<b>3.75%</b>	<b>2,499,505</b>	<b>0.23%</b>
<b>Year-to-Date</b>	<b>23,019,973</b>	<b>23,187,203</b>	<b>0.73%</b>	<b>22,887,401</b>	<b>-1.29%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	2,288,303	2,315,404	1.18%	2,324,588	0.40%
December	2,291,991	2,310,060	0.79%	2,317,677	0.33%
January	2,296,819	2,317,587	0.90%	2,319,150	0.07%
February	2,310,683	2,312,499	0.08%	2,318,582	0.26%
March	2,319,011	2,309,487	-0.41%	2,310,860	0.06%
April	2,316,016	2,305,945	-0.43%	2,312,503	0.28%
May	2,316,158	2,315,601	-0.02%	2,310,769	-0.21%
June	2,318,030	2,318,188	0.01%	2,304,058	-0.61%
July	2,307,286	2,319,093	0.51%	2,305,420	-0.59%
August	2,315,299	2,321,166	0.25%	2,300,452	-0.89%
September	2,314,211	2,316,482	0.10%	2,292,215	-1.05%
<b>October</b>	<b>2,308,507</b>	<b>2,323,996</b>	<b>0.67%</b>	<b>2,292,693</b>	<b>-1.35%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	96,730	97,810	1.12%	97,707	-0.11%
December	95,346	95,209	-0.14%	94,202	-1.06%
January	90,677	91,492	0.90%	89,982	-1.65%
February	90,756	91,541	0.87%	91,261	-0.31%
March	94,005	92,571	-1.53%	91,275	-1.40%
April	94,305	94,501	0.21%	93,309	-1.26%
May	93,217	94,721	1.61%	93,972	-0.79%
June	97,395	98,262	0.89%	97,358	-0.92%
July	94,149	93,957	-0.20%	92,748	-1.29%
August	89,966	90,521	0.62%	88,413	-2.33%
September	95,844	95,366	-0.50%	94,010	-1.42%
<b>October</b>	<b>97,090</b>	<b>97,945</b>	<b>0.88%</b>	<b>96,017</b>	<b>-1.97%</b>

As of November 30, 2018

## MTA Metro-North Hudson Line

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	1,317,990	1,394,632	5.82%	1,406,098	0.82%
December	1,438,103	1,415,909	-1.54%	1,378,250	-2.66%
January	1,216,365	1,286,721	5.78%	1,297,102	0.81%
February	1,219,067	1,206,479	-1.03%	1,201,364	-0.42%
March	1,433,576	1,396,026	-2.62%	1,387,849	-0.59%
April	1,363,513	1,372,524	0.66%	1,412,473	2.91%
May	1,397,282	1,459,859	4.48%	1,505,105	3.10%
June	1,460,876	1,500,113	2.69%	1,502,130	0.13%
July	1,402,439	1,441,958	2.82%	1,488,856	3.25%
August	1,442,263	1,491,491	3.41%	1,497,490	0.40%
September	1,404,276	1,405,569	0.09%	1,406,474	0.06%
<b>October</b>	<b>1,453,574</b>	<b>1,552,398</b>	<b>6.80%</b>	<b>1,596,154</b>	<b>2.82%</b>
<b>Year-to-Date</b>	<b>13,793,231</b>	<b>14,113,138</b>	<b>2.32%</b>	<b>14,294,997</b>	<b>1.29%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	1,367,157	1,385,497	1.34%	1,411,262	1.86%
December	1,368,720	1,383,648	1.09%	1,408,124	1.77%
January	1,371,290	1,389,511	1.33%	1,408,989	1.40%
February	1,378,262	1,388,462	0.74%	1,408,563	1.45%
March	1,383,555	1,385,333	0.13%	1,407,881	1.63%
April	1,380,689	1,386,083	0.39%	1,411,210	1.81%
May	1,382,016	1,391,298	0.67%	1,414,981	1.70%
June	1,383,050	1,394,568	0.83%	1,415,149	1.48%
July	1,377,907	1,397,861	1.45%	1,419,057	1.52%
August	1,381,638	1,401,964	1.47%	1,419,557	1.25%
September	1,380,313	1,402,071	1.58%	1,419,632	1.25%
<b>October</b>	<b>1,379,110</b>	<b>1,410,307</b>	<b>2.26%</b>	<b>1,423,279</b>	<b>0.92%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	56,152	57,969	3.24%	58,142	0.30%
December	55,642	56,016	0.67%	55,793	-0.40%
January	51,994	53,226	2.37%	52,360	-1.63%
February	52,341	53,660	2.52%	53,458	-0.38%
March	54,932	53,560	-2.50%	54,318	1.42%
April	55,404	56,690	2.32%	57,126	0.77%
May	55,964	56,735	1.38%	58,284	2.73%
June	57,586	58,857	2.21%	60,030	1.99%
July	56,693	57,741	1.85%	58,534	1.37%
August	54,558	56,083	2.79%	56,351	0.48%
September	56,935	57,773	1.47%	59,169	2.42%
<b>October</b>	<b>57,769</b>	<b>59,944</b>	<b>3.77%</b>	<b>60,349</b>	<b>0.68%</b>

## MTA Metro-North New Haven Line

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	3,302,176	3,387,122	2.57%	3,398,956	0.35%
December	3,605,579	3,486,070	-3.31%	3,351,443	-3.86%
January	3,025,859	3,134,605	3.59%	3,134,610	0.00%
February	2,996,638	2,891,429	-3.51%	2,888,588	-0.10%
March	3,510,157	3,367,493	-4.06%	3,303,757	-1.89%
April	3,321,726	3,260,548	-1.84%	3,293,867	1.02%
May	3,364,663	3,457,123	2.75%	3,516,089	1.71%
June	3,626,067	3,593,126	-0.91%	3,557,706	-0.99%
July	3,417,607	3,381,084	-1.07%	3,477,750	2.86%
August	3,498,487	3,498,977	0.01%	3,487,766	-0.32%
September	3,385,380	3,270,019	-3.41%	3,227,653	-1.30%
<b>October</b>	<b>3,464,018</b>	<b>3,564,522</b>	<b>2.90%</b>	<b>3,642,141</b>	<b>2.18%</b>
<b>Year-to-Date</b>	<b>33,610,602</b>	<b>33,418,926</b>	<b>-0.57%</b>	<b>33,529,927</b>	<b>0.33%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	3,356,425	3,383,609	0.81%	3,358,663	-0.74%
December	3,361,990	3,373,650	0.35%	3,347,444	-0.78%
January	3,368,554	3,382,712	0.42%	3,347,444	-1.04%
February	3,386,367	3,373,944	-0.37%	3,347,207	-0.79%
March	3,402,747	3,362,056	-1.20%	3,341,896	-0.60%
April	3,395,733	3,356,957	-1.14%	3,344,673	-0.37%
May	3,395,456	3,364,662	-0.91%	3,349,587	-0.45%
June	3,398,834	3,361,917	-1.09%	3,346,635	-0.45%
July	3,381,989	3,358,874	-0.68%	3,354,690	-0.12%
August	3,389,799	3,358,915	-0.91%	3,353,756	-0.15%
September	3,385,620	3,349,301	-1.07%	3,350,226	0.03%
<b>October</b>	<b>3,376,530</b>	<b>3,357,677</b>	<b>-0.56%</b>	<b>3,356,694</b>	<b>-0.03%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	140,206	140,624	0.30%	140,199	-0.30%
December	138,530	137,234	-0.94%	134,652	-1.88%
January	128,715	129,332	0.48%	126,119	-2.48%
February	128,006	128,403	0.31%	127,846	-0.43%
March	134,141	128,829	-3.96%	128,839	0.01%
April	134,596	134,704	0.08%	133,213	-1.11%
May	134,891	134,432	-0.34%	136,329	1.41%
June	142,822	141,155	-1.17%	142,379	0.87%
July	138,421	136,059	-1.71%	137,159	0.81%
August	132,239	131,734	-0.38%	131,230	-0.38%
September	137,423	135,219	-1.60%	136,534	0.97%
<b>October</b>	<b>138,307</b>	<b>138,540</b>	<b>0.17%</b>	<b>138,262</b>	<b>-0.20%</b>

As of November 30, 2018

## MTA Metro-North West-of-Hudson

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	138,438	131,384	-5.10%	132,921	1.17%
December	146,030	135,777	-7.02%	128,806	-5.13%
January	127,177	129,288	1.66%	130,422	0.88%
February	129,410	120,495	-6.89%	117,564	-2.43%
March	152,725	145,669	-4.62%	141,158	-3.10%
April	138,677	129,594	-6.55%	131,956	1.82%
May	144,993	140,860	-2.85%	142,243	0.98%
June	153,199	144,359	-5.77%	142,532	-1.27%
July	147,611	133,723	-9.41%	143,455	7.28%
August	155,303	144,020	-7.27%	148,919	3.40%
September	145,165	129,165	-11.02%	128,853	-0.24%
<b>October</b>	<b>122,420</b>	<b>136,919</b>	<b>11.84%</b>	<b>150,288</b>	<b>9.76%</b>
<b>Year-to-Date</b>	<b>1,416,680</b>	<b>1,354,092</b>	<b>-4.42%</b>	<b>1,377,390</b>	<b>1.72%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	145,453	141,175	-2.94%	135,233	-4.21%
December	145,479	140,320	-3.55%	134,652	-4.04%
January	145,187	140,496	-3.23%	134,746	-4.09%
February	145,790	139,753	-4.14%	134,502	-3.76%
March	145,813	139,165	-4.56%	134,126	-3.62%
April	145,013	138,408	-4.55%	134,323	-2.95%
May	145,185	138,064	-4.91%	134,438	-2.63%
June	144,951	137,327	-5.26%	134,286	-2.21%
July	144,152	136,170	-5.54%	135,097	-0.79%
August	144,803	135,230	-6.61%	135,505	0.20%
September	144,438	133,896	-7.30%	135,479	1.18%
<b>October</b>	<b>141,762</b>	<b>135,104</b>	<b>-4.70%</b>	<b>136,593</b>	<b>1.10%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	7,279	6,572	-9.71%	6,649	1.17%
December	6,649	6,469	-2.71%	6,432	-0.57%
January	6,686	6,467	-3.28%	6,222	-3.79%
February	6,464	6,326	-2.13%	6,172	-2.43%
March	6,651	6,344	-4.62%	6,419	1.18%
April	6,597	6,461	-2.06%	6,276	-2.86%
May	6,908	6,414	-7.15%	6,476	0.97%
June	6,967	6,565	-5.77%	6,779	3.26%
July	7,371	6,678	-9.40%	6,835	2.35%
August	6,769	6,277	-7.27%	6,489	3.38%
September	6,916	6,451	-6.72%	6,763	4.84%
<b>October</b>	<b>5,819</b>	<b>6,227</b>	<b>7.01%</b>	<b>6,548</b>	<b>5.15%</b>

As of November 30, 2018

## MTA Metro-North Port Jervis Line

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	82,436	79,739	-3.27%	78,105	-2.05%
December	86,298	81,677	-5.35%	75,712	-7.30%
January	74,238	76,900	3.59%	75,689	-1.57%
February	76,153	71,338	-6.32%	68,119	-4.51%
March	90,131	85,505	-5.13%	79,180	-7.40%
April	82,641	77,209	-6.57%	75,632	-2.04%
May	86,106	84,459	-1.91%	82,221	-2.65%
June	89,903	85,413	-4.99%	81,196	-4.94%
July	87,847	80,558	-8.30%	84,014	4.29%
August	92,440	86,210	-6.74%	87,725	1.76%
September	87,499	78,687	-10.07%	75,815	-3.65%
<b>October</b>	<b>76,555</b>	<b>85,570</b>	<b>11.78%</b>	<b>88,977</b>	<b>3.98%</b>
<b>Year-to-Date</b>	<b>843,513</b>	<b>811,849</b>	<b>-3.75%</b>	<b>798,568</b>	<b>-1.64%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	86,754	84,129	-3.03%	80,969	-3.76%
December	86,615	83,744	-3.31%	80,472	-3.91%
January	86,357	83,966	-2.77%	80,371	-4.28%
February	86,679	83,565	-3.59%	80,103	-4.14%
March	86,742	83,179	-4.11%	79,576	-4.33%
April	86,256	82,727	-4.09%	79,445	-3.97%
May	86,255	82,589	-4.25%	79,258	-4.03%
June	86,049	82,215	-4.45%	78,907	-4.02%
July	85,556	81,608	-4.62%	79,195	-2.96%
August	85,861	81,089	-5.56%	79,321	-2.18%
September	85,730	80,354	-6.27%	79,082	-1.58%
<b>October</b>	<b>84,354</b>	<b>81,105</b>	<b>-3.85%</b>	<b>79,365</b>	<b>-2.15%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	4,334	3,989	-7.96%	3,907	-2.06%
December	3,930	3,892	-0.97%	3,780	-2.88%
January	3,902	3,847	-1.41%	3,613	-6.08%
February	3,803	3,743	-1.58%	3,574	-4.52%
March	3,926	3,725	-5.12%	3,601	-3.33%
April	3,931	3,847	-2.14%	3,596	-6.52%
May	4,103	3,847	-6.24%	3,744	-2.68%
June	4,089	3,885	-4.99%	3,861	-0.62%
July	4,386	4,022	-8.30%	4,003	-0.47%
August	4,030	3,758	-6.75%	3,824	1.76%
September	4,169	3,929	-5.76%	3,977	1.22%
<b>October</b>	<b>3,638</b>	<b>3,892</b>	<b>6.98%</b>	<b>3,878</b>	<b>-0.36%</b>

As of November 30, 2018

## MTA Metro-North Pascack Valley Line

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	56,002	51,645	-7.78%	54,816	6.14%
December	59,732	54,100	-9.43%	53,094	-1.86%
January	52,939	52,388	-1.04%	54,733	4.48%
February	53,257	49,157	-7.70%	49,445	0.59%
March	62,594	60,164	-3.88%	61,978	3.02%
April	56,036	52,385	-6.52%	56,324	7.52%
May	58,887	56,401	-4.22%	60,022	6.42%
June	63,296	58,946	-6.87%	61,336	4.05%
July	59,764	53,165	-11.04%	59,441	11.80%
August	62,863	57,810	-8.04%	61,194	5.85%
September	57,666	50,478	-12.46%	53,038	5.07%
<b>October</b>	<b>45,865</b>	<b>51,349</b>	<b>11.96%</b>	<b>61,311</b>	<b>19.40%</b>
<b>Year-to-Date</b>	<b>573,167</b>	<b>542,243</b>	<b>-5.40%</b>	<b>578,822</b>	<b>6.75%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	58,699	57,045	-2.82%	54,263	-4.88%
December	58,864	56,576	-3.89%	54,179	-4.24%
January	58,831	56,530	-3.91%	54,375	-3.81%
February	59,111	56,188	-4.94%	54,399	-3.18%
March	59,071	55,986	-5.22%	54,550	-2.56%
April	58,757	55,682	-5.23%	54,878	-1.44%
May	58,930	55,475	-5.86%	55,180	-0.53%
June	58,903	55,112	-6.44%	55,379	0.48%
July	58,596	54,562	-6.88%	55,902	2.46%
August	58,942	54,141	-8.15%	56,184	3.77%
September	58,708	53,542	-8.80%	56,398	5.33%
<b>October</b>	<b>57,408</b>	<b>53,999</b>	<b>-5.94%</b>	<b>57,228</b>	<b>5.98%</b>

Average Weekday Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	2,945	2,583	-12.29%	2,742	6.16%
December	2,719	2,577	-5.22%	2,652	2.91%
January	2,784	2,620	-5.89%	2,609	-0.42%
February	2,661	2,583	-2.93%	2,598	0.58%
March	2,725	2,619	-3.89%	2,818	7.60%
April	2,666	2,614	-1.95%	2,680	2.52%
May	2,805	2,567	-8.48%	2,732	6.43%
June	2,878	2,680	-6.88%	2,918	8.88%
July	2,985	2,656	-11.02%	2,832	6.63%
August	2,739	2,519	-8.03%	2,665	5.80%
September	2,747	2,522	-8.19%	2,786	10.47%
<b>October</b>	<b>2,181</b>	<b>2,335</b>	<b>7.06%</b>	<b>2,670</b>	<b>14.35%</b>

As of November 30, 2018

## MTA Bridges & Tunnels

Revenue Passengers	2015-2016	2016-2017	% Change	2017-2018	% Change
November	24,808,987	25,130,058	1.29%	25,955,869	3.29%
December	25,398,337	25,273,158	-0.49%	25,737,055	1.84%
January	22,206,860	23,452,652	5.61%	23,731,837	1.19%
February	22,379,445	21,620,767	-3.39%	22,742,698	5.19%
March	25,678,007	24,595,618	-4.22%	25,672,596	4.38%
April	25,460,062	25,354,830	-0.41%	26,519,055	4.59%
May	27,041,559	26,717,750	-1.20%	28,226,943	5.65%
June	27,281,473	27,133,265	-0.54%	28,546,822	5.21%
July	27,279,840	27,530,620	0.92%	28,561,622	3.74%
August	27,620,446	28,271,494	2.36%	29,280,095	3.57%
September	26,043,256	26,559,138	1.98%	27,174,912	2.32%
<b>October</b>	<b>26,022,431</b>	<b>27,068,258</b>	<b>4.02%</b>	<b>28,301,354</b>	<b>4.56%</b>
<b>Year-to-Date</b>	<b>257,013,379</b>	<b>258,304,392</b>	<b>0.50%</b>	<b>268,757,934</b>	<b>4.05%</b>

12 Month Averages	2015-2016	2016-2017	% Change	2017-2018	% Change
November	24,731,699	25,628,481	3.63%	25,794,452	0.65%
December	24,831,676	25,618,050	3.17%	25,833,110	0.84%
January	24,933,640	25,721,866	3.16%	25,856,375	0.52%
February	25,133,288	25,658,642	2.09%	25,949,869	1.14%
March	25,286,734	25,568,443	1.11%	26,039,618	1.84%
April	25,339,651	25,559,674	0.87%	26,136,636	2.26%
May	25,383,063	25,532,690	0.59%	26,262,402	2.86%
June	25,478,131	25,520,339	0.17%	26,380,199	3.37%
July	25,509,706	25,541,238	0.12%	26,466,116	3.62%
August	25,546,414	25,595,492	0.19%	26,550,166	3.73%
September	25,618,620	25,638,482	0.08%	26,601,480	3.76%
<b>October</b>	<b>25,601,725</b>	<b>25,725,634</b>	<b>0.48%</b>	<b>26,704,238</b>	<b>3.80%</b>

Average Weekday Crossings	2015-2016	2016-2017	% Change	2017-2018	% Change
November	853,314	861,615	0.97%	894,676	3.84%
December	844,618	858,227	1.61%	888,990	3.58%
January	790,094	807,271	2.17%	798,165	-1.13%
February	803,140	802,086	-0.13%	860,306	7.26%
March	845,050	812,009	-3.91%	833,828	2.69%
April	864,797	871,220	0.74%	900,145	3.32%
May	897,859	893,394	-0.50%	945,637	5.85%
June	921,464	922,040	0.06%	966,001	4.77%
July	907,622	911,478	0.42%	942,183	3.37%
August	900,785	921,318	2.28%	959,355	4.13%
September	889,931	911,981	2.48%	927,055	1.65%
<b>October</b>	<b>866,829</b>	<b>895,418</b>	<b>3.30%</b>	<b>930,110</b>	<b>3.87%</b>

As of November 30, 2018

# Fuel Hedge Program

# Current ULSD Hedges

Date	Gallons Hedged	Percent of Expected Gallons Purchased	Weighted Average Hedge Price for Each Month	2019 Preliminary Budget (July Plan) Forecasted Commodity Price	2019 Final Proposed Budget (November Plan) Forecasted Commodity Price
December-18	2,815,410	51	1.69	2.15	2.22
January-19	2,751,962	47	1.70	2.10	2.20
February-19	2,534,159	50	1.71	2.10	2.20
March-19	2,971,410	52	1.75	2.10	2.20
April-19	2,688,973	51	1.79	2.10	2.20
May-19	2,945,814	48	1.84	2.10	2.20
June-19	3,000,248	50	1.89	2.10	2.20
July-19	3,009,714	50	1.94	2.10	2.20
August-19	3,073,135	50	1.99	2.10	2.20
September-19	2,859,736	50	2.04	2.10	2.20
October-19	2,898,737	50	2.08	2.10	2.20
November-19	2,665,002	50	2.08	2.10	2.20
December-19	2,513,217	46	2.10	2.10	2.20
January-20	2,427,569	42	2.11	2.05	2.19
February-20	1,908,720	37	2.13	2.05	2.19
March-20	1,890,714	33	2.15	2.05	2.19
April-20	1,547,409	29	2.17	2.05	2.19
May-20	1,530,426	25	2.16	2.05	2.19
June-20	1,247,508	21	2.17	2.05	2.19
July-20	1,003,077	17	2.17	2.05	2.19
August-20	768,099	12	2.15	2.05	2.19
September-20	476,432	8	2.08	2.05	2.19
October-20	243,127	4	1.92	2.05	2.19

# Annual Impact as of November 27, 2018

	<u>(\$ in millions)</u>		
	<u>2018</u>	<u>2019</u>	<u>2020</u>
<b><u>Ultra Low Sulfur Diesel</u></b>			
Current Prices vs. 2018 Adopted Budget	(\$35.506)	(\$17.540)	\$7.514
Impact of Hedge	<u>14.476</u>	<u>(2.059)</u>	<u>(2.024)</u>
<b>Net Impact: Fav/(Unfav)</b>	(\$21.031)	(\$19.599)	\$5.490
<b><u>Compressed Natural Gas</u></b>			
Current Prices vs. 2018 Adopted Budget	(\$7.446)	(\$10.635)	(\$2.549)
Impact of Hedge	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>
<b>Net Impact: Fav/(Unfav)</b>	(\$7.446)	(\$10.635)	(\$2.549)
<b><u>Summary</u></b>			
Current Prices vs. 2018 Adopted Budget	(\$42.952)	(\$28.175)	\$4.965
Impact of Hedge	<u>14.476</u>	<u>(2.059)</u>	<u>(2.024)</u>
<b>Net Impact: Fav/(Unfav)</b>	(\$28.476)	(\$30.234)	\$2.941

**December 2018**  
**MTA REAL ESTATE**  
**FINANCE COMMITTEE AGENDA ITEMS**

**1. ACTION ITEMS**

**MTA METRO-NORTH RAILROAD**

- a. Acquisition of property from HPH Fleetwood LLC for commuter parking at the Fleetwood Station in Mount Vernon, New York

**MTA NEW YORK CITY TRANSIT**

- b. Proposed Board policy on protective leasing in connection with the acquisition of property for the Canarsie tunnel rehabilitation
- c. License agreement with MCU for automated teller machines at various NYCT employee facilities
- d. Option to renew lease with Jomat LLC for employee parking in Brooklyn, New York

**2. INFORMATION ITEMS**

- a. Status report on month-to-month licenses
- b. Status report on Grand Central Terminal Vanderbilt Hall events
- c. Status report on Grand Central Terminal Graybar Passage retail kiosks

<b>Legal Name</b>	<b>Popular Name</b>	<b>Abbreviation</b>
New York City Transit Authority	MTA New York City Transit	NYC Transit
The Long Island Rail Road Company	MTA Long Island Rail Road	LIRR
Metro-North Commuter Railroad Company	MTA Metro-North Railroad	MNR
Triborough Bridge and Tunnel Authority	MTA Bridges and Tunnels	MTA B&T
MTA Capital Construction Company	MTA Capital Construction	MTACC
MTA Bus Company	MTA Bus Company	MTA Bus

*Staten Island Rapid Transit Operating Authority is a subsidiary of the Metropolitan Transportation Authority. Its popular name is MTA Staten Island Railway (abbreviated as SIR).*

*Manhattan and Bronx Surface Transit Operating Authority is a subsidiary of the New York City Transit Authority (abbreviated as MaBSTOA).*

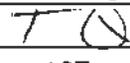
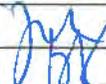
# **MTA METRO NORTH RAILROAD**

# Staff Summary

<b>Subject</b> ACQUISITION OF PROPERTY IN MOUNT VERNON, NY
<b>Department</b> REAL ESTATE
<b>Department Head Name</b> JOHN N. LIEBER
<b>Department Head Signature</b> 
<b>Project Manager Name</b> ANTHONY CAMPBELL

<b>Date</b> DECEMBER 10, 2018
<b>Vendor Name</b>
<b>Contract Number</b>
<b>Contract Manager Name</b>
<b>Table of Contents Ref. #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	MNR Committee	12/12/18		X	
2	Finance Committee	12/10/18	X		
3	Board	12/12/18	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal 		
2	Chief Development Officer 		
3	Chief Financial Officer 		
4	Chief of Staff 		

AGENCY: MTA Metro-North Railroad ("Metro-North")  
 SELLER: HPH Fleetwood LLC ("HPH")  
 LOCATION: MacQuesten Parkway, Mount Vernon, NY

ACTIVITY: Acquisition of the fee simple title to the Property, as is  
 ACTION REQUESTED: Authorization to acquire property  
 PROPERTY: Approximately .53 acres of land with improvements consisting of Section 165.21 Block 1052 Lot 2.1, Section 165.21 Block 1052 Lot 2.3 and Section 165.22 Block 1052 Lot 4 (collectively referred to as the "Property")  
 PURCHASE PRICE: \$2,500,000

**COMMENTS:**

Metro-North seeks to acquire the Property to provide parking for commuters at the Fleetwood Station (the "Station"). The Property is currently operating as a surface parking lot with approximately 125-130 spaces supporting Metro-North's Harlem Line commuters. The Property has been identified as an important location to preserve for Metro-North's current parking facility needs and for future development as there is a limited capacity of unimproved real estate located near the Station.

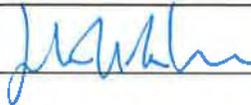
Based upon the fair market value appraisal obtained by MTA Real Estate, the Purchase Price being paid, after negotiations with HPH, is below the appraised value for the Property.

Metro-North's Environmental Compliance and Services Department completed an environmental site assessment and it was determined that no remedial action is necessary. The purchase of this Property is exempt from SEQRA under section 1266(11) of the Public Authorities Law, as it involves an expansion of an existing transportation use on a contiguous property of less than 10 acres.

Based on the foregoing, MTA Real Estate requests authorization for Metro-North to enter into a contract of sale for the purchase of the Property and to acquire the Property on the above terms and conditions.

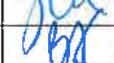
# **MTA NEW YORK CITY TRANSIT**

# Staff Summary

<b>Subject</b> <b>BOARD POLICY ON PROTECTIVE LEASING FOR CANARSIE TUNNEL REHABILITATION</b>
<b>Department</b> <b>REAL ESTATE</b>
<b>Department Head Name</b> <b>JOHN N. LIEBER</b> 
<b>Department Head Signature</b>
<b>Project Manager Name</b> <b>ANGELA SZU</b>

<b>Date</b> <b>DECEMBER 10, 2018</b>
<b>Vendor Name</b>
<b>Contract Number</b>
<b>Contract Manager Name</b>
<b>Table of Contents Ref. #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance CommIttee	12/10/18	X		
2	Board	12/12/18	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal		
2	Chief Development Officer		
3	Chief Financial Officer		
4	Chief of Staff		

AGENCY: MTA New York City Transit ("NYCT")/The Metropolitan Transportation Authority ("MTA")  
 PROPERTY: Various  
 ACTIVITY: Protective leasing of voluntarily vacated commercial properties  
 ACTION REQUESTED: Approval of proposed policy on protective leasing

**COMMENTS:**

This is a request for Board authorization to negotiate and enter into protective lease agreements for purposes of securing vacant commercial parking spaces in support of the Canarsie Tunnel Rehabilitation Project (the "Project").

The Project is a federally assisted project, and all entities receiving Federal financial assistance for public programs and projects, that require acquisition of real property, must comply with the policies and provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act (the "URA") and related federal regulations. The URA was passed by Congress to promote uniformity and fairness when a transit agency must acquire property or displace persons and businesses. In accordance with the URA, which considers relocations that exceed one year as permanent displacements, MTA/NYCT must provide all eligible displaced persons and businesses with relocation advisory assistance. Non-business commercial occupants that are relocated as a result of the Project may be entitled to benefits such as moving and related costs and fixed payment, and business occupants may be entitled to additional benefits such as re-establishment costs. The URA also requires that the MTA provide general relocation information notices to property occupants at least 90 days in advance of the Project's need of the property. Occupants may, but are not required to, vacate when a suitable location has been secured prior to the end of the 90-day advance notice period.

In support of the Project's plan, the MTA/NYCT will be acquiring property interests for additional storage capacity required by the temporary bus fleet expansion. One of the properties will be used by NYCT as a receiving site for bus fleet deliveries, scheduled to begin prior to end of the 90-day window. As commercial occupants begin to vacate, parking areas become available to the open market prior to NYCT's official occupancy. Therefore, it is prudent for MTA/NYCT to rent the voluntarily vacated parking areas to ensure vacancy at the end of the 90-day window and eliminate the need to relocate any additional occupants that park on the site during the 90-day window. Since MTA Real Estate's fast track URA compliant relocations and NYCT's bus fleet acceptance will be simultaneously implemented in the months leading up to the L train tunnel closure, it will be impractical to secure Board approval prior to every protective lease transaction. This arrangement, when implemented, will be in a form approved by the Legal Department, provide market rate compensation to be determined on a case by case basis, and be limited to space designated for acquisition for the Project or to provide replacement space for persons or businesses displaced by the Project.

# Staff Summary

## FINANCE COMMITTEE MEETING

### BOARD POLICY ON PROTECTIVE LEASING FOR CANARSIE TUNNEL REHABILITATION (Cont'd.)

Page 2 of 2

Any agreements entered into pursuant to this procedure will be reported to the Finance Committee in chart form the following month.

## **BOARD RESOLUTION**

**WHEREAS**, MTA New York City Transit (“NYCT”) will require property for additional bus storage and as a receiving site for new bus fleet deliveries necessitated by a temporary bus fleet expansion to support alternative bus service during the Canarsie Tunnel Reconstruction Project (the “Project”);

**WHEREAS**, the Project must comply with the policies and provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act (the “URA”) and related federal regulations, which considers relocations that exceed one year as permanent displacements, and requires that the NYCT provide general relocation information notices to property occupants at least 90 days in advance of the Project’s need of the property;

**WHEREAS**, property occupants may voluntarily vacate prior to the end of the 90-day advance notice period;

**WHEREAS**, it is in the best interests of NYCT to have the ability to rent any voluntarily vacated property to ensure vacancy at the end of the 90-day window and eliminate the need to relocate any additional occupants that park on the property during the 90-day window for properties designated for acquisition for the Project or to provide replacement property for persons or businesses displaced by the Project;

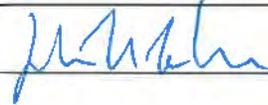
**WHEREAS, NYCT’s ability to secure the vacated properties on a fast track basis and to comply with the URA will make it impractical to seek Board approval prior to entering into every protective leasing transaction and, as such, the Board is adopting this Resolution to provide approval in advance for any and all such protective leasing transactions entered into for** properties designated for acquisition for the Project or to provide replacement property for persons or businesses displaced by the Project,

### **NOW, THEREFORE BE IT**

**RESOLVED**, that the Board hereby authorizes the MTA’s Director, Real Estate Transactions and Operations or designated staff member to negotiate and enter into license or other rental agreements on behalf of MTA New York City Transit’s Canarsie Tunnel Reconstruction Project for the purpose of securing commercial parking spaces which have been voluntarily vacated prior to MTA’s acquisition, each such agreement to be in a form approved by MTA Legal, provide for market rate compensation to be determined on a case by case basis by MTA Real Estate and be limited to space designated for acquisition for the Project or to provide replacement space for persons or businesses displaced by the Project. The Director, Real Estate Transactions and Operations will report each agreement entered into pursuant to this resolution to the Finance Committee, in chart form including location, term, rent, and the nature of the leased space (e.g. commercial; industrial), the month following its execution or shortly thereafter.

This Resolution will take effect immediately upon its adoption.

# Staff Summary

<b>Subject</b> <b>LICENSE AGREEMENT AT VARIOUS NYCT EMPLOYEE FACILITIES</b>
<b>Department</b> <b>REAL ESTATE</b>
<b>Department Head Name</b> <b>JOHN N. LIEBER</b>
<b>Department Head Signature</b> 
<b>Project Manager Name</b> <b>ARTURO ESPINOZA</b>

<b>Date</b> <b>DECEMBER 10, 2018</b>
<b>Vendor Name</b>
<b>Contract Number</b>
<b>Contract Manager Name</b>
<b>Table of Contents Ref. #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance Committee	12/10/18	X		
2	Board	12/12/18	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal		
2	Chief Development Officer		
3	Chief Financial Officer		
4	Chief of Staff		

AGENCY: MTA New York City Transit ("NYCT")  
 LICENSEE: Municipal Credit Union ("MCU")  
 LOCATION: Twelve NYCT employee facilities throughout New York City  
 ACTIVITY: Operation of automated teller machines ("ATMs")  
 ACTION REQUESTED: Authorization to enter into a license agreement covering all twelve locations  
 TERM: 5 years, terminable at will by NYCT on 60 days' notice, at no cost  
 COMPENSATION:

Year	Total Annual Compensation	Total Monthly Compensation	% Increase
1	\$43,100.00	\$3,592.00	%
2	\$44,033.00	\$3,669.42	2.16%
3	\$44,993.99	\$3,749.50	2.18%
4	\$45,983.81	\$3,831.98	2.20%
5	\$47,003.32	\$3,916.94	2.22%

**COMMENTS:**

The MTA Real Estate Department was approached by NYCT employees and managers at several NYCT facilities requesting the installation of an MCU ATM at their respective employee-reporting locations citing the existing placement of MCU ATMs at 207 Street Yard and Coney Island Yard, where a majority of employees are MCU members.

The existing licenses with MCU for ATMs at all existing locations have expired (and are on month-to-month holdovers) and the new agreement will cover all of the expired locations plus the new locations indicated on the chart below. MTA Real Estate issued non-competitive solicitations in the form of a Request For Proposals throughout 2018 to MCU for all of the existing locations and new locations requested by NYCT. MCU's offers matched the suggested annual compensation amounts stated in the solicitations.

# Staff Summary

## FINANCE COMMITTEE MEETING LICENSE AGREEMENT AT VARIOUS NYCT EMPLOYEE FACILITIES (Cont'd.)

A summary of MCU's offers by location is listed below:

Facility Location	Borough	Suggested Annual Compensation	MCU's Offer	Annual Escalation
Kingsbridge Depot	Bronx	\$3,500	\$3,500	0%
Fresh Pond Depot	Queens	\$1,800	\$1,800	0%
Jackie Gleason Depot	Brooklyn	\$4,000	\$4,000	0%
Consolidated Revenue Facility*	Queens	\$1,200	\$1,200	0%
Rail Control Center*	Manhattan	\$1,500	\$1,500	0%
Grand Avenue Depot	Queens	\$1,250	\$1,250	3%
Zerega Depot	Bronx	\$1,250	\$1,250	3%
207 St Yard	Manhattan	\$3,100	\$3,100	3%
Coney Island Yard	Brooklyn	\$6,500	\$6,500	3%
Transit Adjudication Bureau	Brooklyn	\$1,250	\$1,250	3%
Westchester Yard*	Bronx	\$1,250	\$1,250	3%
Livingston Plaza	Brooklyn	\$16,500	\$16,500	3%

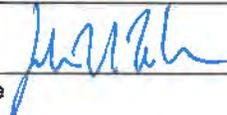
\*denotes new location

There are a limited and fixed number of employees at each location, many of whom would not be likely to patronize another bank's ATM due to transaction fees. The compensation amounts offered by MCU are in line with the independent valuation of the existing ATMs and were found to be fair and reasonable. In addition, MCU ATMs are part of the NYCE system. Employees who are not members will also have access to the ATM at their location, albeit for a transaction fee.

The license agreement will include a 60-day, at will, termination provision and will be prepared in a form approved by MTA Legal.

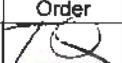
Based on the foregoing, MTA Real Estate requests authorization for NYCT to enter into a license agreement with Municipal Credit Union on the above-described terms and conditions.

# Staff Summary

<b>Subject</b> <b>OPTION TO RENEW LEASE FOR EMPLOYEE PARKING IN BROOKLYN</b>
<b>Department</b> <b>REAL ESTATE</b>
<b>Department Head Name</b> <b>JOHN N. LIEBER</b>
<b>Department Head Signature</b> 
<b>Project Manager Name</b> <b>MICHAEL DANIELS</b>

<b>Date</b> <b>DECEMBER 10, 2018</b>
<b>Vendor Name</b>
<b>Contract Number</b>
<b>Contract Manager Name</b>
<b>Table of Contents Ref. #</b>

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance Committee	12/10/18	X		
2	Board	12/12/18	X		

Internal Approvals			
Order	Approval	Order	Approval
1	Legal		
2	Chief Development Officer		
3	Chief of Staff		
4	Chief Financial Officer		

**AGENCY:** MTA New York City Transit Authority ("NYCT")  
**LESSOR:** JOMAT LLC, Successor in interest to It's A Middle, LLC  
**LOCATION:** West 13<sup>th</sup> Street, Brooklyn near former PS 248  
**CURRENT USE:** Parking spaces to support adjacent 24/7 training facility  
**ACTION REQUESTED:** Authorization to exercise renewal option  
**TERM:** 5/1/2019 - 4/30/24  
**PROPERTY:** Paved lot of approximately of 1,800 sq. ft. (approximately 10 parking spaces) consisting of Block 7114, Lot 52  
**COMPENSATION:**

5/1/19 - 4/30/20	\$7,309.34
5/1/20 - 4/30/21	\$7,418.98
5/1/21 - 4/30/22	\$7,530.26
5/1/22 - 4/30/23	\$7,643.22
5/1/23 - 4/30/24	\$7,757.87

**REAL ESTATE TAXES:** Exempt  
**REPAIRS AND MAINTENANCE:** Tenant's responsibility

**COMMENTS:**

MTA Real Estate Department, on behalf of NYCT, submitted a Staff Summary to the June, 2014 Board for approval of a lease between It's A Middle, LLC, the predecessor in interest to JOMAT LLC, and NYCT for parking spaces. That Staff Summary omitted the option to renew the lease, which provides for a 1.5% increase in rent. MTA Real Estate determined, at that time, the increase was market. The option to renew the lease must be exercised no later than 90-days before the expiration of the lease (i.e. by the end of January 2019). At this time NYCT has indicated its need to continue to use the premises for parking.

Based on the foregoing, MTA Real Estate requests authorization for NYCT to exercise the option to renew the lease for a term of 5-years. All remaining terms and conditions continue unchanged.

# Staff Summary

Subject <b>LEASE</b>
Department <b>REAL ESTATE</b>
Department Head Name <b>JEFFREY B. ROSEN</b>
Department Head Signature
Project Manager Name <b>MICHAEL DANIELS</b>

Date <b>JUNE 23, 2014</b>
Vendor Name
Contract Number
Contract Manager Name
Table of Contents Ref. #

Board Action					
Order	To	Date	Approval	Info	Other
1	Finance Committee	06/23/14	X		
2	Board	06/25/14	X		

Internal Approvals			
Order	Approval	Order	Approval
		1	Legal <i>AL</i>
3	Chief of Staff <i>MS</i>		
2	Chief Financial Officer <i>MS</i>		

AGENCY: MTA New York City Transit Authority ("NYCT")

LESSOR: IT'S A MIDDLE, LLC

LOCATION: Brooklyn, Block 7114, Lot 52 (West 13th Street, near former PS 248)

CURRENT USE: Parking spaces to support adjacent 24/7 training facility

ACTION REQUESTED: Approval of lease terms

TERM: 5/1/2014 – 4/30/2019

SPACE: Paved lot of approximately of 1,800 sq. ft. containing approximately 10 parking spaces

COMPENSATION: 5/1/14 – 4/30/15 \$6,783.84 per annum  
 5/1/15 – 4/30/16 \$6,886.68 per annum  
 5/1/16 – 4/30/17 \$6,990.00 per annum  
 5/1/17 – 4/30/18 \$7,094.88 per annum  
 5/1/18 – 4/30/19 \$7,201.32 per annum

REAL ESTATE TAXES: Will file with the City of New York for a tax exemption, because NYCT will occupy 100% of the premises. To date, as a month to month tenant, NYCT was not responsible for taxes.

REPAIRS AND MAINTENANCE: Tenant responsibility

**COMMENTS:**

Due to limited parking in the surrounding area, NYCT has leased the parking lot, adjacent to NYCT's Subways Learning Center ("Learning Center"), for parking since 1994, currently via a month-to-month agreement. The new Lessor has requested that the month-to-month arrangement be replaced with a five-year term lease. MTA Real Estate's brokerage consultant has confirmed that the proposed rent is well within the market range for the property's size and use.

The Learning Center is open 24/7 with classes daily and nightly during the week, and classes on weekends. The Learning Center is utilized by NYCT's Infrastructure, Rapid Transit Operations, Stations, Car Equipment and Supply Logistics groups. Track safety and track flagging courses are the primary courses given at this school, but the facility is also utilized by the NYC Police Department's human resources testing section in relation to transit functions.

Based on the foregoing, MTA Real Estate requests authorization to enter into a lease on the above-described terms and conditions.

# **INFORMATION ITEMS**

# Memorandum



## Metropolitan Transportation Authority

State of New York

**Date** December 10, 2018

**To** Members of the Finance Committee

**From** John N. Lieber, Chief Development Officer

**Re** **Status of Month-to-Month Licenses for Passenger Amenities**

---

In June 1988 and later modified November 12, 2013, the MTA Board adopted policy #9, which allows the Real Estate Department to enter into month-to-month agreements for “passenger service oriented concessions without individual Committee or Board approval”. Attached is a status report of month-to-month agreements, which were executed pursuant to the policy.

**NEW HOLDOVER TENANTS WHOSE AGREEMENTS HAVE RECENTLY BEEN EXTENDED**

**PENDING A REQUEST FOR PROPOSALS**

**Month: December, 2018**

NONE TO REPORT

# Memorandum



## Metropolitan Transportation Authority

State of New York

**Date** December 10, 2018  
**To** Members of the Finance Committee  
**From** John N. Lieber, Chief Development Officer  
**Re** **GCT's Vanderbilt Hall Events Forecast**

---

The following report will be presented to the Real Estate Committee by GCT Development on a monthly basis. The events forecast will show events planned for Vanderbilt Hall in the next three to four month period. This calendar will always be subject to last minute changes for technical or scheduling reasons.

<b>Vanderbilt Hall Events – November 2018 - January 2019</b>				
<b>Event</b>	<b>Date</b>	<b>Description</b>	<b>Space</b>	<b>Use</b>
Holiday Fair	November 4 - December 29, 2018	Annual Holiday Fair with 40 vendors Load in November 4 - 9 Vendor Load in November 10 - 11 Open November 12 - December 24 (Closed Thanksgiving) Vendor Load Out December 26 Booth Load out by December 29	Vanderbilt Hall	Public
Tournament of Champions Squash	January 10 – January 26	22nd edition of world’s best known, top level professional squash championship using a portable glass court and 425 bleacher seats.	Vanderbilt Hall	Public

# Memorandum



## Metropolitan Transportation Authority

State of New York

**Date** December 10, 2018  
**To** Members of the Finance Committee  
**From** John N. Lieber, Chief Development Officer  
**Re** **GCT – Graybar Passage Retail Kiosks**

---

The following report will be presented by GCT Development office of the Real Estate Department whenever a new retail Permit Agreement has been entered into under the Retail Kiosk program approved by the MTA Board in January 2006.

**GRAND CENTRAL TERMINAL**

**GRAYBAR PASSAGE RETAIL KIOSK PROGRAM**

**Licensees: November 1, 2018 - January 31, 2019**

<b>Licensee</b>	<b>License Dates</b>	<b>Use</b>	<b>Monthly Compensation</b>
<b>Ace &amp; Everett Inc.</b>	11/1/18 - 1/31/2019	Retail sale of licensee produced SOCKS	\$6000 Nov/Dec \$3100 Jan
<b>Ela Rae Jewelry LLC</b>	11/1/18 - 1/31/2019	Retail sale of licensee produced JEWELRY	\$6000 Nov/Dec \$3100 Jan
<b>OBdeC Studio LLC</b>	11/1/18 - 1/31/2019	Retail sale of licensee produced JEWELRY	\$6000 Nov/Dec \$3100 Jan
<b>Neuhaus Inc.</b>	11/1/18 - 1/31/2019	Retail sale of licensee produced BELGIAN CHOCOLATES	\$6000 Nov/Dec \$3100 Jan
<b>Volang Inc.</b>	11/1/18 - 1/31/2019	Retail sale of licensee produced KNITWEAR	\$6000 Nov/Dec \$3100 Jan