

## **PMOC MONTHLY REPORT**

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

October 2009

**PMOC Contract No. DTFT60-04-D-00012**

Task Order No. 3, Project No. DC-27-5006, Work Order No. 01

Ops Referenced: OP20-OP26, OP33, OP34, OP37, OP40, OP 41, OP53, OP54

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Length of time on project: 5 years

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## **1.0 GRANTEE'S CAPABILITIES AND APPROACH**

### **1.1 Technical Capacity and Capability**

#### **1.1.1 Organization, Personnel Qualifications and Experience**

##### **a) Grantee's Organization**

###### Status:

The SAS Project is being completed through the concerted efforts of various organizations and responsible parties, who are working together as an integrated team providing multiple levels of oversight to ensure a successful outcome. The team primarily includes staff from MTACC, NYCT, Design Consultant (DHA), and Construction Management Contractor (PB). The team also consists of other key support and oversight organizations such as the MTA.

###### Observations:

The basic structure of the team has been maintained throughout the life of the project providing continuity between phases and maintaining effective project communications. The Project Team is working towards the common goal of successfully completing the project and meeting the expectations of NYCT and project stakeholders.

###### Concerns and Recommendations:

None

##### **b) Staff Qualifications**

###### Status:

The SAS project has been staffed with individuals meeting the qualifications noted in Section 2 (Organization and Staffing) of the PMP.

###### Observations:

Both the Program Executive and Deputy Program Executive have the necessary experience to effectively direct the SAS project. The SAS project is being effectively managed by the team in place. The Program Executive and Deputy Program Executive are actively involved in the resolution of critical issues and interfacing with upper management of third party agencies.

###### Concerns and Recommendations:

None

##### **c) Grantee Staffing Plan**

###### Status:

Key positions are being staffed to support the release dates of the various contract packages.

###### Observations:

Detailed staffing plans have been generated for the MTACC management staff, the design consultant staff and the consultant construction management staff. Each contract package has been assigned a construction project manager and supporting staff from the above three organizations. Staffing is adequate at this time.

Concerns and Recommendations:

None

**d) Grantee's Physical Resources**

Status:

MTACC and the design consultant staff are co-located to provide effective communication and decision making. Field offices have been established for each of the active construction contracts. As each construction contract is awarded, MTACC plans to open and staff field offices to support the construction management.

Observation:

The space and resources appear to be adequate to meet the objectives of the project.

Concerns and Recommendations:

None.

**e) History of Performance, Adequacy of Management Systems**

Status:

The SAS project is trending significantly behind schedule, and the current Estimate at Completion (EAC) is significantly higher than the FFGA Baseline Cost Estimate. The MTACC has revised the cost estimate to \$4.803 Billion (excluding finance charges) and a project ROD of December 31, 2016. The FTA/PMOC is currently evaluating those revisions.

Observation:

Various activities have impacted the ROD such as: inefficiencies of the tunnel boring contractor; increase in time for the procurement process; additional hand-off float from contractor to contractor; and changes in the integrated testing and commissioning methodology. The PMOC has concluded, based on the analysis of the schedule as part of the project's Risk Assessment, that the ROD has the potential to slip an additional eight to eighteen months beyond MTACC's currently reported date of December 31, 2016.

Concerns and Recommendations:

PMOC is concerned that additional slippage may occur if high mitigation measures are not implemented. The critical path runs through the tunnel boring being performed under Contract 1, specifically that portion that must be completed prior to the start of 86<sup>th</sup> Street Station mining. The PMOC recommends on-going monitoring of the implementation of the risk mitigation strategies.

**1.1.2 Grantee's Work Approach, Understanding, and Performance Ability**

**a) Adequacy of Project Management Plan and Project Controls**

Status:

The PMP will be updated to reflect the FTA/MTACC agreements reached during the risk review and documented in the Enterprise Level Project Execution Plan (ELPEP).

Observation:

Implementation of the agreement will give the FTA/PMOC greater visibility in determining if the Project is being effectively managed.

Concerns and Recommendations:

The PMOC is concerned that the Grantee might not update the PMP in a timely manner. PMOC recommends establishing workshops with the Grantee to facilitate the update of the PMP.

**b) Grantee's Approach to FFGA and other FTA/Federal Requirements**

Status:

On November 19, 2007, MTACC received a Full Funding Grant Agreement (FFGA) from the FTA. A provision of the FFGA requires MTACC to submit a Recovery Plan if the cost and schedule commitments would not be met. In early 2008, MTACC notified the FTA that the FFGA Baseline Cost Estimate of \$4.050 billion (no financing cost) and ROD of June 30, 2014 will be exceeded.

Observation:

To date, the MTACC has not provided a Recovery Plan. However, MTACC and the FTA/PMOC have been working to determine a cost estimate and schedule acceptable to both parties.

Concerns and Recommendations:

PMOC is concerned that the time required to reach agreement may impact the progress of the Project. PMOC recommends that the final decision be reached between upper management of both parties.

**c) Grantee's Approach to Community Relations, Asset Management, and Force Account Plan**

Status:

As part of its community relations program, MTACC conducts extensive public and community outreach. The community relations representative supports the bi-weekly job progress meetings and makes known any concerns of the community that need to be addressed.

Observation:

MTACC continues to hold regular meetings with involved NYC Community Boards and has included them in much of the decision-making that would affect local residents.

Concerns and Recommendations:

None

**d) Grantee's Approach to Safety and Security**

Status:

The MTA initiated a comprehensive review of its infrastructure to determine how to protect its customers and key assets from a terrorist incident. Security experts define critical vulnerabilities and determine appropriate protective strategies. The result of these efforts was the implementation of a multi-faceted program including operating and capital investments. The

capital investments included hardening vulnerable assets and implementing the networks and equipment necessary to conduct targeted surveillance, control access, stop intrusion and provide command and control system to support incident response. MTA began implementing these investments in the 2000-2004 Capital Program and will continue to progress this program and subsequent programs using Federal funds. (Reference: Proposed MTA Capital Program 2010-2014, dated September 23, 2009)

Observation:

Due to the sensitive nature of the security effort, the proposed 2010-2014 Capital Program identifies a single budgetary reserve of \$250 M which will be used to progress the next group of project. (Reference: Proposed MTA Capital Program 2010-2014, dated September 23, 2009)

Concerns and Recommendations:

None

**1.1.3 Grantee's Understanding of Federal Requirements and Local Funding Process**  
**Federal Requirements**

**a) Uniform Property Acquisition and Relocation Act of 1970**

Status:

The Grantee has structured its real estate acquisition process to be in compliance with the Uniform Property Acquisition and Relocation Act of 1970 and has documented the process in its Real Estate Acquisition and Management Plan (RAMP).

Observation:

The Plan is being effectively implemented. However, not all of the required real estate has been obtained to date. The possibility exists that some acquisitions will require MTA to invoke the condemnation process.

Concerns and Recommendations:

The PMOC is concerned that if the condemnation process is implemented to obtain the needed real estate, the length of the process could impact the overall project schedule. The PMOC recommends on-going monitoring of the real estate acquisition process by the project team and continuation of the statusing to the PMOC's real estate consultant.

**b) Local Funding Agreements**

Status:

On November 19, 2007, the FTA and MTA executed an FFGA in the amount of \$4,866,614,468 (including finance costs). Total Federal participation is \$1,350,692,821 and Local participation is \$3,515,921,647. Local funds totaling \$2.964 billion have been allocated in MTA's 2000-2004 and 2005-2009 Capital Programs. MTA's \$28.1 billion proposed 2010-2014 Capital Program contains \$1.487 billion for SAS Phase 1. In order to be enacted, the proposal must first unanimously pass the Capital Program Review Board (CPRB), which is made up of appointees by the Senate and Assembly majorities, the governor of New York State and the mayor of New York City. The board also includes non-voting representatives from the Senate and Assembly minorities.

Observation:

The Local Funding for the SAS project will be provided from the MTA's Five Year Capital programs. Because of the duration of the SAS project, several 5-year plans will be the source of Local Funding.

Concerns and Recommendations:

The PMOC is concerned about the availability of the local funds given that there is a \$10 billion funding gap in the 2010-2014 Capital Program and that the latest Integrated Project Schedule shows a ROD of December 30, 2016. The PMOC recommends an FMOC review of the MTA's financial capacity to fund the SAS project (reference: Proposed MTA Capital Program 2010-2014, dated September 23, 2009).

## **1.2 Project Controls**

### **1.2.1 Scope Definition and Control**

Status:

The scope of the Project is defined in the Final Environmental Impact Statement (FEIS) and noted in the Record of Decision (ROD). Changes have been made subsequent to issuance of the FEIS. To date, four technical memoranda have been issued to document the changes and an Environmental Assessment resulting in a Finding of No Significant Impact (FONSI) being issued. The scope has been allocated into 11 construction packages.

Observation:

The process of utilizing the Configuration Control Board (CCB), the change control process, and the Technical Advisory Committee (TAC) are effective in tracking scope changes.

Concerns and Recommendations:

None

### **1.2.2 Quality**

Status:

The Quality Management System for the SAS Project is being implemented per the approved Quality Management Plan. The contractors' Quality Plans have been approved by MTACC quality management and have been implemented.

Observation:

The MTACC's Quality Program continues to be proactive and is providing proper oversight.

Concerns and Recommendations:

None

### **1.2.3 Project Schedule**

Status:

Revision 3 Update 29, (dated January 13, 2009) is the current MTACC SAS Phase 1 Integrated Project Schedule. This schedule reflects a delay of the Revenue Operations Date (ROD) to



December 30, 2016 which is approximately 30 months past the Baseline ROD of June 30, 2014 noted in FFGA.

Observation:

Various activities were identified as having an impact on the ROD such as: inefficiencies of the tunnel boring contractor; increase in time for the procurement process; additional hand-off float from contractor to contractor; and changes in the integrated testing and commissioning methodology. The Grantee has strengthened the scheduling team by the addition of a schedule coordinator.

Concerns and Recommendations:

The PMOC is concerned, based on the analysis of the schedule as part of the Risk Assessment, that the ROD has the potential to slip an additional eight to eighteen months beyond December 30, 2016. The PMOC recommends continuation of the monthly schedule meeting update with the FTA, PMOC, and SAS project team and that all involved parties continue to look for schedule savings throughout the length of the program.

**1.2.4 Project Budget and Cost**

Status:

Total project cost in the approved FFGA was \$4,866,614 million and was broken down into Standard Cost Categories (SCC) as shown in Table 1.

**Table 1 –Standard Cost Categories**

Standard Cost Category (SCC) #	Description	Year of Expenditure \$000
10	Guideway & Track Elements	612,404
20	Stations, Stops, Terminals, Intermodal	1,092,836
30	Support Facilities: Yards, Shops, Admin Bldgs.	0
40	Site Work & Special Conditions	276,229
50	Systems	322,707
60	ROW, Land, Existing Improvements	240,960
70	Vehicles	152,999
80	Professional Services	796,311
90	Unallocated Contingency	555,554
Subtotal		4,050,000
Financing Cost		816,614
Total Project		4,866,614

Table 2 lists the associated grants in the Transportation Electronic Award Management (TEAM) system with respective appropriated and obligated amounts as of October 31, 2009.

**Table 2 – Appropriated and Obligated Funds**

<b>Grant Number</b>	<b>Amount (\$)</b>	<b>Obligated (\$)</b>	<b>Disbursement (\$) thru October 31, 2009</b>
NY-03-0397	\$4,980,026	\$4,980,026	\$4,980,026
NY-03-0408	\$1,967,165	\$1,967,165	\$1,967,165
NY-03-0408-01	\$1,968,358	\$1,968,358	\$1,968,358
NY-03-0408-02	\$24,502,500	\$24,502,500	\$24,502,500
NY-03-0408-03	0	0	0
NY-03-0408-04	0	0	0
NY-03-0408-05	\$167,810,300	\$167,810,300	\$144,261,781
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
NY-95-X009-00	\$25,633,000	\$25,633,000	0
NY-36-001-00*	\$78,870,000	0	0
<b>Total</b>	<b>\$308,191,170.00</b>	<b>\$229,321,170.00</b>	<b>\$180,139,651</b>

\* Denotes ARRA funds

A total of \$803,329,846 million has been expended on the project through October 31, 2009. Through October 31, 2009, \$378,845,896 has been spent on design and \$206,473,038 on construction (MTACC’s monthly financial input).

The project Estimate at Completion (EAC) is being revised upward as a result of the Risk Assessment.

Observation:

Local funds totaling \$623,190,195 (\$803,329,846 - \$180,139,651) have been spent as October 31, 2009.

Concerns and Recommendations:

See Section 1.1.3b.

**1.2.5 Project Risk Monitoring and Mitigation**

Status:

FTA/PMOC and MTACC are finalizing the ELPEP, which contains the approved level of mitigation and the measures that must be taken to comply with the revised EAC and ROD.

Observation:

The ELPEP will be integrated into the SAS PMP. The resulting PMP will be an effective tool for the PMOC to monitor the Project.

Concerns and Recommendations:

See Section 1.1.2 a.

## **1.2.6 Project Safety**

### Status:

The contractors' Safety Managers hold daily toolbox meetings to review the upcoming work with the construction workers to assure that they understand the safety procedures that apply to the specific work. Whenever a worker is observed in noncompliance, the Safety Manager removes them from service and retrains them in correct procedures.

### Observation:

The SAS Safety & Security committee meets regularly. MTACC and contractor's safety personnel and the OCIP representative continue to monitor the construction sites for compliance. The recordable incidents for the project (through October 2009) continue to trend below the national average. Lost time accidents (through October 2009) are below the national average as well. Safety is discussed at each construction Job Progress Meeting.

Concerns and Recommendations: None

## **1.3 FTA Compliance Documents**

### Status:

All documents required for approval of a FFGA were issued. As the project has advanced through different phases of development, decisions have been made which requires the PMP and RFMP to be updated. [Ref: SAS-A17-0808]

**Note:** Throughout this report, any [Ref: ESA-AXX] refers to the table in Section 7a and any [Ref: ESA-XX] refers to the table in Section 7b.

### **1.3.1 Readiness to Enter PE**

Entry into PE was approved by FTA on December 20, 2001; PE completed April 17, 2006.

### **1.3.2 Readiness to Enter Final Design**

Entry into FD (Phase 1) was approved by FTA on April 18 2006. FD for the 72nd St. Station is anticipated to be completed by February 11, 2010 based on DHA's schedule.

### **1.3.3 Record of Decision (ROD)**

The FFGA was executed on November 19, 2007.

### **1.3.4 Readiness to Execute FFGA**

The FFGA was executed on November 19, 2007.

### **1.3.5 Readiness to Bid Construction Work**

The start of the Construction Phase was authorized with the approval of an Early Systems Work Agreement (ESWA) on January 5, 2007.

### **1.3.6 Readiness for Revenue Operations**

Revenue Operations are scheduled to begin in December 2016. Currently, MTACC and FTA/PMOC are jointly reviewing the Project Cost and Schedule to ascertain the actual ROD.

## **2.0 PROJECT SCOPE**

### **2.1 Status & Quality: Design/Procurement/Construction**

#### **2.1.1 Engineering and Design**

##### Status:

The design consultant (DHA) is working to complete the final design effort by February 10, 2010. As of October 31, 2009, the overall final design completion is reported at 92%.

##### Observation:

There is a high probability that final design will be completed as projected. The obstacle that was impacting the design was resolved in October 2009 with the issuance of a FONSI for the entrances at the 72<sup>nd</sup> and 86<sup>th</sup> Street Stations.

##### Concerns and Recommendation:

The PMOC has no concerns at this time. However, the PMOC recommends the Grantee continue to track each of the outstanding design issues needing resolution through their design control process.

#### **2.1.2 Procurement**

##### Status:

Three of the eleven construction packages have been awarded. To address procurement concerns associated with the 72<sup>nd</sup> Street Station, MTACC has decided to use the RFP process to solicit this contract. A source selection plan has been drafted which provides guidelines to those parties who will participate in the review, evaluation, negotiation and/or selection process for the Request for Proposal.

##### Observation:

The source selection plan needs to be reviewed to assure concerns noted during the Risk Assessment are addressed.

##### Concerns and Recommendation:

None

#### **2.1.3 Construction**

##### **a) Third Party Contracts**

##### Status:

Utility agencies continue to support the Project in the relocation of electric, gas, steam, water and sewer facilities. Work efforts are being monitored and reported on during the various job progress meetings for each construction contract. Over the last several months, agency representatives are made aware of any problems during the bi-weekly utility meetings and by the Program Executive when meeting with upper management of the agencies. [Ref: SAS-04-0709]

Observation:

On several occasions, assignment of utility company workforces to work not associated with the Project has impacted the schedule. There is a limited workforce that apparently can not support both the SAS project and other required utility work. Contractors have had to work around the in-place utilities because they weren't moved.

Concerns and Recommendation:

PMOC is concerned about the availability of the agencies' workforce to support the project schedule. PMOC recommends on-going monitoring by the CCM and MTACC's Project Managers.

**b) Force Account (FA) Contracts**

Status:

Force Account requirements are documented in the SAS Force Account Plan.

Observation:

Most of the Force Account effort on SAS is in the design of the track and signals systems. Upon physical completion of the track and systems, Force Account will be needed to provide the connections of the new systems to NYCT's existing systems and Force Account watchmen flagmen services.

Concerns and Recommendation:

None

**2.1.4 Operational Readiness**

Status:

MTA has provided an Operations Plan for the SAS Project that was based on using 75-foot rail cars in revenue services

Observation:

As a result of NYCT's decision to use 60-foot rail cars, the Operations Plan will need to be revised. The PMOC considers that it is too early in the Project to properly evaluate operational readiness.

Concerns and Recommendation:

None at this time.

**2.2 Third-Party Agreement**

Status:

- Interagency and master utility planning is progressing as defined in Section 12 of the PMP.
- The liaison with the utilities continues to serve as the single point of contact for all matters involving utilities, services, city, state and federal agencies. Bi-weekly utility coordination meetings at the construction field office of the active contracts are being

held. Work orders are being issued to secure the city's assistance to the project in the areas of public works engineering, and traffic engineering.

- During Final Design coordination with utility providers to develop detailed plans for facility rearrangements and integration of these plans into the construction contract documents is ongoing.

Observation:

MTACC does not have any third-party agreements but works with the third parties and receives approval letters for the design of utilities, etc.

The major New York City agencies that interface with the project include: NYC Department of City Planning; NYC Fire Department, NYC Department of Transportation; NYC Medical Examiner; NYC Department of Environmental Protection and NYC Department of Buildings.

Concerns and Recommendation:

The PMOC is concerned that in several cases agreed upon scope of work has been revised when later reviewed by other personnel within the agencies. The PMOC recommends the continuation of the Program Executive involvement in the resolution of such items and consider utilizing utility agreements on future projects.

### **2.3 Contract Packages and Delivery Methods**

Status:

The scope of work of the Project has been allocated to 11 contract packages.

- Contract 1 - C 26002 (TBM Tunnels from 92<sup>nd</sup> St. to 63<sup>rd</sup> St.)
- Contract 2A - C 26005 (96th Street Station Structure and Heavy Civil)
- Contract 2B - C 26010 (96th Street Station: utility restoration, construction of the above ground structure of the entrances and ancillary facilities, remaining invert slab, street, sidewalk and tree restoration finishes and installation of mechanical, electrical and plumbing equipment).
- Contract 3 - C 26006 (63rd Street Station: upgrade involving open-cut excavation for the construction of entrance and ancillary facilities, removal and upgrade of the structural elements within the existing tunnel, and traction power connection to the Lexington Avenue Station on the Q Line).
- Contract 4A - C 26014 (72nd Street Station: demolition of existing building and relocation of utilities that will prepare the site for construction). The FD (95% submittal) was submitted to the CCM and NYCT for review. Review comments were submitted to DHA for incorporation into the design.
- Contract 4B - C 26007 (72nd Street Station: construction of the cavern and the G3/G4 tunnels to the existing 63<sup>rd</sup> St. /Lexington Avenue Station).
- Contract 4C - C 26011 (72nd Street Station: construction of ancillary finishes, installation of station finishes and mechanical, electrical and plumbing equipment).
- Contract 5A - C 26013 (86th Street Station: utility relocation, open excavation and road decking that will prepare the site for construction).

- Contract 5B - C 26008 (86th Street Station: construction of the station cavern, entrances and access shafts).
- Contract 5C - C 26012 (86th Street Station: construction of the ancillary facilities and the installation of station finishes and the mechanical, electrical, and plumbing equipment). .
- Contract 6 - C 26009 (Systems, Power, Signals and Communications; includes the installation of the low-vibration track, aluminum rail, way-side signals, and all communication components, integration of the communication network with the NEP SCADA system and commissioning the system for revenue service).

A Request for Proposal (RFP) delivery method will be utilized for all contract packages.

Observation:

The project scope has been allocated in a logical manner to the various contract packages to facilitate effective construction in support of the project schedule and budget.

Concerns and Recommendations:

None

**2.4 Vehicles**

Status:

In the FFGA, SAS Phase 1, there are 68 new 75-foot rail cars, including 12 spares identified. The total number of rail cars required will be revised based on July 2009 decision by NYCT to utilize 60 foot rail cars.

Observation:

The Rail Fleet Management needs to be updated to reflect the total number of cars that will be utilized due to the change in the car length. Train length will remain the same at 600 feet only the train consist will change.

Concerns and Recommendation:

The PMOC is concerned because the MTA is considering removing the vehicles from the project scope but will not reduce the project funding because the money for vehicles will be reallocated to other scope elements. See Table 1. PMOC recommends the vehicle funding remain part of the SAS scope.

**2.5 Property Acquisition and Real Estate**

Status:

MTA Real Estate is handling all real estate matters related to the SAS project and is responsible for acquiring the real estate interests needed for the project in compliance with all state and federal requirements. Property and easement are being acquired to support the request for proposals of the various contract packages.

Observation:

It is the opinion of the PMOC's real estate consultant that the process is in compliance with the Federal requirements. The PMOC's real estate consultant will continue monitoring the process and perform reviews of the documentation files.

Concerns and Recommendations:

None

## **2.6 Community Relations**

Status:

MTACC is conducting an extensive public and community outreach program for the SAS project. The project staff welcomes questions, comments and ideas. Any interested member of the public and community, can check out the SAS website for updates, join the mailing list, call the Second Avenue Subway Hotline, send an e-mail, and attend the public meetings. Construction activity is regularly posted on the website and at key locations along 2<sup>nd</sup> Ave. on information boards in order to keep all informed.

Observation:

The SAS project team is sensitive to the concerns of the community and businesses. A MTACC community relations representative is present at all the construction job progress meetings to relay any concerns of the community.

Concerns and Recommendations:

None



### **3.0 PROJECT MANAGEMENT PLAN AND SUB-PLANS**

#### **3.1 Project Management Plan**

##### Status:

The approved PMP has been updated 6 times so far to incorporate the critical changes to date. As a result of the current risk review, a seventh revision will follow the Risk effort to capture any changes resulting from the Risk Re-look.

##### Observation:

The risk review uncovered several areas where the PMP did not fully provide the required information and management process. It is planned for the PMOC and MTACC to hold PMP workshops to supplement this document.

##### Concerns and Recommendations:

PMOC is concerned that MTACC may not appreciate the limited amount of time available to complete the PMP update as contained in the ELPEP. PMOC recommends beginning this process immediately.

#### **3.2 PMP Sub Plan**

- Project Quality Manual (PQM): Updated PQM (Revision 2) for the final design/construction phase of the project was approved by the FTA on March 28, 2007.
- Bus Fleet Management Plan (BFMP): Updated BFMP dated February 2007 was conditionally accepted by the FTA in May 2007.
- Rail Fleet Management Plan (RFMP): Updated RFMP conditionally accepted by the FTA on April 24, 2007. In July 2009, NYCT decided on a 60-foot rail car length for the SAS project and future procurements. The RFMP will be updated to reflect this decision.
- Safety and Security Management Plan (SSMP): On November 15, 2007, the FTA accepted the SSMP.
- Real Estate Acquisition and Management Plan (RAMP): On November 15, 2007, the FTA gave conditional approval of the RAMP.

#### **3.3 Project Procedures**

##### Status:

Appendix A, B and C in the PMP identify the applicable procedures being utilized on the SAS Project.

##### Observation:

Various procedures require updating as a result of the risk assessment activity.

##### Concerns and Recommendations:

PMOC is concerned that the procedures may not be updated in a timely manner. PMOC recommends MTACC and PMOC hold workshops to update the procedures.

## **4.0 PROJECT SCHEDULE STATUS**

### **4.1 90-day Look Ahead**

- MTACC anticipates all final design to be complete by February 10, 2010
- Quarterly Review on January 13, 2010
- Signal Design should be complete December 21, 2009

### **4.2 Critical Path Activities**

#### Status:

The critical path runs through the tunnel boring being performed under Contract 1, specifically that portion that must be completed prior to the start of 86<sup>th</sup> Street Station mining.

#### Observation:

Critical path has been impacted by the inability of the contractor to use blasting for the excavation of rock.

#### Concerns and Recommendations:

PMOC is concerned that the time lost due to the inability to proceed with blasting will impact the Project. PMOC recommends MTACC encourage the tunneling contractor to expedite both the hard rock and soil excavation to make up time.

### **4.3 Schedule Performance Analysis**

#### Status:

Contract 1 schedule update 26 shows the contract is behind the adjusted schedule by four months. The adjusted schedule includes a negotiated 127 work day time extension to a substantial completion date of January 24, 2011. The time extension also extended Milestone #1 (turn over to 72<sup>nd</sup> Street Station) to April 5, 2010. The current forecasted completion for Milestone #1 is August 31, 2010, an increase of 20 days from last month. The substantial completion date is June 2, 2011.

#### Observation:

These dates now appear to be optimistic.

#### Concerns and Recommendations:

None

## 5.0 PROJECT COST STATUS FOR SECOND AVENUE SUBWAY

### 5.1 Budget/Cost Status

The FFGA baseline budget and current re-baselined budget is broken down into Standard Cost Categories in year of expenditure dollars as follows:

Category	Description	SAS Proposed Budget		Delta
		FFGA	February 2009	FFGA to Revised
		\$ M	\$ M	\$ M
10	Guideway & Track Elements	\$612	\$769	\$157
20	Stations, Stops, Terminals	\$1,093	\$1,392	\$299
30	Support Facilities; Yards, Shops,	\$0	\$0.6	\$0.6
40	Sitework, Special Conditions	\$276	\$420	\$144
50	Systems	\$323	\$252	-\$71
60	ROW, Land, Existing Improvements	\$241	\$292	\$51
70	Vehicles	\$153	\$213	\$60
80	Professional Services	\$796	\$886	\$90
90	Unallocated Contingency	\$556	\$579	\$23
	<b>Subtotal</b>	<b>\$4,050</b>	<b>\$4,804</b>	<b>\$754</b>

#### Status:

The FFGA Budget was \$4.05 Billion. The current projection, as of February 2009, is \$4.804 Billion. This represents an increase of \$753 Million over the FFGA Budget, or approximately 19%.

The construction costs were shown as \$2.57 Billion in the FFGA budget, and are now projected at \$3.06 Billion – an increase of \$487 Million, or approximately 19%.

The other costs were shown as \$1.48 Billion in the FFGA budget, and are now projected at \$1.75 Billion – an increase of \$266 Million, or approximately 18%.

#### Observation:

See Section 5.2 Cost Variance Analysis.

#### Concerns and Recommendations:

See Section 5.2 Cost Variance Analysis.

## 5.2 Cost Variance Analysis

### Status:

The last detailed cost variance analysis was performed by the PMOC on the MTA Budget issued in February 2009, which totaled \$4.804 billion (exclusive if finance costs), which was approximately 19% higher than the FFGA budget of \$4.05 billion (exclusive if finance costs).

### Observation:

Some of the large variances between the FFGA Budget and the February 2009 budget are in;

- SCC 10 - up by \$157 million from FFGA
- SCC 20 - up by \$299 million from FFGA
- SCC 40 - up by \$144 million from FFGA
- SCC 50 - down by \$71 million from FFGA
- SCC 60 - up by \$51 million from FFGA
- SCC 70 - up by \$60 million from FFGA
- SCC 80 - up by \$90 million from FFGA
- SCC 90 - up by \$23 million from FFGA

### Concerns and Recommendations:

The PMOC continues to have the same concerns about the budget as we did when the February 2009 budget was reviewed in detail and noted in the resulting spot report:

- Inadequate Contractor Profit & Risk
- Inadequate Pre-bid and Post bid contingencies
- Inadequate Escalation
- Inadequate consideration for market conditions as revealed in large overruns between engineer's estimates and awards.

## 5.3 Project Funding Status

### **Federal**

Total Federal participation is \$1,350,692,821 (see Table 3 below)

<b>Table 3 - Federal Funding</b>	
<b>Total Federal share:</b>	<b>\$1,350,692,821</b>
<b>Total FTA share:</b>	<b>1,300,000,000</b>
5309 New Starts share	1,300,000,000
<b>Total FHWA share:</b>	<b>50,692,821</b>
CMAQ	48,233,000
Special Highway Appropriation	2,459,821

**Local**

Status:

MTACC has awarded a total 3 contracts in the amount of \$696,095,039. The local funding available is \$2.137B through the end of the Capital Program for 2010-2014.

Observation:

With the additional authorized local funds provided in August 2009, the PMOC observes that the local funding is sufficient for this period.

Concerns and Recommendations:

None

## **6.0 PROJECT RISK**

### **6.1 Initial Risk Assessment**

#### Status:

MTACC has developed a Risk Management Program through various workshops and mutual cooperation. The PMOC has documented the efforts of the Risk Assessment Team in various draft Spot Reports. The MTACC and FTA have identified and documented the risk mitigation initiatives in a scoping document for incorporation into the PMP. During January 2009, the PMOC was provided with the revised Integrated Construction Schedule and cost estimate.

#### Observation:

The SAS Project Team and the FTA's Risk Assessment Team have worked to address issues which could impact the success of the project. The FTA/PMOC has been meeting with MTACC regularly to effectuate a new schedule and cost estimate that will be acceptable to all parties

#### Concerns and Recommendations:

The PMOC is concerned that the amount of available local funding may be insufficient to support the new schedule developed under the risk process. The PMOC recommends an FMOC review of the MTA's financial capacity to fund the SAS project.

### **6.2 Risk Updates**

#### Status:

The PMOC has performed a review of the revised cost estimate and schedule provided by the SAS project team in early 2009 and amended by MTA. The FTA and the PMOC then performed a risk based PG 47 review and provided an assessment of the risk range associated with the cost and schedule provided by the project team. A series of discussions were held to develop a project execution plan to help ensure that the SAS will minimize risk in the areas of focus for the FTA PG 47 document. This project execution plan was later applied to both of the MTA mega-projects, ESA and SAS in an Executive Level Project Execution Plan (ELPEP) which has been nearly finalized. [Ref: SAS-A16-0808]

#### Observation:

The remaining discussions between FTA and SAS involve the finalization of the cost and schedule characterization of the project and the required levels of mitigation and contingencies that will be in place to protect the project should the identified levels of risk be realized.

#### Concerns and Recommendations:

Once a final level of contingency requirement has been established it will be incumbent upon the project to identify the mitigation and contingency sources to protect against the realization of the specified level of risk.

### **6.3 Risk Management Status**

#### Status:

During October 2009, the FTA and the PMOC met with SAS and MTA to discuss management issues related to cost and schedule contingency and other management processes. Cost and schedule concerns are addressed in Cost and Schedule Section below. Further discussion regarding design management is on-going. Requirements for ELPEP compliance, including a Contract C-26007 Station Cavern Mining and Heavy Civil/Structural at the 72<sup>nd</sup> Street Station Source Selection Plan, are in process,

The PMOC and FTA are working with the SAS team in an attempt to better define the FTA/PMOC concerns identified in the ELPEP and PG 47 which make up the risk gap. The objective is to better define, and close the gap, if possible, through a better understanding of SAS processes and the implementation of processes by SAS to reduce the level of risk.

Observation:

The SAS project team has been cooperative in the development of requirements for support of the ELPEP, Contingency Curves, and Design Process Review.

Concerns and Recommendations:

None at this time

#### **6.4 Risk Mitigation Actions**

Status:

There were no risk mitigation actions during October 2009 as the process in the development stage.

Observation:

None

Concerns and Recommendations:

The PMOC has no concerns at this time. However, the PMOC will recommend that the FTA/PMOC and the SAS Project team jointly develop a risk matrix for controlling the Project mitigation actions.

#### **6.5 Cost and Schedule Contingency**

Status:

During October the PMOC and FTA met with SAS and MTA representatives to discuss the project cost estimate and schedule and the FTA Cost Risk Summary and PG 47 documents to develop a mutual understanding of the risks identified in the FTA documents and to discuss the required project contingencies for cost and schedule. [Ref: SAS-A18-0808]

Observation:

An agreement to disagree was reached with regard to project schedule in which the FTA projected that under a high mitigation scenario, the project would realize additional risk that will bring the project completion date to June 2017, as opposed to the SAS projection of October 2016. The funding requirement for the additional schedule risk is included in the Cost Risk estimate under the high mitigation scenario. At the end of October 2009, the FTA estimate for Cost Risk is \$56 million above the project cost reported in the January 2009 revised cost estimate

of \$4.804 billion. There is however a discrepancy in that the revised MTA cost estimate for SAS is significantly lower.

Concerns and Recommendations:

The PMOC has concerns related to reductions in the project cost estimates that would cause the estimate to go further below the highest level of mitigation estimate. The PMOC recommends that the project ensure that sufficient mitigation capacity and/or contingency funding is available to cover the impact of possible realization of identified risks.

**a) Cost Contingency**

MTACC will develop a Cost Contingency Management Plan.

**b) Schedule Contingency**

MTACC will develop a Schedule Contingency Management Plan.



## 7.0 LIST OF ACTION ITEMS

### 7.1 Items for Grantee Action

#### Status of Action Items

The status of Action Items is shown in the following summary chart.

**Note:** Items marked with a “C” in the “PMO Contractor Status” column will be dropped from future reports.

#### Key Item

2. XX PMO CLIN 5 – Project Management Plan

3. XX PMO CLIN 3 – Project Monitoring

#### Legend

Priority (Pr)	Grantee Action	PMO Contractor Status
1 – Most Critical	D – Remedial Action Developed	R – Review On-going
2 – Critical	A – Remedial Action Approved	C – Completed - No further review required
3 – Least Critical	I – Action Implemented	

**Items for Grantee Action**

Pr	Item	Identification	Nature of Problem	Grantee Action			Comments	Status
				D	A	I		
2	CLIN 003 Sub Task 12a. SAS-A16-0808	Risk Assessment	Risk Assessment Workshop needs to be scheduled.	Y	Y	N	Workshops continued during October 2009 in order to reach consensus on the revised BCE, schedule, and wording of the Project Execution Plan (PEP). Final wording of the ELPEP and sign off by MTA and FTA is now anticipated in December 2009.	R
2	CLIN 003 Sub Task 12a. SAS-A17-0808		The Rail Fleet Management Plan (RFMP) should be updated.	Y	Y	N	NYCT has decided on a 60-foot rail car length for the SAS project and future fleet procurements. The RFMP will be updated to reflect the decision and the impact on the total number of rail cars required (train sets).	R
2	CLIN 003 Sub Task 12a. SAS-A18-0808	Contingency Drawdown Curve	The change in the Contingency Drawdown Curve, particularly the latent contingency, needs to be clarified. Why \$80 million?	Y	Y	N	A revised contingency drawdown curve has been developed based on the revised budget, schedule and contract Packaging Plan. The curves will be reflected in the PEP, which is anticipated to be completed in October 2009. See action item SAS-A13-0808.	R

## 7.2 PMOC Concerns and Recommendations

The status of PMO Contractor Concerns and Recommendations is shown in the following summary chart.

**Note:** Items marked with a “C” in the “PMO Contractor Status” column will be dropped from future reports.

### Key Item

Subtask 11A.XX                                      **CLIN 0002** – Technical Capacity Review

Subtask 12A.XX                                      **CLIN 0003** - Monitor Project Development and Implementation

### Legend

Priority (Pr)	Category (Cat.)	Grantee Action (D A I)	PMO Contractor Status
1 – Most Critical	S1 – Scope	D – Remedial Action Developed	R – Review On-going
2 – Critical	S2 – Schedule	A – Remedial Action Approved	C – Completed – No further review required
3 – Least Critical	S3 – Safety/Security	I – Action Implemented	
	B – Budget	Y – Yes	
	Q – Quality	N – No	

Pr	Item	Identification	Cat	Nature of Concern	PMO Recommendation	Grantee Action			Comments	Status
						D	A	I		
1	CLIN 0003 SubTask 12.a  SAS-04-0709	Launch box excavation potential delay	S2 S3	Excavation of the launch box has been impacted due to the structural condition of adjacent buildings on the eastside of Second Avenue.	MTA must work with the owners and NYCDOB to expedite a solution that will allow blasting for excavation.	Y	Y	N	Because of the instability of the buildings at 1766, 1768 and 1772 Second Ave, the contractor cannot blast to excavate the rock. 1772 Second Avenue has been reinforced and the NYC Department of Buildings has allowed the tenants to return to this building. The other two are being reinforced by the MTACC Contract 1 contractor to assure the work is done quickly and correctly to minimize impacts to the project. It is anticipated that blasting work may start in early November 2009. The exact timing of that is not known at this time.	R

## LIST OF ACRONYMS

AFI	Allowance for Indeterminates
AWO	Additional Work Order
CCM	Consultant Construction Manager
CPM	Critical Path Method
CPRB	Capital Program Review Board
DHA	DMJM+Harris and ARUP
DOB	New York City Department of Buildings
FD	Final Design
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
HLRP	Housing of Last Resort Plan
MEP	Mechanical, Electrical, Plumbing
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority – Capital Construction
N/A	Not Applicable
NTP	Notice to Proceed
NYCDEP	New York City Department of Environmental Protection
NYCT	New York City Transit
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PQM	Project Quality Manual
RAMP	Real Estate Acquisition Management Plan
ROD	Revenue Operations Date
TIA	Time Impact Analyses
S3	Skanska, Schiavone and Shea
SAS	Second Avenue Subway
SCC	Standard Construction Categories
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined