

PMOC MONTHLY REPORT

Second Avenue Subway Phase 1 (MTACC-SAS) Project

Metropolitan Transportation Authority

New York, New York

Report Period April 1 to April 30, 2017



PMOC Contract No. DTFT60D1400017

Project No. DC-27-5287, Task Order No. 0002, Work Order No. 04

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Length of time on Project: Five years on Project for Urban Engineers

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THIRD PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for the Federal Transit Administration (FTA). This report should not be relied upon by any party, except the FTA or the project sponsor, in accordance with the purposes as described below:

For projects funded through the FTA's Full Funding Grant Agreement (FFGA) program, the FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's cost, budget, and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution.

Therefore, the information in the monthly reports may change from month to month, based on relevant factors for the current month and/or previous months.

REPORT FORMAT AND FOCUS

This monthly report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60D1400017, Task Order 0002. Its purpose is to provide information and data to assist the FTA as it continually monitors the Project Sponsor's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development.

This report covers the project management activities on the Second Avenue Subway (SAS) Phase 1 Project managed by Metropolitan Transit Authority Capital Construction (MTACC) of New York City (NYC). MTA is the Project Sponsor, financed by the FTA FFGA.

MONITORING REPORT

1.0 PROJECT STATUS

On January 1, 2017, the Second Avenue Subway (SAS) Phase 1 Project began Revenue Service. The project, however, has not reached substantial completion. Corrections of open inspection observations and testing of various system elements are ongoing. Overall project completion is forecasted for November 30, 2017, and is being driven by the Systems contractor's schedule.

Total project expenditures as of April 30, 2017, are \$4.269 billion. This is 95.9% of MTACC's Current Working Budget of \$4.451 billion (exclusive of financing costs). The total remaining contingency is \$46.0 million. A revised cost Estimate at Completion (EAC) is being prepared by MTACC to determine if the remaining budget is adequate, given the scope of the open inspection observations, the level of testing still required, and the probability of future claims.

a. Procurement

All ten of the construction contracts for SAS Phase 1 have been awarded.

b. Construction

Forecast Substantial and Project Completion dates are from MTACC's April 27, 2017, Schedule Progress Meeting documentation and Excel Project Schedule updated March 31, 2017.

As of April 30, 2017, there are eight (8) active contracts on the SAS Phase 1 Project of which two are in the closeout process. Overall construction is 99.4% complete. The status of each is as follows:

- **Contract C-26005 (C2A) 96th Street Site Work and Heavy Civil**
The Contractor achieved Substantial Completion on November 5, 2013. Contract closeout has been delayed because of NYCDEP field inspections. The inspections are being performed to verify that the work is as reflected on the revised "As-Built-Drawings". Closeout of the contract did not occur as anticipated by the end of the 4Q2016. The CM's efforts are ongoing to confirm a closeout date.
- **Contract C-26010 (C2B) 96th Street Station Civil, Architectural, and MEP**
During April 2017, the contractor continued closeout of open observations and testing of mechanical, electrical, and plumbing systems. As of April 30, 2017, there are 2,242 discrepancies that need to be addressed, which is up from 2,050 the previous month. Expenditures show the contractor at 99.3% complete. Substantial Completion, as reported at the April 27, 2017, SAS Budget/Schedule Meeting, is now forecasted for June 30, 2017. Final completion is forecasted for September 28, 2017.
- **Contract C-26006 (C3) 63rd Street Station Rehabilitation**
During March 2017, the contractor continued closeout of open observations and testing of mechanical, electrical, and plumbing systems. As of April 30, 2017, there are 981 discrepancies that need to be addressed, which is down from 1,244 the previous month. Expenditures show the contractor at 99.0% complete. Substantial Completion, as reported at the April 27, 2017, SAS Budget/Schedule Meeting, is now forecasted for June 30, 2017. Final completion is forecasted for September 28, 2017.

- **Contract C-26007 (C4B) 72nd Street Station Cavern Mining and Lining**
 Substantial Completion was achieved on January 14, 2014. Submittal of contract closeout documentation and completion of punchlist items are ongoing.
- **Contract C-26011 (C4C) 72nd Street Station – Station Finishes, MEP, Ancillary Buildings and Entrances**
 During April 2017, the contractor continued closeout of open observations and testing of mechanical, electrical, and plumbing systems. As of April 30, 2017, there are 2,606 discrepancies that need to be addressed, which is down from 2,882 the previous month. Expenditures show the contractor at 97.4% complete. Substantial Completion, as reported at the April 27, 2017, SAS Budget/Schedule Meeting, is now forecasted for September 1, 2017. Final completion is forecasted for November 30, 2017.
- **Contract C-26008 (C5B) 86th Street Station Cavern Mining and Lining**
 Substantial Completion of all contract work was achieved on December 16, 2014. Contract closeout is ongoing.
- **Contract C-26012 (C5C) 86th Street Station Finishes, MEP Systems, Ancillary Buildings and Entrances**
 During April 2017, the contractor continued closeout of open observations and testing of mechanical, electrical, and plumbing systems. As of April 30, 2017, there are 1,139 discrepancies that need to be addressed, which is down from 1,244 the previous month. Expenditures show the contractor at 98.2% complete. Substantial Completion, as reported at the April 27, 2017, SAS Budget/Schedule Meeting, is now forecasted for June 30, 2017. Final completion is forecasted for September 28, 2017.
- **Contract C-26009 (C6) Track, Power, Signals and Communication Systems**
 During April 2017, the contractor continued closeout of discrepancies, installation of equipment, and integration testing of communication systems. As of April 31, 2017, the number of open discrepancies decreased to 2,223 from the previous month of 2,238. Expenditures show the contractor at 98.7% complete. Substantial Completion, as reported at the April 27, 2017, SAS Budget/Schedule Meeting, is now forecasted for November 20, 2017. Final completion is forecasted for February 18, 2018.

c. Quality

Quality Assurance and Quality Control (QA/QC)

Status:

As of April 30, 2017, a total of 6,294 discrepancies are on the “Observations Lists” that need to be addressed on the five contracts that have not achieved Substantial Completion. This is a reduction of 3,486 discrepancies from the previous month, when there were 9,780. The status of the manuals and “As-Built-Drawings” is as follows:

Preliminary O&M Manuals

| | Stations | Systems |
|---------------------|-------------|------------|
| Required | 187 | 65 |
| Submitted | 187 (100%) | 25 (38.0%) |
| Approved | 125 (67.0%) | 13 (20.0%) |
| Returned R&R | 23 (13.0%) | 10 (15.0%) |
| Under Review (NYCT) | 39 (20.0%) | 2 (3.0%) |
| To be Submitted | 0 | 40 (62.0%) |

Training Manuals

| | Stations | Systems |
|---------------------|------------|------------|
| Required | 103 | 51 |
| Submitted | 95 (93.0%) | 23 (45.0%) |
| Approved | 35 (34.0%) | 19 (37.0%) |
| Returned R&R | 7 (6.0%) | 4 (8.0%) |
| Under Review (NYCT) | 53 (51.0%) | 0 (0.0%) |
| To be Submitted | 8 (7.0%) | 28 (55.0%) |

As-Built-Drawings

| | Stations | Systems |
|---------------------|----------------|---------------|
| Required | 7,034 | 4,175 |
| Submitted | 5,505 (78.0%) | 353 (8.0%) |
| Reviewed | 3,122 (44, 0%) | 263 (6.0%) |
| Approved | 879 (12.0%) | 229 (5.0%) |
| Returned R&R | 2,243 (32.0%) | 34 (0.8 %) |
| Under Review (NYCT) | 2,521 (36.0%) | 90 (2.0%) |
| To be Submitted | 1,529 (22.0%) | 3,822 (92.0%) |

Observations:

Quality Assurance/Quality Control support is ongoing on the Second Avenue Subway. Currently there are five Quality Engineers and twenty field engineers assigned. Efforts are directed towards the resolution of discrepancies on the “Observations Lists”, performing inspections of base and AWO work, and reviewing of preliminary O&M Manuals, Training Manuals, and “As-Built-Drawings”.

Concerns and Recommendations:

The large number of discrepancies is a concern to the PMOC. Such a large number of discrepancies indicate a breakdown in the contractors' quality assurance program, the subcontractors' quality control program, and that quality was compromised for schedule acceleration. MTACC's Project Procedure No. CO.10 (Beneficial Use, Substantial Completion and Final Completion) suggests that these items must be addressed before project completion can occur with subsequent turnover to the user group(s).

d. Readiness for Revenue Operation

Status:

All of the Revenue Service (RSD) +60 days code compliance issues were not resolved by March 1, 2017. Subsequently, Code Compliance reissued the temporary certificates with the revised stipulation that the outstanding issues had to be resolved by April 15, 2017. At the end of April 2017, there are still 6,492 discrepancies on the "Observation List", of which 2,450 were code compliance related. Construction Management is in the process of verifying that 1,057 of the code compliance discrepancies have been corrected, which will subsequently reduce the open code compliance discrepancies to 1,393.

Observations:

Resolution of the code compliance issues is taking longer than anticipated and is subsequently affecting substantial completion of the station and systems contracts.

Concerns and Recommendations:

The PMOC recommends that the MTA Code Compliance Office address the issue that not all the "RSD+60" observations were closed by April 15, 2017. This can be accomplished by reissuing the Temporary Code Compliance Certificates with a realistic date for closure of the RSD+60 issues.

2.0 SCHEDULE DATA

Status:

The table below reflects SAS Phase 1 schedule data presented at the April 27, 2017, Budget/Schedule Meeting.

| Road Map for Project and Grant Closeout | | | | | |
|--|-------------------------|-------------|-------------|-------------|------------|
| Description of Tasks | 63rd Street | 72nd Street | 86th Street | 96th Street | Systems |
| Required Prior to Substantial Completion | | | | | |
| 1. Outline of Proposed Schedule for submission of administrative items | 6/30/2017 | 9/1/2017 | 6/30/2017 | 6/30/2017 | 11/20/2017 |
| 2. Completion of AWOs | 6/30/2017 | 7/31/2017 | 6/30/2017 | 6/30/2017 | 11/20/2017 |
| Substantial Completion | 6/30/2017 | 9/1/2017 | 6/30/2017 | 6/30/2017 | 11/20/2017 |
| 3. Final SAS Certification | <-----11/6/2017-----> | | | | |
| 4. Substantial Completion by Contract | 6/30/2017 | 9/1/2017 | 6/30/2017 | 6/30/2017 | 11/20/2017 |
| 5. Final Completion /Identify Closeout Schedule | 9/28/2017* | 11/30/2017* | 9/28/2017* | 9/28/2017* | 2/18/2018* |
| 6. Grant closeout | <-----5/19/2017**-----> | | | | |

*Plus 3 months from Substantial Completion per contract

**Plus 90 days from closeout

Observations:

Correction of discrepancies while the system is operational will require considerably more time. General Orders (GOs) for track outages or track foul time will be limited and of shorter durations, thus limiting what can be accomplished. Coordination/progress meetings are being held on a regular basis so adjustments can be made to minimize the impact on the schedule.

Concerns and Recommendation:

The PMOC recommends that coordination/progress meetings continue to be held on a regular basis so manpower adjustments can be made to minimize the impact on the schedule.

3.0 COST DATA

Status:

Total project expenditure as of April 30, 2017 is \$4.269 billion. This is 95.9% of MTACC's \$4.451 billion Current Working Budget (exclusive of financing costs).

Construction expenditures as of April 30, 2017, are \$2.656 billion. This is 99.3% of the \$2.674 billion construction budget. The completion status of each individual construction contract is as follows:

- C26002 (C1 Tunnel Boring) – 100.0%;
- C26005 (C2A 96th Street Station) – 100.0%;
- C26010 (C2B 96th Street Station) – 99.3%;
- C26013 (C5A 86th Street Station) – 100%;
- C26008 (C5B 86th Street Station) – 100%;
- C26012 (C5C 86th Street Station) – 98.2%;
- C26006 (C3 63rd Street Station) – 99.0%;
- C26007 (C4B 72nd Street Station) – 100.0%;
- C26011 (C4C 72nd Street Station) – 97.4% ; and,
- C26009 (C6 Systems) – 98.7%.

Soft Cost expenditures as of April 30, 2017, are \$1.275 billion, which is 92.7% of the \$1.377 billion budget.

Allocated contingency expenditures plus pending expenditures as of April 30, 2017, are \$344.9 million and are 93.0% of the \$371.4 million budget. The remaining total contingency is \$46.0 million, which consists of \$16.5 million allocated and \$29.5 million unallocated (management reserved).

Observations:

A revised cost Estimate at Completion (EAC) should be prepared to determine if the remaining budget/contingency is adequate given the scope of the discrepancies on the "Observation List", the level of testing still required, probability of future claims, and ongoing need for project support personnel.

Concerns and Recommendation:

The PMOC recommends expediting the completion of the revised EAC. If additional funds are required, the process to allocate the local funds identified in the amended FFGA should be initiated.

4.0 RISK MANAGEMENT

Status

At this stage of the project, risks are well understood by the SAS Project Team. Mitigations implemented to allow the start of revenue service are ongoing and continue to be monitored. See item 4 below.

Observation and Analysis:

Risks involving MTACC’s schedule acceleration initiative can be classified as either management and organizational risk or technical and coordination risk. Major risks within each of these categories are summarized as follows:

| Management and Organizational Risks | |
|--|--|
| Risk | Status |
| 1. MTACC’s ability to implement its schedule acceleration program through compression of construction schedules. | Revenue Service began on January 1, 2017. However, equipment installation and integration and acceptance testing is ongoing. Net point Schedules issued in January 2017 were replaced with Excel Spreadsheets in February 2017. The Excel Schedule Spreadsheets were updated in March 2017. Numerous activities were not statused. Schedule update will be a subject of discussion at the April 27, 2017, Budget/Schedule Program Meeting. Updated Excel Schedule Spreadsheets were not available for the April 2017 Budget/Schedule meeting. Revised dates were presented via a sheet titled Road Map for Project and Grant Completion (See Section 4.5 of this report for Substantial Completion and Final Completion dates. |
| 2. Design and scope changes requested by NYCT during the late stages of construction. NYCT has agreed that changes not related to safe operation of the railroad and station facilities will be deferred until after the start of Revenue Service. | MTACC continues to manage and mitigate this risk. No new design change AWOs were initiated during March 2017. Requested design changes that will be implemented should be included in the revised EAC. |
| 3. Availability of NYCT staff to support testing, commissioning, and final acceptance of work performed by SAS contractors. | Ongoing NYCT support is being provided subsequent to Revenue Service. This is being driven by efforts to resolve discrepancies on the “Observation List”, and completion of AWO and base contract work. |

| Management and Organizational Risks | | |
|--|---|--|
| | Risk | Status |
| 4. | MTA code compliance reviews. Past experience suggests that risks involve delayed inspections, unrealistic code interpretation, and disregard for project operational goals. | Revenue Service commenced on January 1, 2017, with unresolved code compliance issues. MTACC failed to resolve all the code compliance issues documented in NYCT's Certification for Temporary Certificate of Occupancy Memorandum dated December 29, 2016. Subsequently, the Office of Code Compliance reissued the certification with the revised stipulation that all RSD+60 critical observations now had to be resolved by April 15, 2017. At the end of April 2017, there are still 1,393 discrepancies on the "Observation List" which are code compliance related. Mitigation measures should be continued until the code compliance discrepancies are resolved. MTA Code Compliance Office should address the issue that not all the "RSD+60" observations were closed by April 15, 2017. This can be accomplished by reissuing the Temporary Code Compliance Certificates with a realistic date for closure of the RSD+60 issues. |
| Technical and Coordination Risks | | |
| | Risk | Status |
| 1. | Critical communication systems: fire alarm system, police radio installation, installation, and startup at all stations. | Adequate testing of all the interfaces to the fire alarm system continues as a major risk. The Systems Contractor's schedule shows substantial completion to be achieved on November 20, 2017. |

5.0 ELPEP

The SAS Project Team has implemented the principles and requirements embodied in the ELPEP. The procedural changes triggered by the ELPEP have become an integral part of the management of the project and have given the FTA/PMOC greater insight into the risk, cost, and schedule elements of the project. The project met the \$45 million ELPEP minimum available contingency requirement at the 100% Bid and 85% Constructed hold points.

6.0 SAFETY AND SECURITY

Each construction contractor continued implementation of the Safety Requirements as specified in Section 01 11 50 of the General Requirements.

As of March 31, 2017, a total of 15,049,788 construction hours have been logged on the project with 105 lost time and 196 recordable incidents documented. The total hours and incidents

equates to a Lost Time Rate (LTR) of 1.40 and a Recordable Rate (REC) of 4.00. The LTR is below and the REC is above the US Bureau of Labor Statistics (BLS) national rates (Heavy and Civil construction) of 1.8 and 3.2 respectively. Both the LTR and REC have been trending downward over the last twelve months.

Safety and Security Certification: Safety and Security Certification Requirements are specified in Section 01 77 12 of the General Requirements for each station and system contract. The certifiable elements of the SAS project have been identified and the Certifiable Items List (CIL) has been established and documented on checklists. The test reports that serve as the “Bodies of Evidence” for the verification of the certifiable items are not being issued in a timely manner. The delay in the issuance of the test reports caused the Systems Safety Certification Committee to deviate from the certification process. In December 2016, the SAS Systems Safety Certification Committee issued an Interim Acceptance Certificate of Conformance that allowed all SAS stations to open for revenue service on an interim basis until final system integration can be substantiated. Full certification for each station will be granted by the SAS Systems Safety Certification Committee upon evidentiary review of system integration provided by the Systems contractor’s management team, C-26009. Safety Certification is ongoing and final certification is anticipated on November 6, 2017.

7.0 ISSUES AND RECOMMENDATIONS

Schedule: Correction of discrepancies while the system is operational will require considerably more time. GOs for track outages and track foul time will be limited and of shorter durations, thus limiting what can be accomplished. Coordination/Progress meetings should be held on a regular basis so adjustments can be made to minimize the impacts on the schedule

Technical Issues: Design flaws have become apparent and have resulted in the need for mitigation actions. Errors and omissions in the design are being tracked by the project team and MTACC is considering seeking compensation from the designer. NYCT request for design features which are not in the station contractor’s contract are being evaluated with the expectation that NYCT will fund the addition features.

Systems Testing: Delays in completing the installation of equipment have had a ripple effect on the overall integration and test program. Updated projected schedule date April 27, 2017, shows some communication systems being tested as late as November 20, 2017.

Volume 2 of the Facilities System Test Program identifies the System Acceptance Phase (SAP) as the period after substantial completion (completion of FAT, FIAT, SIST and FSIT), when systems and subsystems will be operated to demonstrate that all interfaces and systems are functioning as designed and intended. The Road Map for Project and Grant Closeout presented at the April 27, 2017, Budget/Schedule Progress Meeting did not reflect the SAP. MTACC has stated that an addendum to the Facilities System Test Program (FSTP) will be issued. However, to date, the PMOC has not observed that the FSTP addendum has been issued or implemented.

Compliance Inspections: MTACC’s commitment to expedite the Compliance Inspection process is ongoing. Completion of work is being impacted because trains are operational.

Safety Certification: The test reports that serve as the “Bodies of Evidence” for the verification of the certifiable items had not being issued in a timely manner and this caused the Systems Safety Certification Committee to deviate from the certification process.

The SAS Safety Certification Committee agreed to the opening of the Second Avenue Subway stations for revenue service on an interim basis until final system integration can be substantiated. An Interim Acceptance Certificate of Conformance was issued on December 28, 2016. The PMOC notes that one committee member did not sign the Certificate of Conformance. The certification stated that “risk mitigation methods will be strictly enforced providing an equivalent efficacy of those final systems until full certification can be achieved. Full certification for each station will be granted by the SAS Certification Committee upon evidentiary review of system integration provided by the System C-26009 construction management team”.

The PMOC expressed its concern that the certification process had been circumvented. Objective evidence should have been presented as verification that the Certifiable Items List associated with each certifiable element at each station had been completed. Over the last two months efforts to obtain the test reports have been successful. Two hundred and seventy-two (272) of the required 300 test reports have now been received. Safety and Security Certification is ongoing and is projected to be completed by November 6, 2017.

Financial: As of April 30, 2017, \$4.269 billion (95.9) % of the MTACC’s Current Working Budget of \$4.451 billion (exclusive of financing costs), has been expended. MTACC has committed to revise the cost estimate at completion (EAC) in order to determine if the remaining budget is adequate, given the scope of the open inspection observations, the level of testing still required, pending AWOs, and the probability of future claims. As of April 30, 2017, the EAC has not yet been revised and provided to the FTA/PMOC. If additional funds are required, the process to allocate the local funds identified in the amended FFGA should be initiated.

APPENDIX A – ACRONYMS

| | |
|-------|---|
| ARRA | American Recovery and Reinvestment Act |
| AWO | Additional Work Order |
| BLS | Bureau of Labor Statistics |
| CBDS | Computer Based Dispatch System |
| CBH | Circuit Breaker House |
| CCM | Consultant Construction Manager |
| CCTV | Closed Circuit Television |
| CD | Calendar Days |
| CIL | Certifiable Items List |
| CMP | Cost Management Plan |
| CPRB | Capital Program Review Board |
| CSSR | Contact Status Summary Report |
| CWB | Current Working Budget |
| CY | Cubic Yards |
| DCB | Detailed Cost Breakdown |
| EAC | Estimate at Completion |
| EBCS | Emergency Booth Communication System |
| ELPEP | Enterprise Level Project Execution Plan |
| FAS | Fire Alarm System |
| FIAT | Field Installation Acceptance Test |
| FFGA | Full Funding Grant Agreement |
| FSIT | Final Systems Integrated Testing |
| FSTP | Facilities System Test Program |
| FTA | Federal Transit Administration |
| GO | General Orders |
| IAC | Intrusion Access Control |
| IPS | Integrated Project Schedule |
| LAN | Local Area Network |
| LTR | Lost Time Rate |
| MO | Month |
| MPT | Maintenance and Protection of Traffic |

| | |
|---------|--|
| MTA | Metropolitan Transportation Authority |
| MTACC | Metropolitan Transportation Authority – Capital Construction |
| N/A | Not Applicable |
| NYCT | New York City Transit |
| NYSPTSB | New York State Public Transportation Safety Board |
| OSS | NYCT Office of System Safety |
| PACIS | Public Address Customer Information Screens |
| PEP | Project Execution Plan |
| PMOC | Project Management Oversight Contractor (Urban Engineers) |
| PMP | Project Management Plan |
| PQM | Project Quality Manual |
| QA | Quality Assurance |
| RAMP | Real Estate Acquisition Management Plan |
| REC | Recordable Rate |
| RMCP | Risk Mitigation Capacity Plan |
| RMP | Risk Management Plan |
| RMS | Remote Monitoring System |
| ROD | Revenue Operations Date |
| ROW | Right of Way |
| RSD | Revenue Service Date |
| SAS | Second Avenue Subway |
| SCC | Standard Cost Category |
| SIST | Simulated Integrated System Testing |
| SMP | Schedule Management Plan |
| SSCC | Safety and Security Certification Committee |
| SSOA | State Safety Oversight Agency |
| SSPP | System Safety Program Plan |
| TBD | To Be Determined |
| TCC | Technical Capacity and Capability |
| TPSS | Traction Power Substation |
| TSSM | Tunnel Station Smoke Management |
| TWG | Technical Working Group |
| WAN | Wide Area Network (WAN) |

WBS Work Breakdown Structure
WD Work Days

APPENDIX B – TABLES

Table 1 - Summary of Schedule Dates

| | FFGA (March 2015) | Forecast Completion | |
|-----------------------|----------------------|---------------------|-----------------|
| | | Project Sponsor | PMOC |
| Begin Construction | January 1, 2007 | March 20, 2007A | March 20, 2007A |
| Construction Complete | August, 2016 | August 31, 2017* | October 2017 |
| Revenue Service | February 28, 2018 | January 1, 2016A | February 2018 |

* Substantial Completion revised to reflect Schedule Update dated February 22, 2017.

Table 2 - Project Budget/Cost 

| | FFGA | | | FFGA Amend | MTA Current Working Budget (CWB) | | Expenditures as of April 30, 2017 | |
|-------------------------------|-------------|------------|-------------------------|------------|----------------------------------|------------|-----------------------------------|------------|
| | \$ Millions | % of Total | Obligated (\$ Millions) | 3/17/2015 | \$ Millions | % of Total | \$ Millions | % of Total |
| Grand Total Cost | 4,866.614 | 100 | 4,572.942 | 5,574.614 | 5,267.614 | 100 | 4,268.783 | 81.04 |
| Financing Cost | 816.614 | 16.78 | | 816.614 | 816.614 | 15.50 | (N.A.) | (N.A.) |
| Total Project Cost | 4,050.000 | 83.22 | 4,572.942 | 4,758.000 | 4,451.00 | 84.50 | 4,268.783 | 81.04 |
| Total Federal | 1,350.693 | 27.75 | 1,063.942 | 1,373.893* | 1,350.693 | 24.60 | 1,298.578 | 24.65 |
| Total FTA share | 1,300.000 | 96.25 | 990.049 | 1,300.000 | 1,300.000 | 23.68 | 1,224.685 | 23.25 |
| 5309 New Starts share | 1,300.000 | 100 | 990.049 | 1,300.000 | 1,300.000 | 23.68 | 1,224.685 | 23.25 |
| Total FHWA share | 50.693 | 3.75 | 73.893 | 73.893 | 50.693 | 0.96 | 73.893 | 1.40 |
| CMAQ | 48.233 | 95.15 | 71.433 | 71.433 | 48.233 | 0.88 | 71.433 | 1.35 |
| Special Highway Appropriation | 2.460 | 4.85 | 2.460 | 2.460 | 2.460 | 0.04 | 2.460 | 0.05 |
| Total Local share | 2,699.307 | 55.47 | 3,509.000** | 3,384.107 | 3,509.000 ** | 63.92 | 2,970.205 | 56.39 |
| State share | 450.000 | 16.67 | 100.000 | | 450.000 | 8.20 | | |
| Agency share | 2,249.307 | 83.33 | 1,145.782 | | 3,059.000 | 55.72 | | |
| City share | 0 | 0 | | | 0 | 0 | | |

* Obligated and expended amounts obtained from the FTA's Transit Award Management System (TrAMS) and MTACC's Grant Management Department.

** Current MTA Board approved budget.

Table 3 - Estimate at Completion

| Category | Current Working Budget | EAC Forecast As of September 2016 |
|--------------------------------------|-------------------------------|--|
| Total Construction | \$2,674,814,299 | \$3,050,065,727 |
| Engineering Services Subtotal | \$622,862,000 | \$690,022,317 |
| Third Party Expenses | \$554,086,273 | \$556,586,000 |
| TA Expenses | \$131,160,085 | \$141,514,683 |
| Contingency | \$468,077,343 | \$0 |
| Total | \$4,451,000,000 | \$4,438,188,727 |

EAC is being updated to reflect current project status

Table 4 - Allocation of Current Working Budget to Standard Cost Categories

| Std. Cost Category (SCC) | Description | FFGA (January 2008) | FFGA Amended (March, 2015) | MTA's Current Working Budget (December 31, 2016) |
|---------------------------------|--|----------------------------|-----------------------------------|---|
| 10 | Guideway & Track Elements | \$612,404,000 | \$195,346,781 | \$189,310,484 |
| 20 | Stations, Stops, Terminals, Intermodal | \$1,092,836,000 | \$1,666,605,679 | \$1,471,571,389 |
| 30 | Support Facilities | \$0 | \$0 | \$0 |
| 40 | Site Work & Special Conditions | \$276,229,000 | \$793,118,232 | \$880,704,398 |
| 50 | Systems | \$322,707,000 | \$250,379,966 | \$212,891,015 |
| 60 | ROW, Land, Existing Improvements | \$240,960,000 | \$281,500,000 | \$281,500,000 |
| 70 | Vehicles | \$152,999,000 | \$0 | \$0 |
| 80 | Professional Services | \$796,311,000 | \$1,026,608,168 | \$1,388,496,979 |
| 90 | Unallocated Contingency | \$555,554,000 | \$544,441,174 | \$26,525,735 |
| Subtotal | | \$4,050,000,000 | \$4,758,000,000 | \$4,451,000,000 |
| Financing Cost | | \$816,614,000 | \$816,614,000 | \$816,614,000 |
| Total Project | | \$4,866,614,000 | \$5,574,614,000 | \$5,267,614,000 |

Note: Table updated to reflect latest allocations by MTACC (4th Quarter 2016)

Table 5 - Core Accountability Items

| Project Status: | | Original at FFGA | Current* | ELPEP** |
|---|---|--|---|-------------------|
| Cost | Cost Estimate | \$4,050 million | \$4,451 million (exclusive of financing) | \$4,980 million |
| Contingency | Unallocated Contingency | \$555.554 million | \$16.5 million (As of April 30, 2017) | \$45 million |
| | Total Contingency (Allocated plus Unallocated) | \$555.554 million | \$46.0 million (As of April 30, 2017) | \$45 million |
| Schedule | Revenue Service Date | June 30, 2014 | January 1, 2017A | February 28, 2018 |
| Total Project Percent Complete | Based on Expenditures | | 95.9% | |
| | Based on Earned Value | | N/A | |
| Major Issue | Status | Comments | | |
| Substantial and Project Completion | Open | Correction of discrepancies while the system is operational will require considerably more time. GOs for track outages and foul time will be limited and of shorter durations, thus limiting what can be accomplished. Coordination/Progress meetings are being held on a regular basis so adjustments can be made to minimize the impacts on the schedule | | |
| Construction Quality | Open | On January 1, 2017, the Second Avenue Subway (SAS) Phase 1 Project began Revenue Service. The service began with a number of open items which are documented in NYCT's Certification for Temporary Certificate of Occupancy Memorandum dated December 29, 2016. The memorandum stipulates that the open items must be completed within 60 days of revenue service i.e. March 1, 2017. All of the Revenue Service (RSD) +60 days code compliance issues were not resolved by March 1, 2017. Subsequently, Code Compliance reissued the temporary certificates with the revised stipulation that the outstanding issues had to be resolved by April 15, 2017. At the end of April 2017, there are still 6,492 discrepancies on the "Observation List", of which 2,450 were code compliance related. Construction Management is in the process of verifying that 1,057 of the code compliance discrepancies have been corrected which will subsequently reduce the open code compliance discrepancies to 1,393. | | |
| Date of Next Quarterly Meeting: | | TBD | | |

* MTACC's Current Working Budget

** Enterprise Level Project Execution Plan (ELPEP), reflecting median level of risk mitigation
Financial data based upon MTACC reporting through 02/28/2017.