PMOC MONTHLY REPORT

Second Avenue Subway Phase 1 (MTACC-SAS) Project

Metropolitan Transportation Authority

New York, New York

Report Period August 1 to August 31, 2012

PMOC Contract No. DTFT60-09-D-00007

Task Order No. 2, Project No. DC-27-5115, Work Order No. 03

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Length of time on project: Two years on project for Urban Engineers

TABLE OF CONTENTS

APPENDICES

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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. DTFT60-09-D-00007, Task Order No. 002. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

This report covers the project management activities on the MTACC (Capital Construction) Second Avenue Subway (SAS) Mega-Project managed by MTACC and MTA as the grantee and financed by the FTA FFGA.

MONITORING REPORT

1.0 PROJECT STATUS

During August 2012, MTACC continued advancing the project to meet a Revenue Service Date (RSD) of December 30, 2016 and within its Current Working Budget (CWB) of $4.451B (exclusive of financing). Contract close-out is ongoing for construction contracts C-26002 (C1) "TBM Tunneling Boring" and C-26013 (C5A) "86th Street Excavation, Utility, Relocation and Road Decking". Progress continued on the six (6) active construction contracts; C-26005 (C2A) "96th Street Site Work and Heavy Civil"; C-26010 (C2B) "96th Street Station Civil, Architectural, and MEP"; C-26006 (C3) "63rd Street Station Rehabilitation"; C-26007 (C4B) "72nd Street Station Cavern Mining and Lining"; C-26008 (C5B) "86th Street Station Cavern Mining and Lining"; and C-26009 (C6) "Track, Power, Signals and Communication Systems". The overall project reached 42.6% complete. The design package for the C-26011 (C4C) "72nd Street Station Architectural, MEP and Finishes" contract was advertised on August 6, 2012. Only the C-26012 (C5C) "86th Street Station Architectural, MEP and Finishes" package remains to be advertised.

a. Procurement

Future Procurements: *Bid documents were made available to interested contractors for contract C-26011 (C4C) "72nd Street Station Architectural, MEP and Finishes Package" on August 13, 2012. The bid opening for this package is scheduled for October 23, 2012 with award of contract scheduled no later than January 4, 2013. The 86th Street Station Architectural, MEP and Finishes Package, C26012 (C5C) is scheduled for advertisement on November 28, 2012, bid opening on April 5, 2013 and contract award on May 24, 2013.*

b. Construction

As of August 31, 2012, there are six (6) active construction contracts on the SAS Phase 1 Project. Contracts C1 and C5A are still in the close out process. Construction progress on the active contracts during this period includes:

- **Contract C-26005 (C2A) 96th Street Site Work and Heavy Civil**
  - ***Excavation and installation of decking and precast panels ongoing at:***
    - *Intersection of 95th Street and 2nd Avenue*
    - *Intersection of 96th Street and 2nd Avenue*
    - *2nd Avenue from 94th Street to 96th Street*
  - **Entrance 1**
    - *Mini secant pile construction in progress (1 out of 19 completed)*
    - *Temporary shoring in cellar was completed*
    - *Rerouting of sprinkler in Rainbow Hardware completed, rerouting of the steam lines is in progress and is scheduled to be completed on September 24, 2012*
  - **Entrance 2**
    - *Mass excavation started and will be ongoing until March 2013*
  - ***Entrance 3***
    - *Mass excavation started and will be ongoing until January 2013*
  - **Ancillary 1**
    - *Installation of cap beams, deck beams and decking ongoing as part of mass excavation*
  - ***Ancillary 2***
    - *Mass excavation ongoing (tier 2B bracing being installed)*
  - **Launch Box**
    - *Tunnel invert slab concrete placement is ongoing with rebar and drainage pipe installation at locations 8 and 9 in progress; invert slab concrete placed at locations 11, 12 and 13*

- ***Contract C-26010 (C2B) 96th Street Station Civil, Architectural, and MEP***
  - *Submittals*
    - *Preliminary 90 day CPM Schedule submitted, MTACC issued comments to CTJV on 8/17/2012; CTJV is to revise and resubmit*
    - *Baseline CPM Schedule (logic only) will be issued the week of September 10,2012, presentation to MTACC is schedule for September 18, 2012*
    - *Approval of Detailed Cost Breakdown (DCB) is being finalized*
  - *Construction Activity*
    - *102nd Street Tunnel –First construction activity will be lead abatement in the existing tunnel and is schedule to start the week of September 10,/2012*
    - *105th Street Work –Effort will include the setup of the work zone, excavation for sewer NYCT relief manhole; installation of precast manhole and sewer connection; restoration of pavement*
    - *South Tubes –Installation of bulkheads; set up temporary ventilation;, set up temporary power drops; and install pip hangers*
    - *Tunnel Launch Box –Excavate for low pits grid line 6 and line 1; prep for shotcrete, remove intrusions left by S3; and PVC waterproofing*
- **Contract C-26006 (C3) 63rd Street Station Rehabilitation**
  - *Surveying of the Deformation Monitoring Points (DMPs) is ongoing and will continue throughout the project.*
  - *Continued with temporary and permanent structural steel fabrication & erection at the1st Upper& 2nd Mezzanines in Area 5. The reconstructed Area 5 consists of 6 Mezzanines.*
  - *During the last week of August 2012 the MTACC reports that 55 pieces of steel were erected (average of 11 per day), an increase from the previous average of 30 pieces per week. This production increase reflects the addition of a second shift to the work in Area 5.*
  - *In Area 5 lead abatement and steel work on mezzanines 1 and 2 are ongoing.*
  - *Completed the placement of the G3 concrete wall in Area 6.*
  - *Continued with installation of temporary decking at the 2nd Mezzanine.*
  - *Continuing with installation of conduits from EDR #2 to West Fan Room.*
  - *On the Platform ongoing work includes; applying intumescent paint to columns above the platform, placement of concrete and structural edge (G3 and G4), installation of brackets for overhead conduits and applying spray acoustic.*
  - *Continued with installation of the service carrier and conduit at the G4 level.*
  - *Asbestos abatement work at Entrance #1continued and preparations began for excavation of test pits.*

- *The work at Ancillary #2 (garage) is scheduled to begin in November 2012 (from the previous scheduled start date of May 2012).*
- *The next Quarterly Quality Oversight review is scheduled for October 14, 2012.*

- **Contract C-26007 (C4B) 72nd Street Station Cavern Mining and Lining**
  - *Of the total 184,657 cy of rock to be removed, 165,101 have now been removed as of August 21, 2012. Blasting has been suspended as a result of an incident that occurred on August 21, 2012*
  - Ancillary #1(North-west corner of 69th Street): Open cut excavation by means of blasting has progressed to an elevation of 40 feet under the decking. *Blasting has been suspended as a result of an incident that occurred on August 21, 2012*
  - Ancillary #2 (North-west corner of 72nd Street): Open cut excavation by means of blasting has progressed to an elevation of 37 feet under the decking. *Blasting has been suspended as a result of an incident that occurred on August 21, 2012*
  - Entrance #3(South-east corner of 72nd Street) :): Open cut excavation by means of blasting has progressed to an elevation of 25 feet under the decking. *Blasting has been suspended as a result of an incident that occurred on August 21, 2012*
  - *Building remediation at 239 E 73rd and 1405 2nd Avenue is ongoing*

- **Contract C-26008 (C5B) 86th Street Station Cavern Mining and Lining**
  - *The North & South Muck Conveyance Systems' construction is complete. Testing is complete and both muck stations are operational.*
  - *In the North Shaft blasting and excavation of rock continued down to the access level of the caverns. Horizontal blasting and excavation of rock has begun at the north end of the caverns for the development of the top heading. Rock bolting and shotcrete follow the progression of rock excavation.*
  - *In the South Open Cut Area muck removal continued to Elevation 90, the approximate level for access into the south end of the cavern. Horizontal blasting and excavation of rock is beginning for development of the top heading at this end of the cavern. The contractor continues with a swing shift at the south end of the project.*
  - *At the South Open Cut Area continued assembly of "scrubber" air filtration system. The scrubbers are a high tech air filtration system introduced to the project as a result of community concerns/complaints about air quality.*
  - *Rock excavation at the Ancillary #1 potion of the South Open Cut has been leveled off at approximate Elevation 90.*
  - *At Ancillary #2 the contractor continued with decking, drilling, and rock removal in preparation for upcoming blasting.*
  - *At Entrance #1 erection of support steel and jacking continued along with the placement of the mini caissons. The contractor is preparing for the load transfer followed by blasting operations.*

- *At Entrance #2 ConEd continued with tie-ins for the new gas main. The MTACC CCM office has reported that ConEd has been very slow in their response to this work.*
- *At 86th St. (east of 2nd Ave.) the contractor is completing the utility work on the south side of the street and preparing for the street restoration. Following restoration of the street the MPT will move to the north side for continuation of Entrance #2 work.*
- *The next Quarterly Quality Oversight review is September 13, 2012.*
- *Rock Excavation(for the week ending August 24, 2012)*
  - *Total rock (estimated) for complete project – 154,623 BCY*
  - *Total rock excavated to date – 16,461 BCY (10.6%)*

- **Contract C-26009 (C6) Track, Power, Signals and Communication Systems**
  - *Field surveying at the 63rd St. Station is ongoing in order to identify the Insulated Joint locations. No installation work has started to date.*
  - *CSJV's new nominee for the position of System Integration Manager (SIM) was approved.*
  - *CSJV stated that the Field Office will be located at 309 94th Street (between 1st and 2nd Avenue). Fit-out of the space is underway and should be completed by mid-September 2012.*
  - *Submittals are ongoing.*

c. Quality Assurance and Quality Control (QA/QC)

During August 2012, the PMOC initiated a series of "mini-audits" focusing on the control of discrepant material via the Non-Conformance Report (NCR) process. In an effort to evaluate and document the actual functioning of the NCR process element of the SAS Quality Management System for SAS Phase 1, concrete placement which is the predominant field construction activity currently underway that involves a final product was audited. A summary of initial findings for contract packages C1 and C4B include the following:

Contract Package C1	
Status:	*There were 40 NCRs written on the C1 contract. 16 of them involved concrete installation involving the following structural elements:* • *Invert Slab – seven NCRs* • *Slurry wall – five NCRs* • *Concrete Tunnel Liner Arch – four NCRs*
Observation:	*Of the 40 NCRs written on the C1 contract, 14 are still open, including 8 of those involving concrete installation noted above:* • *Invert Slab – one of the seven NCRs is still open* • *Slurry wall – three of the five NCRs are still open* • *Concrete Tunnel Liner Arch – All four NCRs are still open*

Concerns and Recommendations:	*Contract C1 has been Substantially Complete since March 2012. The Contractor has demobilized and no longer has a presence on site, however a significant number of NCRs remain open. The Contractor's Quality Manager is no longer on the job. However, the CCM and the designer are working to close out the open NCRs. Contract closeout will not occur until all NCRs have been addressed since cost associated with the NCRs will have a negative impact on the retainage. The PMOC recommends that the SAS project team develop a process that assures outstanding NCRs are addressed prior to demobilization by the contractor.*
Contract Packages C4B	
Status:	*The Nonconformance Reporting Logs for the C4B contracts do not indicate that any NCRs have been written when concrete that is placed has slump or air entrainment that are out of spec.*
Observation:	*During discussions at the C4B Monthly Quality Management Meetings, the PMOC noted that there were instances on both contracts when slump and/or air entrainment were out of spec when the concrete was placed. Both contractors stated that since the concrete reached full strength after 28 days, they did not need an NCR. The SAS C4B Quality Manager indicated that an NCR was necessary to document the fact that initially the concrete was out of spec.*
Concerns and Recommendations:	*The PMOC notes that the contractors have been resistant to write multiple NCRs for the same condition. It has been recommended that one NCR be written for each condition when an out-of-spec condition is discovered. The NCR would be for a calendar month with a line item added each time a reading is out of spec. Information would include date, location, specification, and actual reading.* *The C4B contractor has implemented this recommendation and noted that it is working well. The PMOC has recommended that this approach be considered if similar conditions occur on other construction contracts.*

The PMOC will continue this type of "mini-audit" of other elements of the SAS Phase 1 Quality Management System in an effort to document adherence to established procedures and to verify that the project is conforming to applicable quality standards.

2.0 SCHEDULE DATA

Integrated Project Schedule (IPS) Update #73 was received on September 6, 2012 and is based on a Data Date of August 1, 2012. Update #73 contained a narrative report, a schedule variance report, a schedule revision log and "PDF" versions of several schedule reports.

The updated IPS still reflects the forecasted completion of all construction and NYCT Pre-Revenue Training & Testing activities by October 3, 2016, with 90 calendar days (CD) or 64 work days (WD) of contingency when measured against MTACC's target Revenue Service Date (RSD) of December 30, 2016. Schedule contingency along the primary critical path leading to the start of revenue operations was unchanged this period.

A summary of significant schedule accomplishments or issues for each active contract include:

- *Contract C-26005 (C2A): All Support of Excavation work including Slurry Walls (7/31/12) and Secant Pile installation (August 10, 2012) is complete. Substantial Completion (S/C) recovered from July 18th, 2013, to July 8th, 2013 an improvement of 10 CD from last period.*
- *Contract C-26006 (C3): Steel erection is currently scheduled to complete on March 22, 2013. This represents a 2-1/2 month delay to the January 3, 2013 baseline schedule completion date. This delay currently controls the contract substantial completion date, which is forecast as September 18, 2014 vs. a planned date of July 2, 2014. In response to this delay, the Contractor has supplemented its staff with a new steel superintendent. Short-term results have been better coordination between fabrication and erection. MTACC has initiated weekly meetings with contractor executive management until the impacts of the steel delay are mitigated.*

  At Entrance No. 1 the Contractor continues to experience delays while MTACC resolves cost-to-cure design issues with both the Owner and Con Edison. At this time, the Contractor awaits completion and issuance of cost-to-cure drawings for completing work in the lower level of 200 East 63rd St. During August 2012, MTACC and Con Edison agreed to the methodology to be used for cutting over the new Gas Service into the existing apartment risers. The revised design was completed on August 23, 2012. Work is currently forecast to start in October 2012.
- *Contract C-26007 (C4B): Overall excavation is approximately 89% complete and no longer controls the package's critical path. The contract Substantial Completion date remains December 23, 2013. As a result of an incident at Ancillary #2 on August 21, 2012, a moratorium on blasting throughout the project has been instituted. The impact of this moratorium will be evaluated in a subsequent update. The schedule for "Cost-to-Cure" utility relocation work at Entrance No. 1 is essentially unchanged; however efforts are underway to accomplish this work via alternate means.*
- *Contract C-26008 (C5B): As of August 24th, 2012 the South Muck Handling System is now operational and production muck removal is underway at both ends of the project. Station cavern excavation is currently estimated at approximately 10% complete. Excavation, demolition and underpinning continue at both Ancillaries and Entrance #1. No change to Substantial Completion date of 9/4/14.*
- *Contract C-26009 (C6): Milestone No. 1, Signal Block Design, was forecast for approval on August 18, 2012, however because of design changes related to coordination of Track "Stationing," submission of the Signal Block Design will occur following receipt and incorporation of the revised stationing information forecast for early September 2012.*

Project Critical Path: There are multiple, independent schedule paths through the 86th Street Station with schedule float less than 25 WD. Collectively, these paths can all be considered "critical". *For this period, MTACC reports minimal changes with respect to the project critical path.*

- "Path 1" is initiated by the C5B South Cavern Excavation and continues through multiple phases of this work (Development & Top Heading -> Intermediate Bench -> Public Cavern Top Heading -> Public Cavern Bottom Bench). After excavation, the critical path follows the sequence of invert drainage, waterproofing and concrete lining through the South Cavern to MS #1. Upon achieving MS #1 in early March 2014, the critical path shifts to start and completion of Contract C5C mezzanine and platform concrete work, followed by the start of concrete work in early September 2014, then shifting to 1st and 2nd fix work in the 86th Street Station South Ancillary (No. 1), where it is handed over to C6 in April 2015. The critical path continues into C6 Systems Signal and Traction Power work for the next six (6) months within the 86th Street Station, followed by Integrated Testing of the Traction Power system beginning in mid-December 2015. Upon completion, this area is handed over for Pre-Revenue Operations Testing beginning in late June 2016 and is forecast to complete by October 13, 2016. The MTACC's forecast RSD remains as December 30, 2016. *Scheduled progress was maintained this period, with no change to the relative position of this path in the schedule.*
- "Path #2" (2 WD float) involves the demolition, underpinning, excavation (both cut-and-cover, and escalator tunnel) and structural concrete construction of Entrance #1. Heavy civil construction performed by C5B is transferred to C5C for finish construction via "Hand-off No. 2". *Scheduled progress was maintained this period, with no change to the relative position of this path in the schedule.*
- "Path #3" (8 WD float) involves excavation and concrete construction for the northern portion of the cavern. This work mimics the work at the South Cavern (Path #1). This path runs through C5B Substantial Completion, where the work is transferred to C5C. *Scheduled progress was maintained this period, with no change to the relative position of this path in the schedule.*
- *"Path #4" (9 WD float) involves excavation and structural concrete work for Entrance #2. Transfer to C5C for finish construction is scheduled to occur in late August 2014. This path lost seven (7) WD of schedule float this period.*

Secondary Paths: *Major secondary float paths of significance to the overall status of the project include the following:*

+23 WD: NYCT Pre-Revenue Operation Activities, scheduled to start on August 18, 2014. *Unchanged this period.*

+48 WD: *Mezzanine deck concrete installed by C4C starts in September 2013 and is followed by mezzanine and platform concrete, MEP, finish and systems work at 72nd Street Station. This work is initiated via handoff from C4B (and not a truly independent path). No change this period.*

+77 WD: *This path extends through the construction of the 96th Street Station (C2A -> C2B -> C6). It is initiated by Stage 5 (95th to 97th Streets) deck installation, forecast for completion on approximately October 27, 2012. Following C2A concrete invert construction this path moves to the C2B Station Finishes package in July 2013. Systems installation and testing (C6) at the 96th Street Station is forecast to start on August 29, 2014 and continue through October 5, 2015, at which time this path*

merges with the integrated system testing (critical) path. Scheduled progress was maintained this period, with no change to the relative position of this path in the schedule.

+78 WD: *C2A support of excavation and mass excavation activities leading to a turnover to C2B (Milestone #2) in April 2013. C2B then performs mezzanine, roof and MEP construction through November 2014, at which time C6 takes over system installation. This path lost seven (7) WD of schedule float this period*

+81 WD: *Cost-To-Cure at 301 East 69th Street and 1322 2nd Avenue. The start of construction of C4B, Entrance #1 is controlled by two building modifications/utility relocations. Based on Update #73, approximately six (6) work days of float were gained along this path during the most recent update period. The schedule for this work does not currently reflect changes in sequencing under consideration by the MTACC.*

+82 WD: C6 Submittals (Track).

+91 WD: *C4C Procurement This path lost 84 WD of schedule float this period as a result of contingency time built into the procurement and the addition of downstream interface milestones.*

+147 WD: *C5C Procurement. No change this period.*

+270WD: *C6 Submittals (Communication)*

+311WD: *C6 Submittals (Traction Power)*

+531WD: *Systems MS #1 – Complete Signal Block Design*

IPS Update #73 generally indicates that scheduled construction along critical and "near-critical" paths was maintained during August 2012. Construction progress and schedule logic refinements alleviated some of the "near-critical" paths previously associated with C4B.

The PMOC notes what appears to be excessive schedule float values associated with Systems (C6) early submittal packages including Signals, Traction Power and Communication. The SAS Project team is aware of this flaw, which will be corrected as the actual C6 construction schedule is merged into the IPS. Schedule dates for these activities contained in the IPS are accurate.

Quarterly Milestone Tracking: *The initial tabulation of milestone schedule performance for the 3rd Qtr. 2012 is contained in the accompanying Table 3. Milestones not completed this Quarter will be "carried over" into the 4th Quarter 2012 tracking log. A summary of schedule performance based on these milestone activities includes the following:*

Summary	
# Calendar Days Elapsed	*31*
Average Δ from Baseline - all activities	*67.2*
Average Δ from Baseline - completed activities	*117.0*
Average Δ from Baseline - ongoing activities	*60.5*

3rd Qtr. Milestone Summary	
# Activities Forecast this Qtr.	*14*
# Activities forecast to complete this Qtr.	*8*
# Activities completed this Qtr.	*0*
# Activities on/ahead of schedule	*9*
# Activities behind schedule	*5*
Average Δ from Baseline	*0.00*
Carryover Milestone Summary	
# Activities Carried Over	*20*
# Activities forecast to complete this Qtr.	*15*
# Activities completed this Qtr.	*4*
# Activities on/ahead of schedule	*1*
# Activities behind schedule	*15*
Avg float for ongoing activities	*207*

Based on the sampling of activities in Table 3, the PMOC notes the following:

- *For the third Quarter 2012, 9 of 20 activities originally forecast to complete during this Quarter are currently on or ahead of schedule.*
- *The average schedule variance from baseline for third quarter milestones is 0.*
- *Carryover activities from previous quarters not completed to date average 207 WD of schedule float.*

This sampling of schedule activities indicates that schedule performance-to-date for the third quarter 2012 has been good and that carryover activities from previous quarters have sufficient schedule float to allow for a variance in their respective completion dates without adversely affecting the overall project RSD. In general, the PMOC notes that the SAS Project Team, including its construction contractors, are actively using the IPS and associated construction schedules as tools for planning and executing the work in a timely manner.

ELPEP/SMP Compliance: *In the opinion of the PMOC, SAS Phase 1 is in compliance with the metrics, deliverables and beneficial outcomes expressed in the Enterprise Level Project Execution Plan (ELPEP), dated January 15, 2010, and as further described by the Schedule Management Plan (SMP). Specifically:*

- Forecast Revenue Service Date:
  - ELPEP Requirement: February 28, 2018
  - Current Forecast: December 30, 2016
- *Minimum Allowable Float; ROW/Real Estate Activities:*
  - *ELPEP Requirement: 60 CD*
  - *Current Forecast:*
    - *All Real Estate Takings were completed as of November 1, 2011.*

- *Cost-To-Cure Activities*

Pkg.	***Location***	***Property***	***Sch. Float***
C4B	*Entrance #1*	*301 E. 69th Street* *1322 2nd Avenue*	*81 WD*
C3	*Entrance #1*	*200 East 63rd Street*	*237 WD*

- Minimum Allowable Secondary Float Path:
  - ELPEP Requirement: 25 Calendar Days
  - *Current Forecast: Approx. 108 CD (77 WD) through C2A Stage 5 decking and excavation*
- Secondary Schedule Mitigation (critical path compression):
  - ELPEP Requirement: 125 CD
  - Current Forecast: Several opportunities are under consideration by the SAS Project Team that will improve the schedule primary and/or secondary paths. These opportunities are discussed in the next section of this report.
- Minimum Schedule Contingency along the Critical Path:
  - ELPEP Requirement: 240 CD measured against the "risk-informed" target RSD of February 28, 2018
  - Current Forecast: 513 CD
  - Note: MTACC has maintained its target RSD of December 30, 2016. IPS Update #73 identifies 90 CD (64 WD) of float measured against this target.

In addition to the metrics above, the MTACC continues to demonstrate that it is using the IPS to actively plan, organize, direct and control individual packages and the overall project, and to provide reliable forecasts of the SAS RSD and other major accomplishments. These beneficial outcomes are significant components of ELPEP/SMP compliance.

Schedule Improvement Opportunities:

The SAS Project Team has identified numerous potential schedule improvement (secondary schedule mitigation) opportunities. Over the past several months, these opportunities have been extensively reviewed within the SAS Management Team and with the assistance of select outside assistance. The result of this effort has been a refinement and distillation of these concepts into four (4) specific approaches, which are summarized as follows.

1. ***Transfer of Mezzanine and Platform Concrete to 86th St Station Mining Contract (C5B)***. *This represents a possible gain of 30+ CD along the C5B-C5C-C6 critical path; however, there would be a delay to C5B substantial completion date. Net additional cost to the project is expected to exceed $10M. Pursuit of this option will be deferred pending an evaluation of C5B mining progress and capability to perform this work.*

2. ***Acceleration of Systems (C6) installation and testing activities:*** *Obtain contractor pricing for accelerating both installation and testing work by as much as 90 CD. The plan is to begin and complete the integrated testing three months earlier than currently shown in IPS. Schedule improvement will be accomplished through a combination of C6 acceleration and earlier access to select work areas. See Items 3 and 4 below.*

3. ***C4C (Advanced Schedule) Base Contract:*** *Performance requirements to be added to the bid package include 1) concrete work will be specified to be performed using a six day work week, 2) accelerate the schedule of turnovers of work and staging areas to the C6 Systems contract and, 3) specify the use of multiple shift work on subsurface work.*

4. ***C5C (Advanced Schedule) Base Contract:*** *Performance requirements to be added to the bid package involve performing structural work for Ancillary 1 and 2 through the use of multiple crews on multiple shifts. Current IPS is very conservative in resource allocation and a substantial opportunity to improve the schedule exists.*

The SAS Project Team will obtain formal approval to pursue these approaches through its TAC Process. Subsequent assessment of each of these strategies will include an evaluation of the cost-of-time recovery. The pursuit of one or more of these strategies may be canceled if the cost or consequential risk incurred by the project proves to be excessive.

Schedule Contingency: *IPS Update #73 forecasts all Phase 1 construction and pre-revenue testing to be complete on October 3, 2016. This results in an 90 CD (64 WD) contingency when measured against the MTACC's target RSD of December 30, 2016 and a 513 CD contingency when measured against the FTA Risk-Informed RSD of February 28, 2018.*

3.0 COST DATA

Based upon financial expenditures reported by the MTACC during August 2012, SAS Phase 1 is approximately 42.6 % complete based on total project cost. The completion status of the active construction contracts through August 2012, also based upon reported expenditures through that date, is as follows:

- C26002 (Tunnel Boring) – 96.1%
- *C26005 (96th Street Station) – 77.0%*
- C26013 (86th Street Station – Sitework) – 100%
- *C26008 (86th Street Station – Heavy Civil) – 20.9%*
- *C26006 (63rd Street Station) – 21.1%*
- *C26007 (72nd Street Station) – 54%*
- *C26009 (Systems – Track, Power, Signals and Communications)* – 1.78%

Aggregate Construction % Completion:

- *82% of all construction work has been bid and is under contract.*
- *36.7 % of all construction is complete.*

Based upon cost data received from MTACC for August 2012:

- *Value of construction in place this period = $47,690,448*
- *Estimated value of construction remaining = $1,683,085,495*
- *Target construction completion = August 16, 2016*
- *Number of months remaining = 48*
- *Rate of construction required to achieve target completion date = $34,594,861/month*

Note: Progress this period may be overstated due to "makeup" for progress not reported last period.

The average progress (payments) achieved over the most recent six month period is $35,356,026. Based on a review of cost data for August 2012, it appears that adequate overall progress was made on the project to achieve the RSD of December 30, 2016.

Estimate-At-Completion (EAC): *The SAS Project Team has extended its risk-based contingency forecasting effort to the development of an EAC for all construction. To date, this effort is limited to construction cost only. The SAS Project Team has established a goal of monthly EAC reporting for the full project, including all soft costs, by December 2012.*

The project EAC is a combination of the risk-based approach for construction cost and traditional estimating for soft costs. Table 6 contains a summary of the current EAC, which is currently $4,230,414,318. The current EAC reflects updates to recent construction and MTACC cost forecasts.

Based on the information available, this EAC validates the reasonableness of the MTACC's Current Working Budget of $4.451B. Based upon current information, this effort suggests the project can be built within the limits of the Current Working Budget. This effort will be revisited periodically, to incorporate updated information and evaluate its effect on the overall EAC.

Cost Growth: *For the period ending August 31, 2012, the total cumulative Additional Work Order (AWO) exposure was reported to be $107,528,531, an increase of $1,007,287 (.94%) over the $106,521,244 exposure reported for period ending July 31, 2012. Executed AWOs as documented on AWO tracking logs totaled $87,674,031, an increase of $187,712 from the $87,486,319 reported for the period ending July 30, 2012.*

The change in AWO exposure was driven by the following:

1. *Contract C1: AWO exposure decreased by a total of $570,513. This decrease is due to reductions in the estimated cost of AWOs # 132, 133 and 140 and the incorporation of the initial cost estimate for AWOs # 143.*
2. *Contract C2A: AWO exposure increased by a total $126,960. The net increase is due to the incorporation of initial cost estimates for AWOs #107 and 129 and reductions in the estimated cost of AWOs # 111, 1112, 113, 120 and 123.*
3. *Contract C3: AWO exposure increased by a total of $500,007. This increase is due to the incorporation of initial cost estimates for AWOs # 17, 18 and 19 and increases to the estimated cost of AWOs # 8, 10 and 16.*

4. *Contract C4B: AWO exposure increased by a total $615,133. The net increase is due to an increase in the estimated cost of AWO #5, decreases in the estimated value of AWO # 28 and the incorporation of initial cost estimates for AWOs #33, 45 and 48.*
5. *Contract C5A: No change this period.*
6. *Contract C5B: AWO exposure increased by a total of 335,700. Increased exposure is due to the incorporation of initial cost estimates for AWOs # 21, 23, 24, 29 and 33.*

The change in Executed AWO Value was driven by the following:

1. *Contract C2A: Execution of AWOs with net value of $10,000.*
2. *Contract C3: Execution of AWOs with net value of $62,000.*
3. *Contract C5A: Execution of AWOs with net value of $106,712.*
4. *Contract C5B: Execution of AWOs with net value of $9,000.*

ELPEP/CMP Compliance: Section 5.4 of the Cost Management Plan (CMP) discusses Project-Level EAC Forecasting. It is noted in this section that soft costs are included in this report, which is to be produced on a monthly basis.

The PMOC has previously noted that the SAS EAC reporting and forecasting is incomplete in that does not include a monthly evaluation and forecast of soft cost. The SAS Project Team produces ample financial documentation to enable complete EAC forecasting and the PMOC has used this information in developing an "independent" EAC forecast. The SAS Project Team has committed to providing a complete EAC forecast as part of its regular project controls reporting by December 2012.

The PMOC previously noted that a significant number of AWOs do not contain "Exposure Values" in the respective logs. Significant progress in addressing this concern has been made and continued improvement is anticipated.

Cost Contingency: *During August 2012, contingency changes were limited to routine incorporation of AWOs into the individual project and overall program reporting systems. No other significant changes in the SAS construction program have been reported that materially affected the forecast cost contingency baseline against which the current contingency balance is measured.*

The PMOC has updated and adjusted its contingency drawdown and utilization model to reflect changes made this period. Models maintained by both the PMOC and the SAS Project Team verify that the current contingency balance is greater than the Planned Balance and exceeds the ELPEP Required Balance.

	July 2012	***August 2012***
Required Balance (ELPEP):	*$220,000,000*	*$220,000,000*
Planned Contingency Balance:	*$327,473,264*	*$327,473,264*
Actual Contingency Balance (PMOC):	*$425,869,651*	*$424,862,364*
Actual Contingency Balance (MTACC):	*$430,189,000*	*TBD*

4.0 RISK MANAGEMENT

Risk Mitigation Meeting No. 19 was held on August 29, 2012. Recent risk management activities reviewed include:

- *Risk Mitigation Meeting No. 18 on July 24, 2012.*
- *C4C Risk Analysis Workshops conducted on August 16 and August 17, 2012. Draft results of this workshop will not be available until late September 2012.*
- *Completed July EAC forecast for monthly budget presentation.*

Risks reviewed and updated during this meeting include:

1) ***Construction Related Damage (Risk C4B 65)****: Investigation and documentation of all aspects of the event which occurred on August 21 at Ancillary 2 (corner of 2nd Avenue and 72nd Street) is still under investigation. Further review of this event will be deferred pending presentation of all information. Blasting activities on this project have been suspended until further notice.*

2) **Contract Interfaces (Risk CNS 4 (C6))**: *The project team's formal implementation plan for managing this risk will be presented to the TAC on September 11, 2012. A summary of the proposed processes and procedures includes:*

   1. *The Monthly Variance Report (MVR) is a tabulation of the contractor's forecast finish date for each milestone for the past two (2) reporting periods. This effort identifies any negative variances in schedule where interfaces between multiple contracts are involved and highlights the variances for further evaluation.*
   2. *The Interface Tracking Report (ITR) tracks the relationship between the predecessor contractor's delivery date (milestone) provided by the MVR and the successor contractor's follow-on contract access date (access restraint). Variances in the relationship between these values are tracked and reported. Threshold values in the calculated variance trigger appropriate response actions by the SAS Management Team. Recovery plans are developed with the appropriate parties when negative values are realized. An escalation process is implemented if negative trends continue.*
   3. *Utilization of 3D/4D Modeling. Advanced 3D/4D modeling will be used in concert with other interface management tools to assist in identifying and visualizing areas of conflict and potential solutions. 3D Modeling is being used at the 63rd Street Station (C3) and has demonstrated is usefulness. Specifications are being modified to required contractors to utilize this tool for the 72nd Street and 86th Street Station Finish Packages. The use of 4D modeling is under consideration.*

3) **C4C Procurement (Risk C4C 79)**: *This package has been advertised for construction bids. Previously discussed enhancements to pre-bid processes will be monitored for effectiveness in mitigating delay during procurement.*

4) **Cost-To-Cure Utility Relocations (Risk C4B 77 and C4B C14)**: *Relocating utilities that service buildings adjacent to Entrance No. 1 (301 East 69th Street, 1322 Second Avenue) may delay construction at this location. It was noted that a "new approach" would be initiated in mitigating this risk. No further details were available.*

5) **System Safety Certification (Risk CNS 8 (C6))**: *Limited progress this period. No additional training occurred and the "coordinator" position that will have primary responsibility for managing this effort will not be staffed until mid-September 2012.*

In the PMOC's opinion, the SAS Project Team is actively managing retained risks and generally achieving a moderate to high level of mitigation of the overall growth of project cost.

5.0 ELPEP

There were no ELPEP meetings held during August 2012. With respect to SAS, the current status of each of the main ELPEP components is summarized as follows:

- ***Technical Capacity and Capability (TCC):*** The PMOC completed its review of the Revision 8 SAS PMP and has verified incorporation of all Candidate Revisions with FTA. The PMOC recommendations regarding approval were forwarded to FTA in February 2012. *During August 2012, additional discussions regarding the manner by which these comments would be addressed and organized were conducted with the MTACC.*
- ***Schedule Management Plan (SMP)****:* The PMOC continues to monitor and verify SAS substantial compliance with the SMP. The process of transferring the compliance verification process to the MTACC is discussed below.
- ***Cost Management Plan (CMP)****:* FTA conditional approval of the Cost Management Plan, including five (5) Candidate Revisions was provided on September 1, 2011. The PMOC is monitoring and verifying compliance with this plan.
- ***Risk Mitigation Capacity Plan (RMCP) and Risk Management Plan (RMP)****:* On February 2, 2012, the FTA/PMOC consolidated comments on the SAS Risk Management Plan were forwarded to the MTACC. PMOC recommendations regarding approval were forwarded to FTA. The PMOC is monitoring compliance with these plans.
- ***Conformance and Compliance Demonstration****:* A target date for the transfer of compliance verification to MTACC of July 1, 2012 was established. A meeting is scheduled for September 12, 2012 to review conformance and compliance.

The SAS Project Team has implemented the majority of the principles and requirements embodied in the ELPEP. The procedural changes instigated by the ELPEP have become an integral part of the management of the project.

6.0 SAFETY AND SECURITY

Project-wide monthly safety meetings are being held, with representation from contractors, CCM, MTACC, OCIP, and the PMOC present. The meetings serve as a forum to discuss specific incidents and the sharing of lessons learned. Cumulative lost time injuries since project inception is 47 and the cumulative recordable injuries are 71. Synthesizing the data shows the C4B contractor continues as the major contributor to the high rates. The C4B contractor has accumulated 920,522 man-hours on the project with 21 lost time injuries and 19 recordable injuries. The lost time rate per 200,000 work-hours is 4.56 and the recordable rate is 8.69 %. Both rates are above the national rates of 2.2 and 4.2 respectively. SAS Project management

has expressed concern about the rates and have met with the contractor's upper management. A corrective action plan has been requested.

Security – No security concerns have been noted during this reporting period

7.0 ISSUES AND RECOMMENDATIONS

Construction Operations: [redacted]

Staffing Issues: *The SAS Project Team has addressed the PMOC's concern about adequate QA staffing. It is anticipated that additional QA staffing will be joining the project by mid-September 2012.*

Safety Certification: *The safety certification process has been identified as a risk to project completion. This risk is currently identified in the C6 contract Risk Register as ID # CNS8. The PMOC has previously expressed concern that consistent progress would not be achieved until adequate, dedicated resources were available to coordinate the efforts. The relative lack of recent progress in this area seems to support this concern. A Systems Safety Specialist has reportedly been assigned to the project as part of the CCM staff, but has yet to start work. The PMOC will continue to evaluate the Safety Certification process as part of its ongoing monitoring process.*

Stakeholder Risk: *TAC Paper 2012/92 seeks approval to replace the Preprufe and Bituthene Waterproofing System (Grace) in the cut-and-cover structures of the 72nd and 86th Street Stations with a Thermoplastic Membrane (PVC) Waterproofing System. This change was initiated by the NYCT Department of Subways. The estimated cost of this change, which affects six of the ten SAS Phase 1 construction packages, exceeds $7 million. Schedule impacts, while considered minimal, have not been conclusively determined. The TAC Paper notes "….that both [waterproofing systems] should be equally effective when installed in strict accordance with the manufacturer's recommended procedures…." The PMOC is concerned that this decision was not incorporated into the project design at an earlier date and, in this case, is concerned about the SAS Project Team's ability to control discretionary scope change requests.*

Compliance with Cost Management Plan: *The PMOC has previously noted several issues not in compliance with the Cost Management Plan. These issues include a weakness in Project-Level EAC reporting and AWO cost forecasting. Improvements in AWO cost forecasting are noted and further improvements are anticipated. The project team has committed to full Project-Level EAC forecasting by late 2012. At that time, the PMOC will consider SAS to be in compliance with its Cost Management Plan.*

Ship America/Fly America: *There is an ongoing difference of opinion between MTACC and the C-26008 (C5B) contractor with regards to the applicability of the Cargo Preference Act and the Fly America Act to the procurement and inspection of construction equipment and machinery for the 86th Street muck conveyance systems which originates overseas. The PMOC recommends MTACC emphasize conformance with these requirements during the bid periods for remaining*

construction contract packages and careful review of contractor submittals and construction operations in an effort to detect and prevent subsequent incidents.

APPENDIX A - ACRONYMS

A/A	AECOM/Arup.
AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
AWO	Additional Work Orders
BA	Budget Adjustment
CCM	Consultant Construction Manager
CD	Calendar Days
CMP	Cost Management Plan
CSSR	Contact Status Summary Report
CIL	Central Instrument Location
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
CWB	Current Working Budget
CY	Cubic Yards
DCB	Detailed Cost Breakdown
DMP	Deformation Monitoring Points
EAC	Estimate at Completion
ELPEP	Enterprise Level Project Execution Plan
EPC	Engineering-Procurement-Construction
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GO	General Outage
IPS	Integrated Project Schedule
MPT	Maintenance Protection of Traffic
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority – Capital Construction
N/A	Not Applicable
NOA	Notice of Award
NTP	Notice to Proceed
NYCT	New York City Transit

NYSPTSB	New York State Public Transportation Safety Board
OSS	NYCT Office of System Safety
PE	Preliminary Engineering
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
RMCP	Risk Mitigation Capacity Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RSD	Revenue Service Date
SAS	Second Avenue Subway
SCC	Standard Cost Category
SMP	Schedule Management Plan
SOE	Support of Excavation
SSCC	Safety and Security Certification Committee
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability
VE	Value Engineering
WBS	Work Breakdown Structure
WD	Work Days

APPENDIX B – TABLES

Table 1 - Summary of Schedule Dates

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	03/20/2007A	03/20/2007A
Construction Complete	December 31, 2013	August 30, 2016	October 2017
Revenue Service	June 30, 2014	December 30, 2016	February 2018

A = Actual

Table 2 - Schedule Contingency

IPS Update #	***62***	***65***	***68***	***71***	***72***	***73***
Data Date	*09/01/11*	*12/01/11*	*03/01/12*	*06/01/12*	*07/01/12*	*08/01/12*
Contingency (CD)						
RSD=12/30/2016	*67*	*67*	*80*	*90*	*90*	*90*
RSD=02/28/2018	*490*	*490*	*503*	*513*	*513*	*513*

Table 3 – 3rd Quarter 2012 Schedule Milestone Comparison

			Milestone Updates				
Pkg.	**Act.**	**Description**	**Baseline**	**M-1**		**Δ**	**TF**
4th Qtr 2011 Tracking Milestones (Carryover)			**1-Oct-11**	**1-Aug-12**			
C2A	*A117*	Complete ANC #1 Secant Piles	11-Jul-12	*10-Aug-12*		*30*	*120*
C3	*LP025*	Complete Demo – Lower Platform	31-May-12	*11-Oct-12*		*133*	*396*
C4B	*72C1225*	Excavate Cavern Bench	9-May-12	*7-Aug-12*		*90*	*82*
1st Qtr 2012 Tracking Milestones (Carryover)			**1-Jan-12**	**1-Aug-12**			
C3	*005*	Complete Sub/App Struct. Steel Shop Dwgs	20-Jul-12	*11-Dec-12*		*144*	*233*
	A1010	Begin Demo - Ancil #1	2-May-12	*31-Aug-12*		*121*	*549*
	EN105	Begin Structural Work - Ent #1	22-May-12	*24-Apr-13*		*337*	*237*
	MZB05	Compl. Asbestos/Lead Abatement - Fan Plant	27-Mar-12	*28-Aug-12*		*154*	*322*
	010	Begin Elevator Fab	7-Mar-12	*18-Oct-12*		*225*	*380*
C4B	*G3S11060*	G3 TBM F/P/S Tunnel Invert	28-Mar-12	*17-Jul-12*	*A*	*111*	-
	C4B ENT1200A	Contractor (Start) Cost to Cure Work	2-Mar-12	*11-Oct-12*		*223*	*81*
	ETA1000	Ent #2 Adit Excavation Complete	11-Jan-12	*2-Jul-12*	*A*	*173*	-
C5B	*S110a*	Complete Installation of Mucking Sys-South	25-Apr-12	*7-Aug-12*		*104*	*0*
2nd Qtr 2012 Tracking Milestones			**1-Apr-12**	**1-Aug-12**			
C2A	E105	*(AWO98)*	*25-Jun-12*	*21-Aug-12*		*57*	79
C3	MZC01/MZC05	*Mezz*	*27-Apr-12*	*10-Aug-12*		*105*	233
	MZ5001/010/015	*Lead Abatement/Demo -M1->M6*	*10-Jul-12*	*13-Aug-12*		*34*	279
	UP025	*Begin Structural const; CBH Control Rm*	*2-Apr-12*	*23-Jul-12*	*A*	*112*	-
C4B	72C1430	*Start Main Cavern Invert F/R/P/S (Start)*	*24-Jul-12*	*31-Aug-12*		*38*	82
	NCC1035	*Start North X-Over Invert WP*	*9-May-12*	*20-Jul-12*	*A*	*72*	-
C5B	E210/240/242	*Complete Entrance 2; Utility Relocations*	*4-Oct-12*	*10-Sep-12*		*-24*	9
	E110	*Complete Entrance 1; Structural Demo*	*26-Jun-12*	*10-Aug-12*		*45*	26
3rd Qtr 2012 Tracking Milestones			**1-Jul-12**	**1-Aug-12**			
C2A	5S210	Stage 5 Deck Installation (Complete)	27-Sep-12	1-Oct-12		*4*	77
	A126	Exc. Upper Level/Install Decking-Accil. #1	27-Sep-12	15-Oct-12		*18*	120
C3	UP001	Demo Upper Platform (Complete)	19-Aug-12	2-Sep-12		*14*	130
	MZC15	Structural Work Lower Mezz (Complete)	10-Sep-12	26-Sep-12		*16*	265
	MZ5020	Structural Work @nd Mezz (Complete)	11-Oct-12	6-Sep-12		*-35*	264
C4B	NCC1055	North X-Over Invert F/R/P/S (Complete)	9-Oct-12	25-Sep-12		*-14*	133
	63S1070	63rd St Stub Cavern Wall F/R/P/S (Finish)	14-Sep-12	7-Sep-12		*-7*	159
	72C1430	Main Cavern Invert F/R/P/S (Start)	7-Sep-12	31-Aug-12		*-7*	82
C4C	25d	Bid Opening	27-Nov-12	27-Nov-12		*0*	91
C5B	S110b	South Cavern Exc. - Dev & Top Heading (Com	12-Sep-12	12-Sep-12		*0*	0
	S150	North Cavern Exc. - Dev & Top Heading (Com	12-Oct-12	12-Oct-12		*0*	8
	E245	Ent #2 South SOE/Decking (Complete)	27-Sep-12	8-Oct-12		*11*	9
	E120	Ent #1 Underpinning (Complete)	13-Sep-12	13-Sep-12		*0*	2
C5C	20k	Authorization to Advertise	27-Nov-12	27-Nov-12		*0*	147

Table 4 - Project Budget/Cost

	FFGA			FFGA Amend	MTA Current Working Budget (CWB)		Expenditures as of *August 31, 2012*	
	$ Millions	**% of Total**	**Obligated* ($ Million)**	**TBD**	**$ Millions**	**% of Total**	**$ Millions**	**% of Total**
Grand Total Cost:	**4,866.614**	**100**	***4,572.942***		**5,267.614**	**100**	***1,895.171***	***35.98***
Financing Cost	816.614	16.78			816.614	15.50		
Total Project Cost:	**4,050.000**	**83.22**	***4,572.942***		**4,451.000**	**84.50**	***1,895.171***	***35.98***
Total Federal:	**1,350.693**	**27.75**	***1,063.942***		**1,350.693**	**25.64**	***591.076***	***11.22***
Total FTA share:	**1,300.000**	**96.25**	***990.049***		**1,300.000**	**24.68**	***526.824***	***10.00***
5309 New Starts share	1,300.000	100	*990.049*		1,300.000	24.68	***526.824***	***10.00***
Total FHWA share:	**50.693**	**3.75**	**73.893**		**50.693**	**0.96**	***64.252***	***1.22***
CMAQ	48.233	95.15	71.433		48.233	0.92	*61.792*	*1.17*
Special Highway Appropriation	2.460	4.85	2.460		2.460	0.04	2.460	0.05
Total Local share:	**2,699.307**	**55.47**	**3,509.000****		**3,509.000****	**66.61**	***1,304.095***	***24.76***
State share	450.000	16.67	100.000		450.000	8.54		
Agency share	2,249.307	83.33	1,145.782		3,059.000	58.07		
City share	0	0			0	0		

* Obligated amounts obtained from the Transportation Electronic Award Management (TEAM) system and MTACC's Grant Management Department.

** Current MTA Board approved budget.

Table 5 - Contingency Drawdown

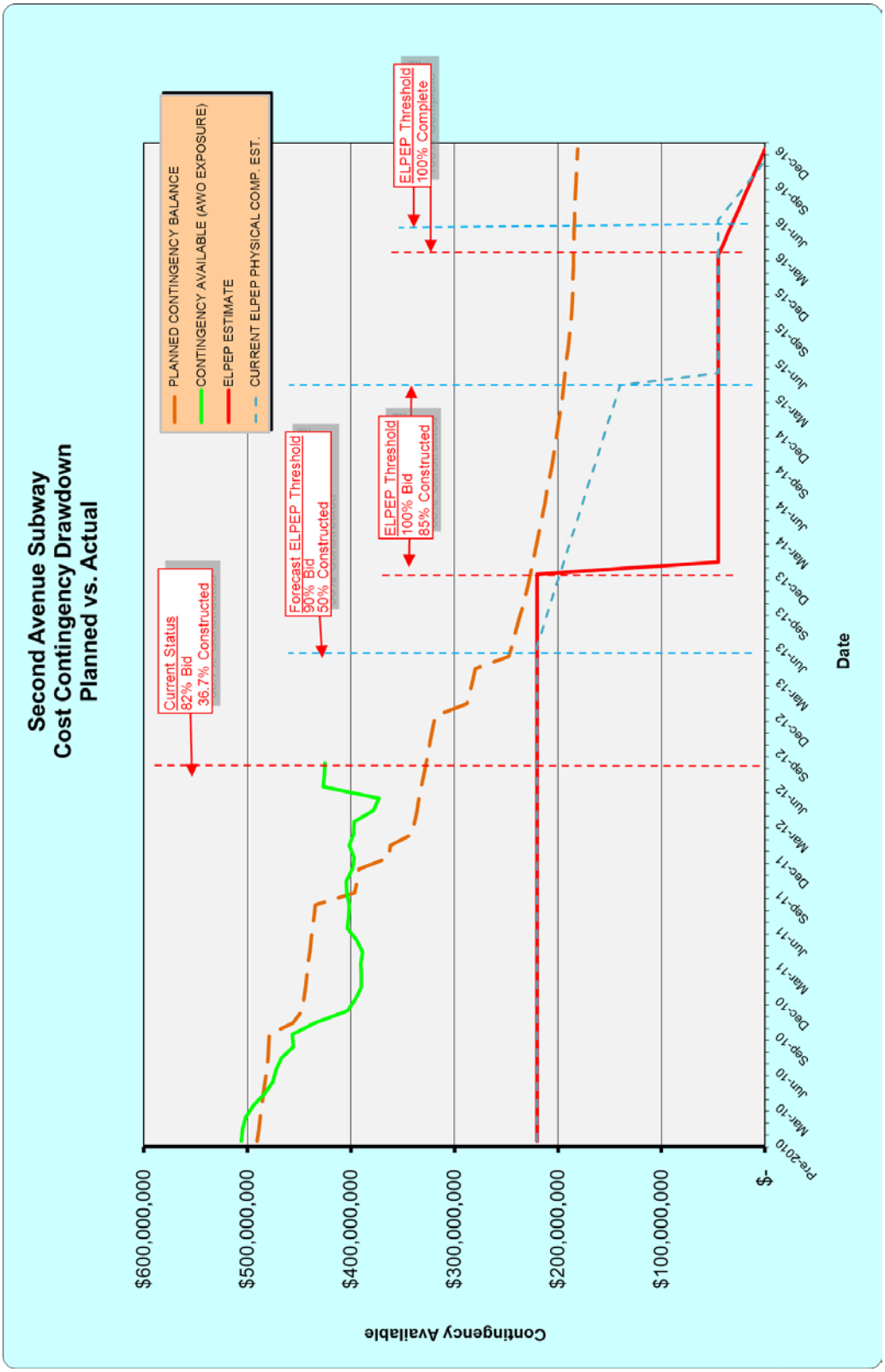

Table 6 - Estimate @ Completion

Category	Current Working Budget	PMOC EAC Forecast
Total Construction	$2,728,172,492	*$2,975,954,233*
Engineering Services Subtotal	$576,541,264	$591,500,000
Third Party Expenses	$534,800,000	$534,800,000
TA Expenses	*$125,160,085*	*$128,160,085*
Contingency	$321,104,648	
Executive Reserve	$160,000,000	
Subtotal	$4,451,000,000	*$4,230,414,318*

Table 7 - Allocation of Current Working Budget to Standard Cost Categories

Std. Cost Category (SCC)	Description	FFGA	MTA's Current Working Budget
10	Guideway & Track Elements	$612,404,000	$728,617,000
20	Stations, Stops, Terminals, Intermodal	$1,092,836,000	$1,276,632,000
30	Support Facilities	0	$562,000
40	Site Work & Special Conditions	$276,229,000	$537,621,000
50	Systems	$322,708,000	$247,627,000
60	ROW, Land, Existing Improvements	$240,960,000	$292,000,000*
70	Vehicles	$152,999,000	0**
80	Professional Services	$796,311,000	$885,941,000
90	Unallocated Contingency	$555,554,000	$482,000,000
Subtotal		$4,050,000,000	$4,451,000,000
Financing Cost		$816,614,000	$816,614,000
Total Project		**$4,866,614,000**	**$5,267,614,000**

* Includes $47M Cost-to-Cure.

** *FTA Region II has accepted MTACC/NYCT's assertion that recent services reductions will provide ample spare vehicles for the SAS Phase I Project.*

Table 8 - Core Accountability Items				
Project Status:		**Original at FFGA**	**Current***	**ELPEP****
Cost	Cost Estimate	$4,050M	$4,451M	$4,980M
Contingency	Unallocated Contingency	$555.554M	*$401M*	*$220M*
	Total Contingency (Allocated plus Unallocated)	$555.554M	*$425M (August 2012)*	*$220M*
Schedule	Revenue Service Date	June 30, 2014	December 30, 2016	February 28, 2018

Total Project Percent Complete	Based on Expenditures	42.6%
	Based on Earned Value	N/A

Major Issue	**Status**	**Comments**
Organization and Staffing	*Open*	*Certain relationships on the current Org. Chart do not reflect actual structure and function of project team. Need to fill two open positions ASAP.*
Safety and Security Certification	*Open*	*Detailed planning and organizational prep for safety & certification process needs to continue. Current lack of dedicated staff may impede progress.*
Date of Next Quarterly Meeting:		TBD

* MTACC's Current Working Budget

** Enterprise Level Project Execution Plan (ELPEP), reflecting median level of risk mitigation

Schedule data based upon IPS Update #73; Data Date = 08/01/2012

Financial date based upon MTACC reporting through 08/31/2012