

## **PMOC MONTHLY REPORT**

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

November 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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PMOC lead person's name, affiliation, Richard F. Hill

Length of time on project: 5 years

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**APPENDIX A -- LIST OF ACRONYMS**

## **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 Quality Control team for the SAS Project will lose two key people, the MTACC Chief Quality, Safety and Site Security and the SAS Quality Director, in December 2009 and January 2010 respectively. This is in addition to the expected reduction in designers as the project becomes 100 percent complete.

###### Observation:

To date, the Quality aspects of the Second Avenue Subway Project have been supported by a professional QA/QC team that stressed quality and controlled it by continuous audits and checks. The Director, who is retiring, has encouraged teamwork amongst all of the quality organizations on the project (MTACC, Designer, Contractors and CCM) and they work together for the good of the project. This outlook should be continued.

###### Concerns and Recommendations:

The PMOC is concerned with the departure of the Chief Quality, Safety and Site Security and SAS Director Quality at the same time. SAS Management is currently seeking replacements for these two positions. PMOC recommends that finding replacements be given the highest priority to minimize the time these positions would be unfilled. To assure quality continuity, consideration should be given to borrowing quality personnel from the Designer or CCM, until permanent qualified MTACC employees can be hired.

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

###### Status:

Until the new Quality personnel have been hired, the staff qualifications must be considered reduced from last month. The people who are leaving may be hard to replace.

###### Observation:

Historically, the quality on SAS has been above average. Hopefully, the quality effort will continue as the contractors currently working on site have strong quality units and work closely with MTACC and the CCM on maintaining quality.

###### Concerns and Recommendations:

The PMOC is concerned that the departure of these key positions, added to the loss of the designer's Quality Manager in the summer of 2009 and MTACC's main field person's transfer to the East Side Access project, may diminish quality on the project. PMOC recommends that the SAS team fill these positions as soon as possible.

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

###### Status:

*There is no change this month.*

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

Observations:

MTACC plans to assign additional staff as each new contract is awarded and proceeds.

Concerns and Recommendations:

None

**d) Grantee's Physical Resources**

Status:

*There is no change this month.*

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 current needs and objectives of the project.

Concerns and Recommendations:

None

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

Status:

*No change from last month.*

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:

The FTA and MTA are meeting at the highest levels to reach agreement on the budget and schedule to use going forward on this project. To date, this information is not available.

Concerns and Recommendations:

PMOC is concerned that additional slippage may occur if high mitigation measures are not implemented to avoid a potential loss of opportunities to mitigate risk. 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:

*No change this month.*

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:

*No change this month.*

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:

*No change for this month.*

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:

No change this month.

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:

*No change this month.*

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:

*No change this month.*

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:

MTACC is preparing Tech. Memo 5 to address changes in the entrances for 72<sup>nd</sup> and 86<sup>th</sup> Street station.

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:

There are two key quality positions being vacated in the next two months that need to be filled.

### Observation:

These positions are responsible for implementing the quality program for SAS.

### Concerns and Recommendations:

PMOC is concerned with the potential degradation of quality should these positions not be filled quickly. The PMOC recommends these positions be filled before the positions are vacated to encourage a smooth transition.

## **1.2.3 Project Schedule**

### Status:

MTACC's project control unit is assigning a separate scheduler to the field office for each project under construction, who will report to project control and not to the MTACC project manager.

### Observation:

This provides the field office with focus on the schedule and will act to hopefully alert the field team of potential delays before they become critical while having an independent view of project developments.

### Concerns and Recommendations:

The PMOC is concerned that this critical position may not function as part of the field team due to its connection to project controls. The PMOC recommends that project controls administer the schedulers but instruct them to take direction from the field management.

## **1.2.4 Project Budget and Cost**

### Status:

No change this month.

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**

<b>Standard Cost Category (SCC) #</b>	<b>Description</b>	<b>Year of Expenditure \$000</b>
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 November 30, 2009.

**Table 2 – Appropriated and Obligated Funds**

<b>Grant Number</b>	<b>Amount (\$)</b>	<b>Obligated (\$)</b>	<b>Disbursement (\$) thru November 30, 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-36-001-00*	\$78,870,000	0	0
NY-95-X009-00	\$25,633,000	\$25,633,000	0
NY-95-X015-00	\$45,800,000	0	0
<b>Total</b>	<b>\$353,991,170.00</b>	<b>\$229,321,170.00</b>	<b>\$180,139,651</b>

\* Denotes ARRA funds

A total of \$847,774,068 million has been expended on the project through November 30, 2009. Through November 30, 2009, \$379,374,287 has been spent on design and \$242,094,998 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 \$667,634,417 (\$847,774,068 - \$180,139,651) have been spent as November 30, 2009.

Concerns and Recommendations:

See Section 1.1.3b.

### **1.2.5 Project Risk Monitoring and Mitigation**

Status:

No change this month.

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:

No change this month.

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 retrain 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 continue to trend below the national average. Lost time accidents 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:

No change this month.

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: SAS-AXX] refers to the table in Section 7.1 and any [Ref: SAS-XX] refers to the table in Section 7.2.

#### **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 November 30, 2009, the overall final design completion is reported at 94% and expects to have all design at the 95% level by December 31, 2009.

Observation:

The PMOC considers this milestone doable at this point in time.

Concerns and Recommendation:

The PMOC has no concerns at this time.

#### **2.1.2 Procurement**

Status:

MTACC will use the low bid method for contract 4B, 72<sup>nd</sup> Street station mining and heavy civil, in lieu of the RFP method. If this is successful, other station contracts will follow in kind.

Observation:

This will eliminate the time required by the RFP method and allow MTACC to award the work to a responsive and responsible contractor.

Concerns and Recommendation:

None

#### **2.1.3 Construction**

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

Status:

No change this month.

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:

No change this month.

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:

No change this month.

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:

No change this month.

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:

No change this month.

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 is currently allocated to 11 contract packages. The SAS project executive is considering combining Contracts 4A and 4B, which would reduce the package count to 10. The packages are as follows:

- 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).

MTACC is considering using low bid instead of the RFP method previously reported.

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. PMOC still has not received written documentation of the decision to acquire 60-foot rail cars and understands that the new MTA Chairman may be revisiting this matter.

Observation:

The Rail Fleet Management Plan 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 and only the Train Consist will change.

Concerns and Recommendation:

The PMOC is concerned that 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:

There were 48 tenants requiring relocation at 72<sup>nd</sup> Street. To date, 30 have been relocated and the remaining 18 are in process. Two of the required cost-to-cure agreements have been signed by the owners and one other is expected to be signed soon. The FTA gave MTA approval for the outstanding appraisals on November 30, 2009.



Observation:

Currently, none of the remaining 18 tenants has indicated a reluctance to cooperate, but the PMOC will continue monitoring these efforts.

Concerns and Recommendations:

None at this time

## **2.6 Community Relations**

Status:

MTACC is preparing to meet with Community Board 8 to get its approval of the final design for the entrance changes for the 72<sup>nd</sup> and 86<sup>th</sup> Street Stations. Technical Memo 5 requires community approval before being submitted to FTA.

Observation:

MTACC suggested they may submit a draft Technical Memo to FTA/PMOC to expedite the approval for the entrances, which is needed by March 2010.

Concerns and Recommendations:

None at this time

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

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

Status:

No change this month.

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**

No change this month.

- 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. MTACC's Project Control office was instructed to update MTA's procedures for their major projects, and is still working on them.

Observation:

MTACC's Project has only delivered 18 of the 83 procedures which they are revising.

Concerns and Recommendations:

PMOC is concerned that the procedure revisions were being done under the leadership of MTACC's Chief Quality, Safety and Security, who is leaving shortly. This is a critical area that will be affected by this departure. MTACC should not assign this task to the new Chief unless the person is familiar with MTA's procedures. PMOC recommends this task go immediately to an existing MTACC employee with the time and experience to complete it quickly. The PMOC is available to attend workshops to speed delivery of the final product.

## **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 and the TBM withdrawn prior to the start of 86<sup>th</sup> Street Station cavern mining. The critical path then runs through the systems installation then into the test and startup work.

#### Observation:

Critical path has been impacted by the inability of the contractor to use blasting for the excavation of rock. This has had a direct effect on the critical path of the project. The MTACC is working with the contractor to alleviate some of the impact to the schedule.

#### 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. The PMOC further recommends that the MTACC investigate the detailed relationships between construction contracts to determine a precise amount of handoff time. The strategy for the late performance of construction is to consume handoff duration downstream. Significant amounts of handoff could be consumed because of the late performance of Contract 1.

### **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 for Contract 1 is June 2, 2011.

#### Observation:

These dates now appear to be optimistic.

Neither Contract 1 nor the IPS contains a binding milestone for the turnover of work from Contract 1 to the 86<sup>th</sup> Street mining contract 5B which is on the critical path of the program. This oversight has the potential to allow the critical path turnover to slip in time without any repercussions to Contract 1. As it stands now, Contract 1 has until substantial completion to turn over work to Contract 5B. This is a serious flaw in the approach to schedule control.

The MTACC is meeting the procurement cycle outlined in the IPS.

Concerns and Recommendations:

The PMOC is concerned that the project lacks a binding milestone or some other agreement for the turnover of work from Contract 1 to Contract 5B. The PMOC recommends that the MTACC endeavor to establish a firm and committed agreement with Contract 1 to meet the IPS dates. This can be accomplished through the delay negotiations that are held with the contractor. Lacking any firm agreements, the MTACC can only rely on good faith efforts by the contractor.

The PMOC is also concerned that the TBM production rates and the cavern excavation production rates are at the top end of expected performance, and the failure to meet those rates can have significant impact to the schedule. Experience from other MTA Manhattan projects indicates that it is very difficult to maintain a high level of production for long periods of time. The PMOC recommends that the MTACC should redouble efforts to work with the contractors to overcome construction difficulties expeditiously.

## 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:

No change this month.

The FFGA Budget was \$4.05 Billion. The current projection, as of February 2009, is \$4.804 Billion. This represents an increase of \$754 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). FTA and MTA Senior Executives are negotiating a new Budget number for SAS, but did not reach agreement in November 2009.

### Observation:

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

- SCC 10 – Guideway & Track Elements - up by \$157 million from FFGA
- SCC 20 – Stations, Stops, Terminals - up by \$299 million from FFGA
- SCC 40 – Sitework & Special Conds. - up by \$144 million from FFGA
- SCC 50 – Systems - down by \$71 million from FFGA
- SCC 60 – ROW, Land, Existing Improvements - up by \$51 million from FFGA
- SCC 70 – Vehicles - up by \$60 million from FFGA
- SCC 80 – Professional Services - up by \$90 million from FFGA
- SCC 90 – Unallocated Contingency - up by \$23 million from FFGA

### Concerns and Recommendations:

The PMOC is concerned with the following:

- Contractor Indirect & Overhead Costs – application of percentage markups may not adequately address increases in contract durations
- Inadequate Contractor Profit & Risk
- Inadequate Pre-bid contingency applied to the 72<sup>nd</sup> St. Station Contract 4B
- Inadequate Post bid contingency applied to Contracts 1, 2A, 2B, 3, 4C, and 5C
- Inadequate consideration for market conditions as revealed in large overruns between engineer's estimates and awards.

The PMOC recommends MTACC review and address the above concerns.

## 5.3 Project Funding Status

### **Federal**

No change from last month.

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:

No change from last month.

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:

Negotiations are continuing between FTA and MTA.

Observation:

None

Concerns and Recommendations:

None

**6.4 Risk Mitigation Actions**

Status:

During November 2009, MTACC strengthened the structural unsound building at 92<sup>nd</sup> and Second Avenue. Following the NYC Department of Buildings' approval, MTACC's contract was authorized to begin test blasting November 4, 2009 and full blasting in mid-November 2009.

Observation:

By having their contractor perform the initial strengthening work, MTACC reduced the potential delay to this contract and this will result in less escalation to the remainder of the project.

Concerns and Recommendations:

None

**6.5 Cost and Schedule Contingency**

Status:

Negotiations are continuing between FTA and MTA.

Observation:

None

Concerns and Recommendations:

None

**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	Rail Fleet Management Plan	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.	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