

## **PMOC MONTHLY REPORT**

**Second Avenue Subway Phase 1 (MTACC-SAS) Project**  
Metropolitan Transportation Authority  
New York, New York

July 1 to July 31, 2011



**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: 1 year

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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 FTA or the project sponsor, in accordance with the purposes as described below.

For projects funded through FTA Full Funding Grant Agreements (FFGAs) program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's 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 month and/or previous months.

### **REPORT FORMAT AND FOCUS**

This mini-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 MTA CC Second Avenue Subway (SAS) Mega-Project managed by MTA Capital Construction (CC) and MTA as the grantee and financed by the FTA FFGA's.

## **MONITORING REPORT**

### **1.0 PROJECT STATUS**

#### **a. Design**

MTACC reported the design phase of the SAS Project is to be 100% complete in late November 2010. The primary role of the design team is now "Construction Administration", which involves shop drawing review, responding to RFIs, providing design clarifications where needed and technical support during construction package bidding. Due to the nature of the work, geotechnical engineers from the design team are on site to provide an evaluation of actual subsurface conditions encountered and any consequential design modifications.)

#### **b. Procurement**

Updates to Construction Procurement which occurred during July 2011 include:

- **C-26008 (C5B): 86<sup>th</sup> Street Station Cavern & Heavy Civil** – bids were opened on February 4, 2011, at which time the joint venture of SKANSKA Civil and Traylor Bros. was identified as the apparent low bidder with a bid of \$301,860,000. MTACC reports that delays associated with procurement have been resolved and that award of this package will occur in early August 2011.
- **C-26009 (C6): Transit & Rail Systems** – RFP documents were made available to the qualified proposers on March 7, 2011 and the pre-proposal meeting was held on March 31, 2011. Five proposals were received on July 28, 2011. Technical review of these proposals is underway.
- **Future Procurements:** The next construction package scheduled for procurement is C2B (96<sup>th</sup> Street Structure & Finishes). Advertisement is currently scheduled for October 17, 2011. The process of updating the design documents with as-built information from previous contracts and utility changes is underway. There was no change to the forecast procurement dates for this package this period.

### c. Construction

There are five (5) active construction contracts on the SAS project. Construction progress on these contracts through July 2011 includes:

- **Contract C-26002(C1) –TBM tunnels from 92nd Street to 63rd Street**
  - Mining of the East tunnel is currently between 70<sup>th</sup> and 71<sup>st</sup> Street at Station 1164+58.9. Approximately 5,609 feet mined to date (mining of the East tunnel commenced on 3/21/11).
  - Surface preparation work for waterproofing in the West tunnel is continuing. Shotcrete work commenced 5/17/11.
  - Cellar tie work for all buildings is now complete.
  - S3 has officially turned over the 94<sup>th</sup> -95<sup>th</sup> Street work zone and part of the 93<sup>rd</sup> to 94<sup>th</sup> Street work zone to CTJV (Contract 2A).
  - Post-construction surveys still need to be finalized at the shafts.
  - Inspection and testing of material as well as preparatory phase session meetings are ongoing in support of the construction activity.
  - The PMOC observes that, with the exception of tunnel lining, work on this package has surpassed recent schedule forecasts, significantly reducing the risk of interference and schedule delays resulting from adjacent construction operations. Initial quality issues and concerns regarding tunnel lining and waterproofing appear to have been resolved and this work is progressing.
- **Contract C-26005 (C2A) 96th Street Station Heavy Civil, Structural and Utility Relocation**
  - Slurry wall panel rebar cage fabrication is on-going. Various work zones are on the Westside of 2nd Avenue.

- Guide wall construction on the Westside of 2nd Avenue between 95th and 99th Streets is on-going. Contractor commenced removal of abandoned utilities between 95th and 96th Streets in preparation for slurry wall construction.
- Secant pile operation at Ancillary 2 is nearing completion. Only 1 secant pile remains to be installed. Demobilization at Ancillary 2 is scheduled to be completed by 8/18/11.
- Phase 1 building stabilization of 1802 has been completed. Phase II (AWO 078) is pending negotiation of the AWO.
- Con Ed and ECS/Verizon completed pulling & splicing cables on Westside of 2nd Ave.
- Progress on this contract is forecast to improve significantly as utility interferences are reduced and the focus shift to the primary scope of the project.
- **Contract C-26006 – (C3) 63rd Street Station Upgrade**
  - The current focus is the plaza at 63rd St. and 3rd Ave. The contractor has set up temporary barricades around the area and is currently placing the temporary concrete walk to divert pedestrians around the upcoming sitework. When this is completed the barricade will be adjusted and the construction MPT will be set up for this area.
  - Continued work on temporary power/lighting on G3/G4 platforms.
  - Continued installing temporary power piping for EDRs.
  - Continued installation of DMP (Deformation Monitoring Points) as well as AMTS brackets, Prisms, tilt sensors, etc. The server setup, the internet set-up for the Geotech and Vibration Monitoring is ongoing and this setup is scheduled to be completed by August 5, 2011 and a review will take place Monday, August 1 or Tuesday, August 2. The baseline readings for the Geotech and Vibration Monitoring are ongoing.
  - Continued asbestos abatement work at G3 and G4 tracks; platforms; and Manholes.
  - Completed lead abatement in existing Fan Plant.
  - Completed installation of exhaust piping and stack for BROKK Generator.
  - The contractor has completed the temporary platform barriers (upper and lower platforms) to separate the active track area (“F” Train) and the inactive track area (2nd Ave. Train). Demolition on the inactive track side is ongoing for both platforms. Active track area demolition takes place during GOs.
  - Completed survey work for chemical grouting/crack repair.
  - The PMOC observes that demolition and preparatory work to date has been effectively coordinated with NYCT service outages. The risk of consequential impacts to other SAS projects is minimal.
- **Contract C-26007 (C4B) 72nd Street Station Mining and Lining**
  - Main Cavern South -Excavation between 69th St. and just past 70th St. on-going. (69th Street Shaft –center line station 1161+88.19); Center drift excavation progress –

South (CCS#10) to station 1160+96.38, north to (CCN#54) to station 1166+74. West slash –South to station 1160+96.38 (SWS#6), North to 1162+44 (NWS#4).

- Main Cavern North –Excavation between 72nd and 73rd (72nd Street Shaft –center line station 1169+93.04): Center drift excavation progress –South (CCS#14) to station 1168+54. North to station 1170+14 (CNN#3). West Slash –South to station 1169+56 (SWS#5).
- Total rock excavation (69th and 72nd St.) approximately 26,272 BCY as of Friday 7/22/11.
- Muck Enclosure (72nd St. Shaft) –Gantry system operational, cladding on-going.
- Muck Enclosure (69th St. Shaft) –Steel erection complete, roof cladding is on-going.
- Ancillary 2 –Support of Excavation wall at NW corner at 72nd St. impending demolition.
- Preconstruction Building Surveys south of 66th Street are on-going.
- The PMOC observes that the additional work resulting from overbreak and blasting restrictions due to excessive vibration, noise, dust, etc. appear to be impacting contractor production and schedule. Efforts to quantify and evaluate these impacts have been initiated.
- **Contract C-26013 (C5A) 86th Street Station Excavation, Utility Relocation and Road Decking**
  - Con Edison completed: Primary & Secondary transfer work at South Shaft. Dead cables removed; Primary cable transfer work at North Shaft, awaiting removal of secondary cables.
  - Verizon completed splicing of new copper cable during the 83rd Street closure to allow removal of existing old cables crossing SE side of shaft.
  - South Shaft: On-going work in this area includes installation of toe anchors and wales, soil excavation and lagging and rock excavation.
  - North Shaft: On-going work includes excavation and installation of new sewer service to 250E, 87th Street on 86th Street, cap beams and soil excavation.
  - Turnover to the North and South shafts to C5B is on schedule for October 2011. This turnover reduces the risk of inter-contract interferences and delay at the 86<sup>th</sup> Street Station.

#### **d. Quality Assurance and Quality Control (QA/QC)**

On August 3, 2011, the owner and employees of American Standard Testing and Consulting Laboratories were charged with falsifying the results of concrete test reports on numerous public projects in New York City, including Second Avenue Subway.

The MTA hired another independent firm to retest the affected concrete used on the project. It was determined that the only portion of the Second Avenue project that American Standard Testing Consulting Laboratories was responsible for was the launch box area at 96 Street, where the tunnel-boring machines entered the ground.

Retesting by the independent agency verified that all concrete in the area conformed to project strength requirements.

**2.0 SCHEDULE DATA**

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 3.0 COST DATA

Using the MTACC financial reporting format contained in its Capital Construction Reports, the PMOC has developed an independent Estimate-At-Completion (EAC) report for Phase 1 of the Second Avenue Subway Project until such time as the MTACC assumes this reporting function in accordance with its recently submitted Cost Management Plan.

This EAC is based on the following:

- The results of MTACC's cost estimate (Revision 8 and 9) for SAS Phase 1.
- Cost information provided by the SAS project team through established periodic reporting.

During July 2011, no significant impacts to last period's EAC were incurred. The PMOC's EAC remains \$4,260,538,288.

#### Cost Contingency Forecasting

Significant changes in the SAS construction program have occurred which have materially affected the forecast cost contingency baseline against which the current contingency balance is measured. These changes include:

- Delayed award of the C5B construction package.
- Delayed award of the C6 construction package.
- Delayed award of the C2B construction package.
- Extended durations of construction packages C2A and C5A.

The PMOC has updated its contingency drawdown and utilization model to reflect these changes. Available contingency is calculated using the forecast "AWO Exposure". The current contingency balance is less than the Planned Balance and exceeds ELPEP Required Balance.

Required Balance (ELPEP)	\$ 220,000,000
Planned Balance:	\$ 463,709,001
Current Balance (using AWO Exposure):	\$ 430,349,980

### 4.0 RISK MANAGEMENT

MTACC reviewed the results of the risk analysis and contingency forecasting work that was completed at the end of June 2011. A Risk Mitigation Meeting was subsequently scheduled for August 2, 2011. The following set of risks identified in the risk analysis as those with the most impact to cost and schedule will be addressed: Risk CNS 4 (C6): Problems related to managing contractor during construction

Risk TRP 4 (C6): Systems Integration Testing Problems (Traction Power SCADA); Risk CNS 8 (C6): Delayed safety certification; Risk 90 (C4B): Settlement of Lot Line window lawsuit (233 E 69th Street) results in cost and schedule delay; Risk 147 (C4B): Vibration from mining operation.



## Mitigation Capacity

The risk of schedule slippage and delay to the RSD has been effectively managed to date. Mitigation of a substantial portion of the current C5B procurement delay is expected over the next reporting period. Additional schedule mitigation measures, including substantial scope transfers between packages is under investigation.

Improvements in management and mitigation of cost growth have been noted over this period. The dedication of resources and process improvements in addition to aggressive negotiation has contributed to a reduction in AWO exposure.

Retained risks are reviewed on a monthly basis. These reviews have contributed to development and implementation of specific mitigation strategies.

## **5.0 ELPEP**

Throughout July 2011, MTACC continued to work with the FTA to produce Management Plans and to demonstrate compliance with the Enterprise Level Project Execution Plan (ELPEP). As reported previously, the original schedule for accomplishment of portions of the ELPEP implementation has been delayed. However the many meetings and discussions that have been held have served as a catalyst for the incremental incorporation of many ELPEP concepts and processes by the respective ESA and SAS project teams. As the remaining elements of the ELPEP are finalized, this process is expected to continue.

MTACC has developed a “white paper” describing its philosophy and general conformance reporting methodology. This document was presented for review and comment at the July 2011 ELPEP meeting. PMOC review is in progress.

The current status of each of the ELPEP components is summarized as follows:

- **Technical Capacity and Capability** - The PMOC has completed its review of the Revision 8 submission of the draft SAS PMP (dated January 2011). The PMOC has transmitted the results of its review to the FTA. Upon FTA’s concurrence with the PMOC’s findings and recommendations, the results will be transmitted to the MTACC SAS Project Team.

In general Revision 8 of the SAS PMP was updated in accordance with the “PMP Update” process defined in the ELPEP. Candidate Revisions were issued and approved by the Technical Advisory Committee for all “Material Decisions”, i.e., project decisions that affect scope, cost, schedule or funding.

The SAS PMP review by the PMOC is being supplemented and reformatted into the Candidate Revision -> PMP Revision -> Implementation and Resolution framework suggested by the FTA.

- **Cost Management Plan** - Final PMOC comments on the CMP and a draft conditional acceptance document outlining several proposed Candidate Revisions were transmitted to FTA on July 29, 2011.
- **Schedule Management Plan** - The PMOC has verified SAS substantial compliance with the SMP since August 2010. The process of transferring the verification process to the respective project teams has been generally discussed in several recent ELPEP meetings.

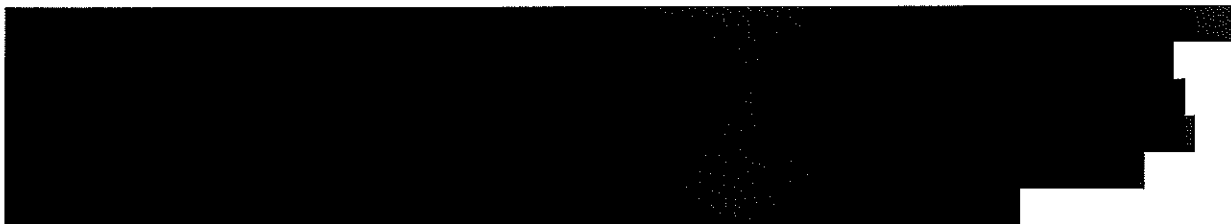
## 6.0 SAFETY AND SECURITY

The Lost Time Accident Rate and OSHA Recordable Accident Rate from the start of construction until June 30, 2011 are 1.89 and 4.77, respectively. Both rates are above the national average of 2.2 and 4.2. A total of 2,223,107 construction hours have been accumulated on the project since its inception with 21 lost time injuries and the 32 recordable injuries logged.

## 7.0 ISSUES AND RECOMMENDATIONS

**Cost Management Plan:** MTACC Procedure AD.13, Financial Reporting, is a key element of the Cost Management Plan. This Procedure is currently under development by MTACC. The SAS Project cannot comply with its own Cost Management Plan and the overall ELPEP, until this procedure has been finalized, implemented and verified. The PMOC recommends the MTACC expedite the completion and implementation of this procedure.

**Conformance Demonstration:** MTACC has developed a "white paper" describing its philosophy and general ELPEP conformance and verification reporting methodology. This document was presented for review and comment at the July 2011 ELPEP meeting. PMOC review is in progress. The PMOC recommends development of formal implementation verification and reporting process for each of these ELPEP elements should be given high priority.



**Local Funding:** Availability of local funding has been identified as a major concern. Current funding appears to support SAS contract awards through mid-2012. Beyond that time, a detailed analysis of funding, obligations and expenditures is required to verify that the current construction schedule can be supported. The PMOC is concerned that funding shortfalls may delay the award of one or more of the station finish packages (C2B, C4C, C5C). The PMOC

recommends investigation and development of contingency plans (including but not limited to scope transfers) to minimize the impact of funding delays to the extent possible.

**Contract C6:** On July 28, 2011, MTACC received five (5) proposals for the Track, Power, Signals and Communication Systems Contract C-26009 (C6). The proposals are being evaluated by the Selection Committee. The forecast contract award date of October 27, 2011 is unchanged. This forecast for evaluation, negotiation and processing of C-26009 appears very optimistic. The PMOC recommends the durations for these activities be re-evaluated and a more realistic forecast incorporated into the IPS.

**Procurement Process:** The standard sequencing and durations established by NYCT for IFB and IFP procurements should be reviewed based on recent “mega-project” experiences and updated appropriately. The PMOC recommends the results of this effort should be incorporated into the SAS IPS for remaining procurements to provide a more realistic schedule forecast.

**Contingency Drawdown:** To date, the contingency drawdown evaluation has been limited to the SAS Phase 1 construction packages. The available contingency must also be applied to any soft cost overruns. The PMOC recommends the contingency evaluation process should be extended to include all project costs.

## APPENDIX A - ACRONYMS

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AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BA	Budget Adjustment
CCM	Consultant Construction Manager
CM	ESA Construction Manager assigned to each contract
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
DCB	Detailed Cost Breakdown
ELPEP	Enterprise Level Project Execution Plan
EPC	Engineering-Procurement-Construction
ESA	East Side Access
FA	Force Account
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
IEC	Independent Engineering Consultant (to MTA)
IPS	Integrated Project Schedule
LIRR	Long Island Rail Road
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority – Capital Construction
N/A	Not Applicable
NTP	Notice to Proceed
NYAR	New York and Atlantic Railroad
NYCT	New York City Transit

NYSPTSB	New York State Public Transportation Safety Board
OCO	Office of Construction Oversight (MTA)
PE	Preliminary Engineering
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	Project Management Team
PQM	Project Quality Manual
QA	Quality Assurance
RAMP	Real Estate Acquisition 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
SSMP	Safety and Security Management Plan
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

**APPENDIX B – TABLES AND GRAPH**

**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	May 23, 2016	October 2017
Revenue Service	June 30, 2014	December 30, 2016	February 2018

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**Table 3 - Project Budget/Cost** 

	FFGA			FFGA Amend	MTA Current Working Budget (CWB)		Expenditures as of July 31, 2011	
	(\$ Millions)	% of Total	Obligated (\$ Million)	TBD	\$ Millions	% of Total	\$ Millions	% of Total
<b>Grand Total Cost:</b>	4,866.614	100	4,137.911		5,489.614	100	1,333.278	24.29
Financing Cost	816.614	16.78			816.614	14.88		
<b>Total Project Cost:</b>	4,050.000	83.22	4,137.911		4,673.000	85.12	1,333.278	24.29
<b>Total Federal:</b>	1,350.693	27.75	*628.911		1,350.693	24.60	373.968	6.81
<b>Total FTA share:</b>	1,300.000	96.25	600.818		1,300.000	23.68	362.856	6.61
5309 New Starts share	1,300.000	100	600.818		1,300.000	23.68	362.856	6.61
<b>Total FHWA share:</b>	50.693	3.75	28.093		50.693	0.92	11.112	.20
CMAQ	48.233	95.15	25.633		48.233	0.88	8.652	.16
Special Highway Appropriation	2.460	4.85	2.460		2.460	0.04	2.460	.04
<b>Total Local share:</b>	2,699.307	55.47	**3,509.000		**3,509.000	63.92	959.310	17.48
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 amounts obtained from the Transportation Electronic Award Management (TEAM) system and MTACC's Grant Management Department.  
 \*\*Current MTA Board approved budget.

[REDACTED]

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