PMOC MONTHLY REPORT

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

March 1 to March 31, 2010

PMOC Contract No. DTFT60-09-D-00007
Task Order No. 2, Project No. DC-27-5115, 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: 0 years

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APPENDICES

EXECUTIVE SUMMARY

1.0 PROJECT SCOPE

The Second Avenue Subway (SAS) Phase I project is 2.3 miles in length from 63rd Street to 105th Street. Its scope includes: tunneling; 3 new stations and 1 rehabbed station; ancillary facilities; track, signal, and electrical work; vehicle procurement; and all other subway systems necessary for operation from 96th Street to 63rd Street. It will connect at 63rd Street with the existing Broadway Line that extends to Lower Manhattan and Brooklyn. It will require 7 operating trains plus spares and is forecast to carry 191,000 riders on an average weekday following the revenue service date.

2.0 CHANGES DURING 1st QUARTER 2010

2.1 Engineering/Design Progress

In response to lessons learned on the excavation of the tunnel boring machine launch box and pursuant to a memorandum of understanding with New York City Department of Buildings, MTACC has authorized its design consultant to expand the survey of fragile buildings adjacent to the planned construction sites for the stations and ancillary facilities. The design consultant will provide an assessment of potential impacts of future work on these buildings and suggest actions to mitigate these impacts.

Final design for all contracts was previously scheduled to be completed by May 2010. All designs are now scheduled to be completed by September 13, 2010. The completion dates were adjusted to accommodate the availability of New York City Transit (NYCT) resources to review the designs; incorporation of any changes from the review process; and incorporation of risk mitigation actions from the fragile buildings survey.

2.2 New Contract Procurements

The bid due date for Contract-26007 (4B), 72nd Street Station Cavern Construction was extended from March 25, 2010 to May 25, 2010. The extension will give the design consultant time to issue an addendum to reallocate the scope of work from Contract 4A into Contract 4B and to respond to the 97 questions received from the potential bidders. Contract award is scheduled for July 6, 2010. The only other contract scheduled to be advertised and awarded in 2010 is Contract-26006 (3) 63rd Street Station modification. The contract is forecasted to be advertised on June 16, 2010 and awarded on October 4, 2010.

2.3 Construction Progress

Total construction cost for the project is estimated at $2.970 billion. As of March 31, 2010, $0.282 billion has been spent on the three active construction contracts. Construction is 9.49% complete vs. a planned completion of 12.32%. The data was extracted from the SAS March 2010 Monthly Cost Data Report.

2.4 Continuing and Unresolved Issues

It is anticipated that the fragile buildings survey being performed by the design consultant will identify additional buildings with conditions which will require remedial work to improve soil conditions and reinforcement of the facades.

2.5 New Cost and Schedule Issues

In the area of the launch box and 96th Street Station, eighteen buildings have been identified as being fragile and will require some form of reinforcement. Some of the residents in six of the buildings will be temporarily relocated so the reinforcement work can be performed. MTACC has estimated this cost to be in the $6.00 million to $8.00 million range. The cost will increase as additional buildings are surveyed and identified as requiring remediation work. MTACC is projecting no schedule impact on the start of tunnel boring and the December 2016 Revenue Service Date as a result of these issues.

3.0 PROJECT STATUS SUMMARY AND PMOC ASSESSMENT

3.1 Grantee Technical Capacity and Capability

The Grantee's Technical Capacity and Capability has not changed from the last quarter.

3.2 Real Estate Acquisition

Real estate acquisition and tenant relocation is being performed in accordance with the approved SAS Real Estate Acquisition Management Plan and Relocation Plan. These plans address Title 49 CFR Part 24, which implements the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and FTA real estate requirements 5010.1C. The tenants in 39 of the 48 residential units have been relocated. The remaining residential tenants have been contacted by MTA's relocation consultant O.R. Colan Associates. Title vesting for properties required for Contracts 4B and 5B is scheduled to occur in April 2010. MTA will hold a public hearing on April 20, 2010 pursuant to Article 2 of the New York State Eminent Domain Procedure Law on the proposed acquisition of permanent and temporary property interests and the termination of rights for certain sidewalk encroachments in properties to support Contracts 3, 4B, 5A and 5B.

3.3 Engineering/Design

Completion of final design for all contracts has been adjusted from May 10, 2010 to September 13, 2010. The adjustment will give the design consultant time to incorporate New York City Transit (NYCT) review comments, and risk mitigation actions from the fragile buildings survey.

3.4 Procurement

The date for submittal of bids for Contract 4B was extended from March 25, 2010 to May 25, 2010. The extension will give the design consultant time to answer the 97 questions received from the potential bidders and to issue addendums to the drawings and specifications as needed. Contract award is scheduled for July 6, 2010. The only other contract scheduled to be awarded in 2010 is Contract 3 which has an award date of October 4, 2010.

3.5 Force Account (support and construction)

While MTACC is heavily involved in construction, it does not have its own employees to support these activities. It relies on NYCT in-house labor for this purpose. NYCT employees have specialized skills and will perform flagging, general orders, work trains, access and protection, inspections, and crowd control for the SAS project. These employees have been thoroughly trained and have gained expertise in NYCT operating procedures as they relate to providing a safe and effective work environment.

3.6 Third-Party Construction

There are three active construction contracts on the SAS project, as indicated below and depicted in the construction photos in Appendix F. Detailed progress of each contract is contained in Section 2.1.3.

- *Contract-26002 (1) –Tunnel Boring Machine (TBM) tunnels from 92nd Street to 63rd Street*
- *Contract C-26005 (2A) -96th Street Station heavy civil, structural and utility relocation*
- *Contract C-26013 (5A) 86th Street Station excavation, utility relocation and road decking*

3.7 Vehicles

MTA is still reevaluating the vehicle requirements for operation of the entire NYCT system, which includes SAS. NYCT has suggested that the total number of vehicles including spares could be reduced. The PMOC is performing a review of the NYCT analysis leading to changes to the schedule maintenance program. The results of this review will be presented to the FTA Region 2 Administrator for consideration. The Rail Fleet Management Plan (RFMP) will need to be updated to reflect any agreements between the MTA and FTA. Until then, the vehicle cost of $222 million will remain in the SAS current working budget and estimated total project cost.

3.8 Systems Testing and Start-Up

The scope of work associated with systems testing and start-up is allocated to Contract 6. The Systems Testing Plan is being updated to provide additional detail on the equipment to be integrated and tested and identify the functional group within NYCT that has the responsibility to verify/validate the test. The update of the Systems Testing Plan is scheduled to be completed by June 30, 2010.

3.9 Project Schedule

Critical Path Performance – The latest update (February 28, 2010) of the Integrated Project Schedule (IPS) indicates continuing delays to Contract 1 generally involving launch box construction, as well as TBM procurement and assembly. These delays have impacted the start of tunneling and may potentially impact the start of work at 72nd Street Station (Contract 4B) and 86th Street Station (Contract 5A). MTACC has been actively pursuing delay mitigation strategies, several of which we anticipate will be introduced via the next IPS update.

The latest update also indicates the completion of design, procurement and construction of Contract 6 (Systems) to be critical. More detailed modeling of the proposed procurement process (RFP) may relieve this immediate criticality; however, it appears this path will remain "near critical" pending significant revisions to the package and/or project schedule logic.

3.10 Project Budget/Cost

	FFGA			FFGA Amendments	*MTA's Current Working Budget (CWB)*		Expenditures as of *March 31, 2010*	
	($ Millions)	(%) Grand Total Cost	Obligated ($ Million)	*TBD*	($ Millions)	(%) Grand Total Cost	($ Millions)	% of Grand Total Cost
Grand Total Cost:	**4,866.614**	**100**			**5,489.614**	**100**	***945.916***	***17.23***
Financing Cost	816.614	16.78			816.614	14.88		
Total Project Cost:	**4,050.000**	**83.22**	**1,475.083**		**4,673.000**	**85.12**	***945.916***	***17.23***
Total Federal share:	**1,350.693**	**27.75**	**229.321**		**1,373.892**	**24.60**	***260.874***	***4.75***
Total FTA share:	**1,300.000**	**96.25**	**167.810**		**1,300.000**	**94.62**	**203.984**	**3.71**
5309 New Starts share	1,300.000	100	167.810		1,300.000	*94.62*	*203.894*	*3.71*
Total FHWA share:	**50.693**	**3.75**	**50.693**		***73.892***	***5.38***	***56.890***	***1.04***
CMAQ	48.233	95.15	59.051		*71.433*	*96.67*	*54.430*	*0.99*
Special Highway Appropriation	2.460	4.85	2.460		2.459	3.33	2.460	*0.05*
Total Local share:	**2,699.307**	**55.47**	**1,245.782**		**3,299.108**	**60.52**	**685.042**	**12.48**
State share:	450.000	16.67	100.000		450.000	13.54		
Agency share:	2,249.307	83.33	1,145.782		2,872.308	86.46		
City share:	0	0			0	0		

Data for this table was obtained from the transportation electronic award management system (team) and MTA's grant management department.

3.11 Project Risk

During the past Quarter, the SAS project has progressed the implementation of their new format for conducting and documenting risk mitigation planning. The new format is providing improved visibility into the mitigation process and allows for a more thorough and effective treatment of risks. The risk elements discussed in the meetings (see below) were identified during the Risk Analysis performed in early December 2009 which have been assigned to sponsors and are undergoing analysis to determine their potential impact on specific project components and contracts.

- *Risk 15B: Department of Environmental Protection out-of scope betterments*
- *Risk 21A: Differing and/or unforeseen sub surface conditions*
- *Risk 28: Planning and design project utility relocation*
- *Risk 29: Ineffective interfacing between contract packaging results in inefficient management*
- *Risk 64A: Excessive cavern over-break*

The SAS process is to review the risk elements on a regular basis to determine their applicability to the present active and future contracts, to determine mitigation activities required, and to assign sponsors to provide the required attention to specific aspects of the risk treatment. The PMOC has attended the first of these meetings and is encouraged by the efforts of the SAS team to bring added focus to this key aspect of the project management effort.

ELPEP SUMMARY

Status:

As of the end of March 2010, MTACC continued to work cooperatively with the FTA to produce Management Plans as called for in the Enterprise Level Project Execution Plan (ELPEP). The FTA/PMOC and MTACC met on March 4, 2010 to review the Technical Capacity and Capability (TCC) Plan. MTACC then submitted the final draft plan on March 10, 2010. The FTA and the PMOC concluded its review of the TCC and the PMP Update plans and prepared an approval letter. The Schedule Management Plan was resubmitted on March 4, 2010 and reviewed on March 17, 2010 with the FTA. The plan was resubmitted by MTACC on March 30, 2010. MTACC has submitted a draft Cost Management Plan; however as of the end of March 2010, it has not yet submitted a Cost Contingency Management Plan. In response to the ELPEP requirements package review work plans have been discussed between the MTACC and the FTA/PMOC. On March 18, 2010, the MTA provided chronological information to demonstrate the traceability of contract package for one active ESA (CM014) and SAS contract package (4B). The March 18 and 25, 2010 weekly meetings also included discussions of action items related to Recovery Plans and the CPRB Knowledge of ELPEP Cost Estimate and Contingency information on which MTACC has taken action.

The PMOC, FTA, MTA and SAS staff continued to hold weekly workshops in March 2010. Based on the ELPEP effective date of January 15, 2010, the following items are scheduled to be completed in the next 30 days:

- MTA will develop and finalize the Cost and Schedule Management Plans for the ESA project in conformance with ELPEP requirements.
- MTA will develop and finalize the Cost and Schedule Contingency Management Plans for the ESA project in conformance with the ELPEP requirements.
- MTA will demonstrate a functioning process for achieving the traceability of contract package scope from the design basis documentation through pre-construction planning into the contract package cost estimate and schedule through a contract package level WBS or functional equivalent for one active SAS contract package (4B). MTA will provide FTA with a plan to demonstrate similar ELPEP conformance on all other un-awarded contract packages for both projects except for construction risk mitigation capacity.

Observation:

The ELPEP implementation process has been progressing slightly behind schedule; however, the process has been successful in progressing plans that will improve the respective project management processes. The weekly workshops are beneficial in maintaining good progress of the ELPEP implementation. The introduction of focus group efforts to review and revise plans has been successfully implemented. This month, the SAS Project Team has been proactive in the support of the ELPEP implementation effort

MTA progressed to incorporate beneficial outcomes from the ELPEP into the Schedule Management Plan. Good progress has been made, with final discussions centered on traceability of schedule update information, integration of risk into schedule forecasting, and contingency management. The MTACC and the PMOC have discussed the overlap between the

OP 53 task and the package review portions of the ELPEP implementation requirements with the objective of coordinating efforts on similar tasks.

The following summarizes the intermediate deliverables and final plans submitted during this update period:

March 2, 2010 – Project Management Plan Revision Process;

March 4, 2010 – MTACC forwards first draft of Schedule Management and Schedule Contingency Plan;

March 5, 2010 – MTACC forwards first copy of Cost Management Plan – no Cost Contingency Plan;

March 10, 2010 – MTACC forwards final version of PMP Update Plan to PMOC;

March 11, 2010 – MTACC formally submits final TCC version to FTA;

March 16, 2010 – Cost Management and Cost Contingency Plans;

March 16, 2010 – Schedule Management and Schedule Contingency Plan;

March 16, 2010 – ESA and SAS submitted Traceability documents for CM014 and 4B – WBS information pending;

March 17, 2010 – Risk Mitigation Capacity for the CM014 and 4B contracts. The MTACC forwards white paper for Risk Mitigation Capacity;

March 24, 2010 – MTACC forwards updated draft of CMP - no Cost Contingency Plan; and on

March 30, 2010 – MTACC sends a revised Schedule Management and Schedule Contingency Plan.

Concerns and Recommendations:

The PMOC recommends that the MTACC assure that required resources are available for the implementation of the plans such as the TCC and PMP Update and to provide continued support in achieving, within the next 30 days, the ELPEP goals outlined above.

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 organizational structure of the Second Avenue Subway (SAS) project is consistent with the structure defined in Section 2 of the SAS Project Management Plan (PMP).

Observation:

The SAS project is being implemented through the coordinated efforts of various organizations and responsible parties who are working as an integrated team providing multiple levels of oversight. The team primarily includes staff from Metropolitan Transportation Authority Capital Construction (MTACC), New York City Transit (NYCT), DMJM/Harris and Arup (DHA, the design consultant), and Parsons Brinkerhoff (PB) America (Construction Consultant Management). The team also consists of other support and oversight organizations such as the Metropolitan Transportation Authority's (MTA) Independent Engineering Consultant (IEC).

Concerns and Recommendations:

None

b) Staff Qualifications

Status:

Staff qualifications are consistent with those defined in Section 2.3.1 of the SAS PMP.

Observation:

The SAS team has a demonstrated level of experience gained from work on similar major capital projects.

Concerns and Recommendations:

None

c) Grantee Staffing Plan

Status:

A Quality Manager was assigned to the SAS project to replace the Quality Manager who retired. Candidates for the position of Construction Manager for the 72nd Street Station are still being interviewed.

Observations:

Adequate support is being provided for the various activities occurring during this phase of the project.

Concerns and Recommendations:

The PMOC recommends that the SAS staffing plan be updated to reflect the Grantee's support of the extension of the design activity (See Section 2.1).

d) Grantee's Physical Resources

Status:

The SAS project team and the design consultant staffs are co-located at 20 Exchange Place in lower Manhattan in order to provide effective communication and decision making. Field offices, with construction management personnel, have been established at 207 E 94th St., 1850 2nd Ave and 341 E 79th St. for construction contracts 1, 2A and 5A respectively. As future construction contracts are awarded, MTACC will open and staff additional field offices.

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:

The SAS Project has not been executed in compliance with the cost and schedule elements of the Full Funding Grant Agreement (FFGA). The project is trending over budget and behind schedule. In the FFGA, the Baseline Cost Estimate (BCE) is $4.050 billion (excluding financing cost) and the Revenue Operations Date is June 30, 2014. The MTA has proposed a revised baseline cost estimate (RBCE) of $4.673 billion based on its risk range evaluation of $4.522 to $4.993 billion. The MTA is also proposing a Revenue Service Date (RSD) of December 31, 2016.

See Section 6.0 for additional details.

Observation:

The BCE represented the estimated total project cost when the FFGA was awarded in November 2007. The Revenue Operations Date (ROD) is the terminology used in the FFGA for when the SAS project will be operational. It is the same as the RSD, which is the terminology used in the Enterprise Level Project Execution Plan (ELPEP) effective date January 15, 2010. Based on the assumption that the new management processes and medium level of mitigation measures noted in the ELPEP will be implemented, the PMOC projects that the SAS project team should be able to achieve the estimated total project cost (ETPC) of $4.804 billion and RSD of February 2018.

Concerns and Recommendations:

The PMOC will continue monitoring 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:

During the 1st Quarter, various workshops continued with the MTA in order to develop the required management processes and strategies described in the ELPEP. The integration of these into the SAS PMP is on-going.

Observation:

Integration of the ELPEP requirements into the SAS PMP will allow the MTACC to more effectively manage the SAS project. It will also give the FTA/PMOC a greater level of assurance that the SAS project can proceed through the final design and construction phases and be delivered to the start up phase consistent with the estimated total project cost and schedule. The workshops are beneficial in helping all to understand the processes and to assure a timely update of the PMP.

Concerns and Recommendations:

Given that the SAS Project Team is being proactive in the update of the PMP, the PMOC has no concerns at this time.

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

Status:

On November 19, 2007, the FTA awarded a Full Funding Grant Agreement (FFGA) to the MTA. A provision of the FFGA requires MTA to submit a Recovery Plan if the cost and schedule commitments are not achieved. In early 2008, MTA notified the FTA that the FFGA BCE of $4.050 billion (excluding financing cost) and ROD of June 30, 2014 will be exceeded.

Observation:

MTA, MTACC, FTA, and PMOC have developed a process which will meet the intent of the various FTA/Federal requirements and is reflected in the ELPEP, PMP and sub-plans.

Concerns and Recommendations:

See section 1.1.2a

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 affects 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 projects. (Reference: Proposed MTA Capital Program 2010-2014, dated September 23, 2009) *Each construction contractor has implemented a Construction Safety and Security Program Plan, as defined in sections 011150 and 011160 of the contract terms and conditions.*

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

No change this month.

b) Local Funding Agreements

Status:

No change this month.

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. Local funds are available for the 63rd St. and 72nd St. Station contracts to be awarded in 2010.

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).

1.1.4 Scope Definition and Control

Status:

The scope of the SAS Project is defined in the FEIS, ROD and the FFGA. The scope was subsequently allocated into eleven contract packages. The MTACC has recently decided to reallocate the scope of work for the 72nd Street Station into two contract packages (4B and 4C) instead of three. This has resulted in ten contract packages for the project. *Technical*

Memorandum No. 5 (draft), which addresses changes to the 63rd Street Station entrances subsequent to the Record of Decision, was submitted for FTA review on February 16, 2010. A meeting was also held with the community to solicit its inputs on the changes to the entrances.

Observation:

The process of utilizing the Configuration Control Board (CCB), the change control process, the Technical Advisory Committee (TAC) and issuing Technical Memorandums is effective in tracking scope changes. Four Technical Memorandums have been issued to date.

Concerns and Recommendations:

None

1.1.5 Quality

Status:

MTACC's Quality Manager for Second Avenue has implemented a Total Quality approach for monitoring the Quality Control and Quality Assurance activities on the Project. MTACC Quality Personnel audit both the Designer's and CCM's Quality programs; then the three groups (MTACC, Designer & CCM) audit the Contractors', Subcontractors' and Suppliers' Quality programs. Each construction Quality Manager has a very ambitious Quality program that is scheduled weeks into the future and lists the audits and inspections to be performed. The inspections follow the schedule of work to be performed in those weeks. Materials being delivered for the work tasks are inspected prior to the work beginning and the quality of the work being performed is audited/inspected as it is being done. The status of Non-Conformance Notices and the responsibility to perform corrective actions is distributed monthly. Representatives from each quality organization meet every other week to address any quality concerns. The Quality Program continues to be proactive and is providing proper oversight. Personnel working on the SAS Project have been trained and/or instructed in their organization's Quality Management System as it applies to their duties and responsibilities.

Observation:

The Quality Management System implemented on the SAS Project meets the FTA QA/QC guidelines.

Concerns and Recommendations:

None

1.1.6 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 both to MTACC Project Control (solid line) and to the SAS Project Manager (dotted line).

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 SAS field team due to its connection to MTACC Project Controls. The PMOC recommends that MTACC Project Controls administer the schedulers but instruct them to take direction from SAS field management.

1.1.7 Project Budget and Cost

Status:

Total project cost in the approved FFGA is $4,866,614 million and is allocated into the 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 March 31, 2010.

Table 2 – Appropriated and Obligated Funds

Grant Number	Amount ($)	Obligated ($)	Disbursement ($) thru *March 31, 2010*
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	*$164,374,410*
NY-17-X001-00	$2,459,821	$2,459,821	$2,459,821
NY-36-001-00*	$78,870,000	*$78,870,000*	*$51,969,818*
NY-95-X009-00	$25,633,000	$25,633,000	$8,652,432
NY-95-X015-00	$45,800,000	*$45,800,000*	0
Total	$353,991,170.00	*$353,991,170.00*	*$260,874,530.00*

* Denotes American Recovery and Reinvestment Act (ARRA) funds

A total of $945,916,276 has been expended on the project through March 31, 2010, of which $386,042,902 has been spent on design and $281,981,952 on construction (MTACC's monthly financial input).

Observation:

Local funds totaling $685,041,746 ($945,916,276 – $260,874,530) have been spent as of March 31, 2010.

Concerns and Recommendations:

See Section 1.1.3b with regard to local funding.

1.1.8 Project Risk Monitoring and Mitigation

Status:

FTA, PMOC and MTACC have finalized the wording of the ELPEP, which contains the approved level of mitigation and the measures that must be taken to comply with the revised ETPC and RSD.

Observation:

The ELPEP will be integrated into the SAS PMP. The resulting PMP will be an effective tool for MTACC to manage the project and for the PMOC to monitor it.

Concerns and Recommendations:

See Section 1.1.2 a.

1.1.9 Project Safety

Status:

The March 2010 OSHA recordable incident rate for the project is 1.65, and the lost time accident rate is 1.03. Both rates are well below the national averages of 4.9 and 2.6 respectively.

Observation:

SAS has an effective and proactive safety program. Safety is discussed at each bi-weekly construction Job Progress Meeting. MTACC and contractor's safety personnel and the OCIP representative continue to monitor the construction sites for compliance. Any unsafe conditions noted are corrected immediately.

Concerns and Recommendations:

None

1.2 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-Aug08]

Note: Throughout this report, any [Ref: SAS-XX] refers to the table in Section 7.0 and any [Ref: SAS-AXX] refers to the table in Section 8.0.

1.2.1 Readiness to Enter PE

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

1.2.2 Readiness to Enter Final Design

Entry into FD (Phase 1) was approved by FTA on April 18, 2006.

1.2.3 Record of Decision (ROD)

The ROD was issued on July 4, 2004.

1.2.4 Readiness to Execute FFGA

The FFGA was executed on November 19, 2007.

1.2.5 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.

1.2.6 Readiness for Revenue Operations

Revenue Operations per the FFGA is scheduled for June 30, 2014. Revenue Operations per MTA's SAS Integrated Project Schedule (update 43) is scheduled for December 30, 2016.

2.0 PROJECT SCOPE

2.1 Status & Quality: Design/Procurement/Construction

2.1.1 Engineering and Design

Status:

Final design for all contracts was previously projected to be completed by May 2010. All designs are now scheduled to be completed by September 13, 2010. The completion dates were adjusted to accommodate the availability of NYCT resources to review the design, incorporate any changes from the review process, and incorporate risk mitigation actions from the fragile buildings survey. The revised dates are as follows:

- *Contract -26010 (2B) – 96th Street Station Finishes and Mechanical, Electrical and Plumbing (MEP) 9/13/2010*
- *Contract-26006 (3) -63rd Street Station modifications 4/19/2010*
- *Contract-26011 (4C) – 72nd Street Station Finishes and MEP 5/14/2010*
- *Contract-26008 (5B) – 86th Street Station Cavern Construction 7/2/2010*
- *Contract-26012 (5C) – 86th Street Station Finishes and MEP 9/13/2010*
- *Contract-26009 (6) –Systems –Track, Power, Signals and Communications 7/9/2010*

See Section 2.3 for contract package description, procurement method.

Observation:

Contract packages that have progressed to the 95% complete level will have to be reworked to incorporate results from the fragile buildings survey.

Concerns and Recommendation:

The PMOC is concerned that the process to incorporate the required level of rework to the 95% design packages is not reflected in the current design process. The PMOC recommends that the process be documented in one of the applicable Quality Implementation Procedure such as P8.5 - Preparation, Review and Approval of Drawings. The PMOC also recommends that an updated Final Design Schedule be prepared which incorporates the redesign effort.

2.1.2 Procurement

Status:

The bid due date for Contract-26007 (4B), 72nd Street Station Cavern Construction was extended from March 25, 2010 to May 25, 2010. The extension will give the design consultant ample time to answer the 97 questions received from the contractors and to issue addendums to the drawings and specifications as needed. Contract award is scheduled for July 6, 2010. The only other contract scheduled to be awarded in 2010 is Contract-26006 (3), which has an award date of October 4, 2010.

Observation:

MTACC has indicated that the change to the IFB process is driven by an improvement in market conditions. RFP procurement tends to reflect higher prices than IFB, and the procurement time is shorter for IFB.

Concerns and Recommendation:

The PMOC is concerned about the utilization of the IFB process for the 4B contract because of its estimated value ($550M). The scope of the contract might limit the number of responsive and responsible bidders, which would extend the procurement process. This contract is on the near critical path and any slippage could have a major impact on the project. The PMOC recommends that the MTACC develop a contingency plan if an insufficient number of responsive and responsible bids are received.

2.1.3 Construction

Status:

There are three active construction contracts on the SAS project. Construction progress on these contracts is as indicated below and also depicted in the construction photos in Appendix F.

- ***Contract-26002(1) –TBM tunnels from 92nd Street to 63rd Street***
  - *Drilling and blasting at south end of launch box (south bulkhead to 93rd Street) was completed.*
  - *Drilling and blasting of the 2 starter tunnels is in progress.*
  - *Installation of rock anchors and rock bolts along east and west secant pile walls is ongoing.*
  - *Placement of the mud slab from the south bulkhead to 95th Street is 90% complete.*
  - *Installation of the muck bin and observation platform for the tunnel boring machine is ongoing.*
  - *Drilling and blasting of the rock for the 72nd Street shaft has commenced.*
  - *Excavation to top of rock and installation of ring beams at the 69th Street shaft is ongoing.*
- ***Contract C-26005 (2A) -96th Street Station heavy civil, structural and utility relocation***
  - *Reinforcing steel and concrete base slab was placed for 2 sewer chambers at 95th Street.*
  - *Excavation for 30 inch diameter gas main and regulators on the north side of 96th Street between 1st and 2nd Avenue is ongoing.*
  - *Installation of the 12 inch diameter water main and 24 inch diameter sewer pipe is ongoing.*
  - *Phase 1 demolition of the Century Lumber Yard building was completed. Raker system is being installed to support the party wall at the rear of the building.*
  - *Electrical ducts were installed at the intersection of 99th Street and 2nd Avenue.*

- *Permeation grouting of the soil below the footings at three fragile buildings on the east side of 2nd Avenue between 95th and 96th Street was started.*

- ***Contract C-26013 (5A) 86th Street Station excavation, utility relocation and road decking***
  - *Construction of electrical manholes at 82nd, 86th, and 87th Streets are ongoing.*
  - *Tie-in of the 12 inch diameter gas main to the existing gas main on 87th Street west of 2nd Avenue was completed.*
  - *Excavation of the test pit for the 48 inch diameter water main is in progress.*

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:

The PMOC is concerned about the availability of the agencies' workforce to support the project schedule. T he PMOC recommends on-going monitoring by the CCM and MTACC's Project Managers.

a) Force Account (FA) Contracts

Status:

As of March 31, 2010, $136,051.00 of the $33,000,000 FA budget has been expended.

Observation:

The Force Account requirements are documented in the SAS Force Account Plan. The plan gives a description and a cost estimate of the NYCT services required to support construction activities for each individual contract.

Concerns and Recommendation:

None

2.1.4 Operational Readiness

Status:

MTA has developed an Operations Plan for the SAS Project that was based on using 75-foot rail cars in revenue services. A previous decision to utilize 60-foot rail cars is being reevaluated.

Observation:

See Section 2.4

Concerns and Recommendation:

The PMOC recommends that the Concept of Operations Plan be updated to reflect any changes from the optimization effort which could affect the SAS project.

2.2 Third-Party Agreement

Status:

MTACC's President and the SAS Program Executive met with the new NYCDEP Commissioner and his assistant on February 19, 2010 to conclude the issue of replacing the 48-inch water main with a 60-inch water main. The changes that preclude the need to relocate the main at the north end of the work zone were discussed and accepted by the Commissioner, and permission was received for an outage this summer in lieu of the former November 2010 date, which had the potential for up to one year's delay awaiting the line shutdown. This is a positive outcome to the issue. The solution at the north end eliminates the need to relocate approximately a thousand feet of main and in conjunction with the summer shutdown, this issue appears to be resolved. The SAS design team is still evaluating several design options which will resolve the issue at the south end.

Observation:

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

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. Each agency has its own agenda regarding input into the SAS design. There are no agreements to preclude any of the aforementioned from requiring changes to design even after previously approving said design.

Concerns and Recommendations:

The PMOC is concerned that, in several cases, agreed-upon design and scope of work have been revised when later reviewed by other personnel within the agencies. The PMOC recommends that MTACC consider utilizing utility agreements on future projects to preclude problems of this nature. [Ref. SAS-08-Jan10]

2.3 Contract Packages and Delivery Methods

Status:

Contract 4A and 4B have been combined thus reducing the total contract packages to 10. Package description and delivery method is as follows:

- Contract 1 - C 26002 (TBM Tunnels from 92nd St. to 63rd St.) Delivery method Request for Proposal (RFP)
- Contract 2A - C 26005 (96th Street Station Structure and Heavy Civil) Delivery method RFP
- 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). Delivery method RFP
- 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). Delivery method Invitation for Proposal (IFP)

- Contract 4B - C 26007 (72nd Street Station: construction of the cavern and the G3/G4 tunnels to the existing 63rd St. /Lexington Avenue Station. Also includes the demolition of existing buildings at Ancillary 1 and 2 and utility relocation for support of excavation walls previously in contract 4A). Delivery method IFP
- Contract 4C - C 26011 (72nd Street Station: construction of ancillary finishes, installation of station finishes and mechanical, electrical and plumbing equipment). Delivery method RFP
- Contract 5A - C 26013 (86th Street Station: utility relocation, open excavation and road decking that will prepare the site for construction). Delivery method RFP
- Contract 5B - C 26008 (86th Street Station: construction of the station cavern, entrances and access shafts). Delivery method RFP
- 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). Delivery method RFP
- 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). Delivery method RFP

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:

See Section 2.2

2.4 Vehicles

Status:

The decision to utilize 60 foot rail cars on the SAS project is being reevaluated. The reevaluation is part of an initiative by the new president of NYCT to optimize the entire NYCT rail fleet and infrastructure.

Observation:

In the FFGA for SAS Phase 1, there are 68 new 75-foot rail cars (including 12 spares) identified with an associated value of $157M. The draft October 2009 Rail Fleet Management Plan (RFMP) indicates that NYCT is planning to reduce its fleet spare factor, thereby requiring a lesser number of spares, based on less frequent inspections of new technology rail cars. It further states that because of this reduction in fleet size, the vehicles to be purchased for the first phase of the Second Avenue Subway projects will no longer be required. The Rail Fleet Management

Plan needs to be updated to reflect whatever decision is made as a result of optimizing the NYCT rail fleet and infrastructure.

Concerns and Recommendation:

The PMOC has the following recommendations:

- NYCT should provide a test plan for increasing the period between inspections of the new technology fleet.
- NYCT should explain why, in light of the on-going state of good repair fleet replacement program, the cars financed under the SAS project are no longer needed.
- MTA should explain why they are considering removing the vehicles from the project scope without reducing the project funding. Reallocation of the budget for vehicles should be addressed in the revised estimated total project cost. [Ref. SAS-A17-Aug08]

2.5 Property Acquisition and Real Estate

Status:

Real estate acquisition and tenant relocation is being performed in accordance with the approved SAS Real Estate Acquisition Management Plan and Relocation Plan. These plans address Title 49 CFR Part 24, which implements the Uniform Relocation Assistance and Real Property Acquisition Polices Act of 1970, as amended, and FTA real estate requirements 5010.1C. The tenants in 39 of the 48 residential units have been relocated. The remaining residential tenants have been contacted by MTA's relocation consultant, O.R. Colan Associates. Title vesting for properties required for Contracts 4B and 5B is scheduled to occur in April 2010. MTA will hold a public hearing on April 20, 2010, pursuant to Article 2 of the New York State Eminent Domain Procedure Law, on the proposed acquisition of permanent and temporary property interests and the termination of rights for certain sidewalk encroachments in properties to support Contracts 3, 4B, 5A and 5B. An audit of the MTA Real Estate Department documentation files by the PMOC's real estate consultant showed them to be compliant to the federal requirements.

Observation:

Property acquisition is phased to support the start dates of the construction contracts. Regular meetings are being held to address any issues that might impact the acquisition process.

Concerns and Recommendations:

None at this time

2.6 Community Relations

Status:

During the 1st Quarter 2010, the Community Relations Department continued to be responsive to the concerns of the residents and businesses in the work areas of the three construction contracts. During the bi-weekly job progress meetings for each contract, concerns were discussed and actions were implemented to address them.

Observation:

The community relations representative is responsive to the concerns of the community. As part of its community relations program, MTACC continues to conduct extensive public and community outreach. Activities include: liaison support at Construction Field Offices to handle daily concerns of pedestrians, residents and businesses; arranging meetings with community groups, condo boards, etc. to address concerns specific to their neighborhoods/buildings; providing email advisories to alert elected officials in advance of significant changes at the construction site or new construction activity; and addressing correspondence received through letters and emails regarding the SAS project.

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.

Project Management Plan (Document ID: 7041.01.000173-6) Revision 6 is the latest approved PMP. Efforts are underway to update the PMP and its sub-plans to reflect the new management processes and strategies of the ELPEP. The integration of these processes and strategies into the PMP was initiated and is ongoing. See section 1.1.2 a

Observation:

See Section 1.1.2 a

Concerns and Recommendations:

See Section 1.1.2 a.

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 to use 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:

MTACC has contracted Jacobs (CCM) to prepare approximately 85 new project procedures. The exact number is somewhat in doubt due to the requirement for the MTACC to comply with ELPEP provisions, which are still under development. To date, the MTACC has released 44 approved procedures, which the PMOC has reviewed. The MTACC has also developed a schedule for the development of the remainder of the procedures. They will be complete and approved by June 30, 2010, with intermediate milestones that the PMOC will monitor to evaluate continued progress.

Observations

The PMOC has performed a thorough review of all of the procedures that the MTACC has approved and released to date. A complete list of our comments is on file in the PMOC's office

for review. The PMOC met with MTACC on March 22, 2010 to discuss our review and present our comments. In general, although a few of the procedures contained glaring errors (which the MTACC will correct), and the priorities the MTACC has placed on the order of their development are arguable, it is the PMOC's opinion that the new procedures will be adequate for their intended purposes.

In informal meetings with ESA personnel, however, the PMOC has become aware that, although MTACC has approved and implemented these 44 procedures, they are not yet in widespread use on either the ESA or SAS Projects. The entire task will not be complete until all procedures are fully in use on all MTACC projects.

Concerns and Recommendations

Although it now appears as if the MTACC has made a sincere commitment to develop and approve these new procedures, the second half of the task, the implementation, has yet to fully materialize. The PMOC is concerned that the implementation will be sporadic among all the various MTACC projects, and this will therefore tend to defeat the purpose of the procedures and the ELPEP. The PMOC recommends that the MTACC develop a process to assure itself that all of these procedures are in use on all of its projects. An example of such a process would be a new procedure distribution system that would require the recipients (the individual Project Managers) to acknowledge receipt of each new procedure as it is released for implementation. This system could be monitored by the parent MTACC to assure implementation across all its organizations and provide it with the opportunity to correct any non-conformances as they develop. [Ref: SAS-11-Jan10]

4.0 PROJECT SCHEDULE STATUS

4.1 90 Day Look - Ahead

PMOC received Integrated Project Schedule (IPS) Update # 44 data date (February 28, 2010) on April 01, 2010. The table below summarizes major activities and accomplishments for the Second Avenue Subway Project over the upcoming 90-day period. The table also includes upcoming PMOC's activities for the Contract 4B, OP 53 review.

90 Day Look - Ahead

Activity ID	Start	Finish
MOD# 57 PE & FE 86th St. Station NTP (Latest Start Date)		**30-Apr-10**
C1- TBM Construction - Tunnel 96th Box (91st to 95th)	**10-Jul-09 A**	**3-Dec-10**
Stage 5 - Excavate Earth / Rock in TBM Launch Box	10-Jul-09 A	9-Mar-10
Stage 6 - TBM Tunnel #1	10-Mar-10	3-Dec-10
C3 - 63rd Street Station Upgrade (IFB)		
Submit IFB Package C3 to NYCT		19-Apr-10
Advertisement	15-Jun-10	
C4B – 72nd St. Station Existing Demo/Mining & Lining (IFB)		
Bid Opening	22-Apr-10	
Notice of Award		6-Jul-10
C6 – Systems (RFP)		
Advertisement – (assumes 2-step process)	27-May-10	
Submit Proposal		30-Jun-10
PMOC SAS contract 4B OP 53 Review	**13-Apr-10**	**10-Jun-10**

4.2 Critical Path Activities

IPS Schedule Update #44 was received on April 1, 2010 and is based on a Data Date of 28-Feb-10. The following table summarizes the project critical path on this update with the previous received update, #42, which is based on a Data Date of December 31, 2009.

	IPS Update 42		IPS Update 44		Δ
	Start	**Finish**	**Start**	**Finish**	**Delta**
Critical Path #1					
C1; TBM Tunnels	3-Mar-10	21-Apr-11	3-Mar-10	29-Jul-11	99
C5B; 86th St Station - Mining & Lining	22-Apr-11	6-Feb-14	19-May-11	6-Feb-14	0
C5C; 86th St Station - Arch & MEP	29-Jul-13	13-Jan-16	22-Nov-12	13-Jan-16	0
C6; System Inst - 86th St Station Area	24-Mar-15	28-Dec-15	24-Mar-15	28-Dec-15	0
C6; System Inst – Completion	27-Oct-15	04-Nov-16			
C6; Pre-Revenue/Revenue Testing	5-Sep-16	30-Dec-16	5-Sep-16	30-Dec-16	0
Substantial Completion		30-Dec-16		30-Dec-16	0
Critical Path #2					
C6; Procure/Award Systems Contract			27-May-10	30-Mar-11	
C6; System Construction			30-Mar-11	4-Nov-16	0
C6; Pre-Revenue/Revenue Testing			5-Sep-16	30-Dec-16	0
Substantial Completion				30-Dec-16	0

Update #44 did not contain any narrative report, schedule variance report, or similar documentation.

Observations:

Contract 1 (C-26002) TBM Tunnels initiates the critical path on both updates. Over this 59 Calendar Day (CD) period, this work lost 99 CDs.

Update #44 indicates the start of TBM activity on March 10, 2010. The actual forecast date for the start of this activity is mid-May 2010. MTA chose not to include this adjustment in Update #44 in anticipation of subsequent acceleration of this activity.

This period, a negative lag of 50 CDs, was inserted in the IPS. This technique allows the scheduled start of the second TBM run to precede the completion of the first TBM run. With only one TBM, this appears to be a flaw in logic. It may also represent a schedule acceleration effort. The activity level of detail is currently insufficient to clarify this point.

Substantial Completion/Revenue Service Date was held at December 30, 2016. This was accomplished through consumption of project level float embedded in the project schedule by the MTACC.

A second independent critical path emerged this period, initiated by the design and procurement of Contract 6 (C-26009) – Systems. This update indicate the entire systems construction package to be critical, as compared to the previous update, when only select portions of this package were critical.

Recommendations:

MTACC should provide a report on contingency consumption with the monthly IPS update as a means of validating its forecast of a December 30, 2016 RSD.

Intermediate fluctuation in milestones should be explained along with the method of resolution. The alternative is to consume handoff durations with the proper explanations.

Mitigation of ongoing delays and schedule improvement alternatives should be considered for Contract 1. Delays to this initial package are impacting the entire project. TBM progress, along with anticipated schedule acceleration must be monitored closely or a more accurate forecast cut into the IPS.

Clarification of the relationship between the end of the first tunnel drive and the start of the second tunnel drive should be clarified. A negative lag is not a transparent or verifiable means of modeling changes to construction logic on the critical path.

Procurement process included in IPS Update #44 may not accurately model the intended procurement process for Contract 6. PMOC recommends a detailed review of the intended process and subsequent update of the IPS. Timely execution of all elements of this Contract has the potential to directly impact the RSD. [Ref: SAS-12-Jan10]

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:

			SAS Proposed Budget	Delta
Category	Description	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
	Subtotal	**$4,050**	**$4,804**	**$754**

Status:

No change this month.

Updated Additional Work Order (AWO) Tracking Logs for each active construction contract were received from MTACC on March 31, 2010. These logs are summarized as follows:

Contract	Award	Estimated % Complete		AWOs **		Exposure ***		Contingency	
		Billing	Time	$	% of Award	$	% of Award	Allocated	Current
C26002 (1)	$337,025,000	66%	80%	$12,040,612	3.57%	$26,877,029	7.97%	$16,851,250	($10,025,779)
C26005 (2A)*	$323,143,614	14%	14%	$798,834	0.25%	$4,058,273	1.26%	$16,250,000	$12,191,727
C26013 (5A)	$34,070,039	22%	19%	$169,190	0.50%	$639,551	1.88%	$5,110,500	$4,470,949

* Contract Option 1 added to award value for reporting consistency

** Includes only contract modifications approved and reported through 3/31/2010

*** Includes both approved AWOs and open AWOs

Observation:

Total executed AWOs plus AWO exposure exceeds the allocated construction contingency for C26002 (1). Detail review of the C26002 (1) AWO Tracking Log indicates that additional exposures will be incurred, suggesting the projected overrun to be greater than currently indicated. Substantial work remains to be performed and a significant delay claim can reasonably be expected, suggesting significant additional AWO exposure.

Concerns and Recommendations:

Review the construction Estimate at Completion (EAC) to incorporate updated AWO information and experience. Specifically:

- *Approved C26002 (1) AWOs and current AWO exposures should be incorporated in the EAC. Additional contingency funds consistent with the Risk Assessment and remaining work should be allocated to the contract as appropriate.*

- *Experience and Lessons Learned from AWOs on C26002 (1) should be applied to future contracts. Technical revisions and/or contingency modifications for these contracts should be considered as deemed appropriate by MTACC.*

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 of finance costs), which was approximately 19% higher than the FFGA budget of $4.05 billion (exclusive of finance costs). FTA and MTA Senior Executives are negotiating a new Budget number for SAS.

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 72nd 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.

As part of the Risk Assessment the PMOC recommends MTACC review and address the above concerns.

5.3 Project Funding Status

Federal

Total Federal participation is currently $1,350,692,821. However federal participation is expected to increase as a result of additional Congestion Mitigation and Air Quality (CMAQ) *funds associated with grant NY-36-001-00 (ARRA funds)*

Federal Funding	
Total Federal share:	**$1,350,692,821**
Total FTA share:	**1,300,000,000**
5309 New Starts share	1,300,000,000
Total FHWA share:	**50,692,821**
CMAQ	48,233,000
Special Highway Appropriation	2,459,821

Local

Status:

No change from last month.

MTACC has awarded a total of 3 contracts in the amount of $696,095,039.

Observation:

With the additional authorized local funds provided in August 2009, the PMOC observes that the local funding is sufficient for contracts to be awarded in 2010.

Concerns and Recommendations:

See Section 1.1.3b

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.

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 revised schedule and cost estimate that will be acceptable to all parties.

Concerns and Recommendations:

The PMOC's recommendation that a Financial Management Oversight Contractor (FMOC) review the MTA's financial capacity to fund the SAS project has been implemented and is in process.

6.2 Risk Updates

Status:

The PMOC 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 Enterprise Level Project Execution Plan (ELPEP) which has been finalized.

Observation:

Discussions between FTA and SAS/MTA to update the required levels of cost and schedule mitigation and contingencies that will be in place to protect the project are required, as part of the process to implement the ELPEP requirements.

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 and to protect against the realization of the identified potential project risks.

6.3 Risk Management Status

Status:

During the 4th Quarter the SAS project implemented a new format for conducting and documenting the risk mitigation meetings. The new format is expected to give better visibility to the mitigation process and allow for a more thorough and effective mitigation process. During risk mitigation meetings, attendees discussed the risk as indicated below. These risks were

shown to be major contributors to Phase 1 contingency requirements as a result of the risk analysis that was performed in early December 2009.

- *Risk 15B: DEP out-of scope betterments*
- *Risk 21A: Differing and/or unforeseen sub surface conditions*
- *Risk 28: Planning and design project utility relocation*
- *Risk 29: Ineffective interfacing between contract packaging results in inefficient management*
- *Risk 64A: Excessive cavern over-break*

Observation:

The implementation of these processes will facilitate better management of risk from the agency perspective as well as greater effectiveness in assignment of risk in dealing with third party contractors. This will help the agencies to better control cost and schedule assumption accuracy for both projects.

The PMOC considers these efforts to be an important step in moving toward the implementation of processes included in the ELPEP.

During 1st Quarter 2010, the PMOC continued to work on the following Risk Assessment update activities:

- *Review of grantee's compliance with 2006, 2007, 2008 and 2009 risk mitigation commitments.*
- *The PMOC supported the FTA-Region 2 with finalizing and implementing of the ELPEP.*

Also discussions of ELPEP requirements took place between the MTA and the FTA. Implementation meetings were held and will continue to be held weekly.

Concerns and Recommendations:

The PMOC is concerned that the SAS project contingency did not start at the FTA recommended level and that SAS projections originally brought it below the Cost Contingency Curve. The PMOC recommends that SAS closely monitor their cost contingency to ensure that there is sufficient mitigation capacity and/or contingency funding available to cover the impact of projected drawdown and the possible realization of identified risks.

6.4 Risk Mitigation Actions

Status:

In response to lessons learned on the excavation of the tunnel boring machine launch box and pursuant to a memorandum of understanding with New York City Department of Buildings, MTACC has authorized its design consultant to expand the survey of fragile buildings adjacent to the planned construction sites for the stations and ancillary facilities. The design consult will provide an assessment of potential impacts of future work on these buildings and suggest actions to mitigate the impacts.

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

a) Cost Contingency

Status:

The FTA and MTA have agreed to proceed with the contingency amounts identified in the project ETPC, even though these may initially be lower than the amounts that would normally be used consistent with the cost principles in TCRP Report No. G-07 (2006).

Observation:

ELPEP Section IV a. requires the MTA to develop a Cost Contingency Management Plan which provides a detailed definition of what constitutes Total Contingency, Unreserved Contingency, Reserved Contingency, including identifying the amount of Reserved Contingency needed at certain milestones and the process for distributing the Reserved Contingency.

Concerns and Recommendations:

There are no PMOC concerns because if during project implementation the SAS contingency balances do not meet the minimum requirements of the ELPEP, MTA is required to immediately implement a recovery plan or secure the needed contingency in the MTA 2015-2019 Capital Plan or in sufficient time so as not to delay the award of pending contracts and/or amendments thereto or to meet contractual obligations.

b) Schedule Contingency

Status:

The MTA has agreed to the requirements of the ELPEP to develop a Schedule Contingency Management Plan. Development of the plan is in process.

Observation:

The ELPEP requires the MTA to develop a Schedule Contingency Management which will address all the requirements identified in Section IV b. of the ELPEP. The plan will define such processes as how the MTA will manage the distribution, transfer and use of all project schedule contingency and how the minimum level of contingency will be maintained.

Concerns and Recommendations:

Based on a Revenue Service Date of February 2018 for the SAS project, the MTA has agreed to maintain a minimum level of schedule contingency of 240 days through Q3 2016 at which time the schedule contingency minimums will be updated as mutually agreed. Failure to meet this requirement will trigger the requirement for a recovery plan.

Significant discussion of this subject has occurred between the PMOC and MTACC this period. We anticipate the submission of an updated Schedule and Contingency Management Plan that

will substantively conform to the ELPEP requirements during the upcoming period as well as the incorporation of enhanced reporting and analysis of schedule contingency in the upcoming IPS update.

7.0 LIST OF ISSUES AND RECOMMENDATIONS

Priority in Criticality column

1 – Critical

2 – Near Critical

Number with Date Initiated	Section	Issue/Recommendation	Criticality
SAS-07-Jan10	2.1.2 Procurement	The PMOC is concerned about the utilization of the IFB process for Contract 4B because of its estimated value. The scope of the contract might limit the number of responsive and responsible bidders, which would extend the procurement process. This contract is on the near critical path and any slippage could have a major impact on the project. PMOC Recommendation: The PMOC recommends that the MTACC develop a contingency plan if an insufficient number of responsive and responsible bids are received.	2
SAS-08-Jan10	2.2 Third Party Agreements	The PMOC is concerned that in several cases agreed upon design and scope of work has been revised when later reviewed by other personnel within the agencies. PMOC Recommendation: *The PMOC recommends that MTA consider utilizing utility agreements on future projects to preclude problems of this nature.*	2

Number with Date Initiated	Section	Issue/Recommendation	Criticality
SAS-09-Jan10	3.1 PMP	The PMP and its sub-plans must be updated to reflect the new management processes and strategies of the ELPEP. PMOC Recommendation: *Update the PMP and its sub-plans within the timeframes established in the ELPEP.*	2
SAS-10-Jan10	3.2 PMP Sub-Plans	MTA is required to develop and finalize a Cost and Schedule Management Plan, and a Cost and Schedule Contingency Management Plan for the SAS in conformance with ELPEP requirements within 60 days of January 15, 2010. The PMOC is concerned that the 60 day requirement may not be met. PMOC Recommendation: PMOC recommends the continuation of the workshops.	2
SAS-11-Jan10	3.3 Procedures	The PMOC is concerned whether the new procedures will actually be utilized by the different operating agencies within the MTA, given that NYCT will implement SAS, and the procedures of the SAS PMP reflect the NYCT quality management system. PMOC Recommendation: *The PMOC recommends that the MTACC develop a process to assure itself that all of these procedures are in use on all of its projects. An example of such a process would be a new procedure distribution system that would require the recipients (the individual Project Managers) to acknowledge receipt of each new procedure as it is released for implementation. This system could be monitored by the parent MTACC to assure implementation across all its organizations and provide it with the opportunity to correct any non-conformances as they develop.*	2
SAS-12-Jan10	4.2 Critical Path Activities	The MTACC should investigate the detailed relationships between construction contracts to determine a precise amount of hand-off time. The strategy for the late performance of construction is to consume hand-off	1

Number with Date Initiated	Section	Issue/Recommendation	Criticality
		duration downstream. Significant amounts of hand-off could be consumed because of the late performance of Contract 1. The hand-off time is contingency time and should only be consumed in prescribed fashion. PMOC Recommendation: *PMOC recommends a detailed review of the intended process and subsequent update of the IPS.*	
SAS-13-Jan10	4.2 Schedule Performance Analysis	*There is a contractual milestone for the turnover of work from Contract 1 to the 86th Street mining Contract 5B. This relationship is likely to be critical or near critical. Currently, delays in achieving this milestone are of no consequence to Contract 1. Significant logic and activity durations changes are being implemented to Contract 1 as a result of ongoing delay in mitigation efforts.* PMOC Recommendation: *PMOC will revisit this issue after these changes are implemented and assess potential causes of action.*	1

8.0 GRANTEE ACTIONS FROM QUARTERLY AND MONTHLY MEETINGS

Priority in Criticality column

1 – Critical

2 – Near Critical

Number with Date Initiated	Section	Grantee Actions	Criticality
SAS-A17-Aug08	2.4 Vehicles	The PMOC requested additional information regarding certain statements in the draft Rail Fleet Management Plan: ▪ NYCT should provide a test plan for increasing the period between inspections of the new technology fleet. ▪ NYCT should explain why, in light of the ongoing state of good repair fleet replacement program, the cars financed under the SAS project are no longer needed. ▪ MTA should explain why they are considering removing the vehicles from the project scope without reducing the project funding.	2
SAS-A18-Aug08	ELPEP Updates	The change in the Contingency Drawdown Curve, particularly the latent contingency, needs to be clarified.	2
SAS-A19-Feb10	6.5 Cost and Schedule Contingency	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. PMOC had expressed concern that the amount of available contingency may be insufficient to support the required contingency determined under the risk process.	2

APPENDIX A -- LIST OF ACRONYMS

AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
AWO	Additional Work Order
BCE	*Baseline Cost Estimate*
BFMP	*Bus Fleet Management Plan*
CCM	Consultant Construction Manager
CD	*Calendar Day*
CMAQ	*Congestion Mitigation and Air Quality*
CPM	Critical Path Method
CPRB	Capital Program Review Board
DHA	DMJM+Harris and ARUP
DOB	New York City Department of Buildings
EAC	*Estimate at Completion*
ELPEP	*Enterprise Level Project Execution Plan*
FD	Final Design
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
HLRP	Housing of Last Resort Plan
IFP	*Invitation for Proposal*
IPS	*Integrated Project Schedule*
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
RFMP	*Rail Fleet Management Plan*
RFP	*Request for Proposal*
ROD	*Record of Decision*
ROD	Revenue Operations Date
RSD	*Revenue Service Date*
S3	Skanska, Schiavone and Shea
SAS	Second Avenue Subway
SCC	Standard Cost Categories
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 Plan*
TIA	Time Impact Analyses

APPENDIX B-- PROJECT OVERVIEW AND MAP

(Project Map sent separately)

Date: March 31, 2010

Project Name: Second Avenue Subway

Grantee: Metropolitan Transportation Authority

FTA Regional Contact: Mr. Hans Point du Jour

FTA Headquarters Contact: Mr. Dale Wegner

Scope

Description: The project will connect Manhattan's Central Harlem area with the downtown financial district, relieving congested conditions on the Lexington Avenue line. The current project scope includes: tunneling; station/ancillary facilities; track, signal, and electrical work; vehicle procurement; and all other subway systems necessary for operation. The current phase, Phase 1 of 4, will provide an Initial Operating Segment (IOS) from 96th Street to 63rd Street, and will connect with the existing Broadway Line that extends to Lower Manhattan and Brooklyn. Subsequent phases will extend the line northward to 125th Street and to the southern terminus at Hanover Square in Lower Manhattan.

Guideway: Phase 1 is 2.3 miles long, from 63rd Street to 105th Street. It is a two-track project that is below grade in tunnels, and does not include any shared use track.

Stations: In Phase 1 there are: two new mined stations located at 72nd and 86th Streets, one new cut and cover station at 96th Street, and major modifications of the existing 63rd Street Station on the Broadway Line.

Support Facilities: There are no additional support facilities planned for Phase 1 of the project.

Vehicles: MTA envisions the need for eight-and-one-half train sets to satisfy the Phase 1 operating requirements (7) and to provide sufficient spares (1½).

Ridership Forecast: Upon completion of Phase 1, ridership is expected to be 191,000 per average weekday (MTA's Regional Travel Forecast Model).

Schedule

12/20/01	Approval Entry to PE	06/12	Estimated Rev Ops at Entry to PE
04/18/06	Approval Entry to FD	03/14	Estimated Rev Ops at Entry to FD
11/19/07	FFGA Signed	06/30/14	Estimated Rev Ops at FFGA
12/30/16	Revenue Operations Date at date of this report (MTA schedule)		
9.49	*Percent Complete Construction at March 31, 2010*		
25.7%	Percent Complete Time based on Rev Ops Date of *December 30, 2016*		

Cost ($)

3,839 M	Total Project Cost ($YOE) at Approval Entry to PE (w/o Financing Costs)
3,880 M	Total Project Cost ($YOE) at Approval Entry to FD (w/o Financing Costs)
4,866 M	Total Project Cost ($YOE) at FFGA signed (w/ $816 M Financing Costs)
4,673 M	Total Project Cost ($YOE) at Revenue Operations (w/o Financing Costs)
5,489 M	Total Project Cost ($YOE) at date of this report including $ 816 M in Finance Charges
946M	Amount of Expenditures at date of this report from Total Project Budget of $4,673M
20.2	Percent Complete based on Expenditures at date of this report
*	Total Project Contingency remaining (allocated and unallocated contingency)

***** Being revisited as a result of the Enterprise Level Project Execution Plan

APPENDIX C – LESSONS LEARNED

Lessons Learned Table for 1st Quarter 2010

#	Date	Phase	Category	Subject	Lessons Learned
1	Oct-09	Construction	Schedule	Delays to excavation caused by adjacent Fragile Buildings	The PMOC recommended and MTACC adopted a plan to review the stability of all of the buildings affected by the Second Avenue Subway project. MTACC instructed their Designer to review all the buildings along the project. Furthermore, they have the designer developing shoring plans for the fragile buildings and including this work in the future contracts. In this way the stabilization work cannot delay the contracts as it is part of the contract.
2	Nov-09	Construction	Schedule	3rd Party Utilities changed the size of an electric volt after construction began.	The PMOC recommended that MTACC get the utility companies to agree that once they have approved the plans, they cannot make major changes after award. MTACC's SAS Project Executive is meeting with the utilities to work out this problem.
	March -10	*Construction*		*No new lessons learned this period.*	

APPENDIX D – PMOC STATUS REPORT

(This is a separate attachment covering both East Side Access and Second Avenue Subway projects)

APPENDIX E – SAFETY AND SECURITY CHECKLIST

Project Overview			
Project mode (Rail, Bus, BRT, Multimode)	Rail		
Project phase (Preliminary Engineering, Design, Construction, or Start-up)	Design and Construction		
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGC, etc.)	Design/Bid/Build		
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan	7041.01.007308-0	11/15/07	Approved by FTA
Safety and Security Certification Plan			
System Safety Program Plan			
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			
Construction Safety and Security Plan		N	Each construction contractor is assigned the responsibility for developing a Construction Safety and Security Program Plan, as defined in the Contract Documents,
Safety and Security Authority			
Is the grantee subject to 49 CFR Part 659 state safety oversight requirements?	Y		
Has the state designated an oversight agency as per Part 659.9?	Y		New York State Public Transportation Safety Board (NYSPTSB)
Has the oversight agency reviewed and approved the grantee's SSPP as per Part 659.17?	Y		Biennial recertification due in July 2010
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?			
Did the oversight agency participate in the last Quarterly Program Review Meeting?	N		
Has the grantee submitted its safety certification plan to the oversight agency?	N		
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	Y		

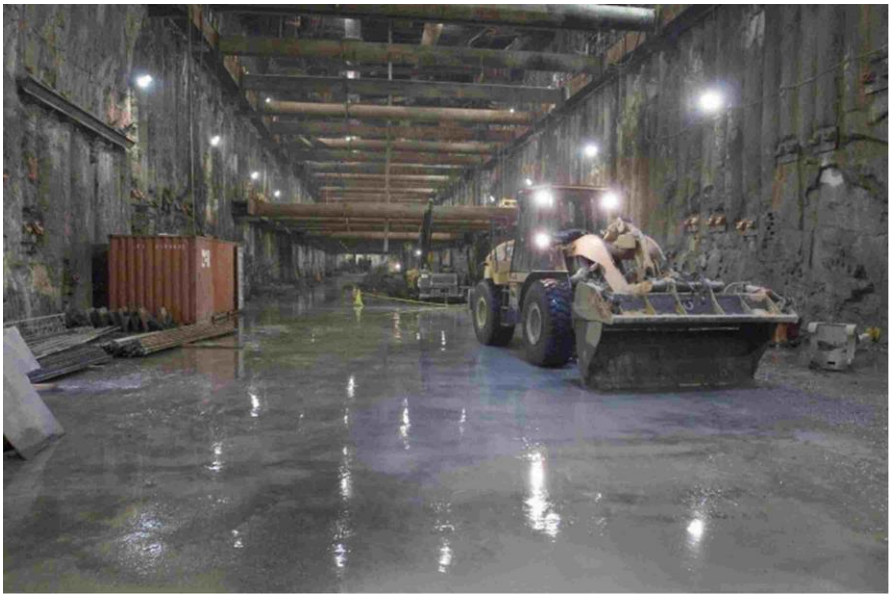
Project Overview		
SSMP Monitoring	Y/N	**Notes/Status**
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	
Grantee reviews the SSMP and related project plans to determine if updates are necessary?	Y	
Does the grantee implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	Y	
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	Y	Activity included in the monthly and quarterly reports from the grantee.
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	Y	Responsibilities during the design and construction phases identified
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	Y	
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	Y	
Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	Included in Appendix F of the SSMP
Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	Frequency to be increased
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Three active construction contracts being daily monitored by the CCM with oversight being performed by the grantee.
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	Y	Hazard and Vulnerability Analysis
Has the grantee ensured the development of safety design criteria?	Y	Included in SAS project Design Criteria Manual
Has the grantee ensured the development of security design criteria?	Y	Included in SAS project Design Criteria Manual
Has the grantee ensured conformance with safety and security requirements in design?	Y	Ongoing part of design review process

Project Overview		
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	
Has the grantee verified construction specification conformance?	Y	Reference Section D3.4 Construction Criteria Conformance of the SSMP
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	Y	Reference Section D3.2 Certification Items List of SSMP
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	NA	Project is currently in the Design/Construction Phase
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	Part of formal configuration control process
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	NA	
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following: Activation Plan and Procedures Integrated Test Plan and Procedures Operations and Maintenance Plan Emergency Operations Plan	Y	
Has the grantee issued final safety and security certification?	N	To be covered as part of the testing in Contract 6
Has the grantee issued the final safety and security verification report?	N	
Construction Safety		
Does the grantee have a documented/implemented Contractor Safety Program with which it expects contractors to comply?	Y	
Does the grantee's contractor(s) have a documented companywide safety and security program plan?	Y	
Does the grantee's contractor(s) have a site-specific safety and security program plan?	Y	Reference sections 011150 Safety Requirements and 011160 Security Requirements of the Contract Terms and Conditions
Provide the grantee's OSHA statistics compared to the national average for the same type of work?	OSHA Recordable Rate is 1.65 OSHA Lost Time Rate is 1.03	National Average 4.9 National Average 2.6

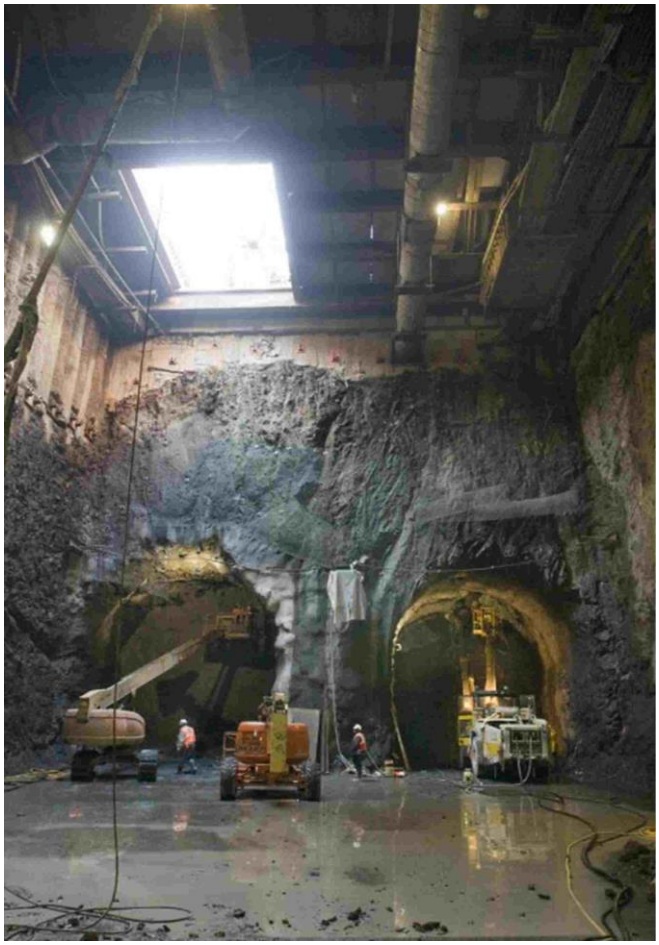
Project Overview		
If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	NA	
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	
Federal Railroad Administration		
If shared track: has grantee submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested)	NA	
If shared corridor: has grantee specified specific measures to address shared corridor safety concerns?	NA	
Is the Collision Hazard Analysis underway?	NA	
Other FRA required Hazard Analysis – Fencing, etc.?	NA	
Does the project have Quiet Zones?	NA	
Does FRA attend the Quarterly Review Meetings?	NA	

APPENDIX F – ON-SITE PICTURES

This photo shows the tunnel boring machine launch box underneath Second Avenue between 91st and 95th Streets. At rear of photo are the tunnel boring machine starter tunnels.

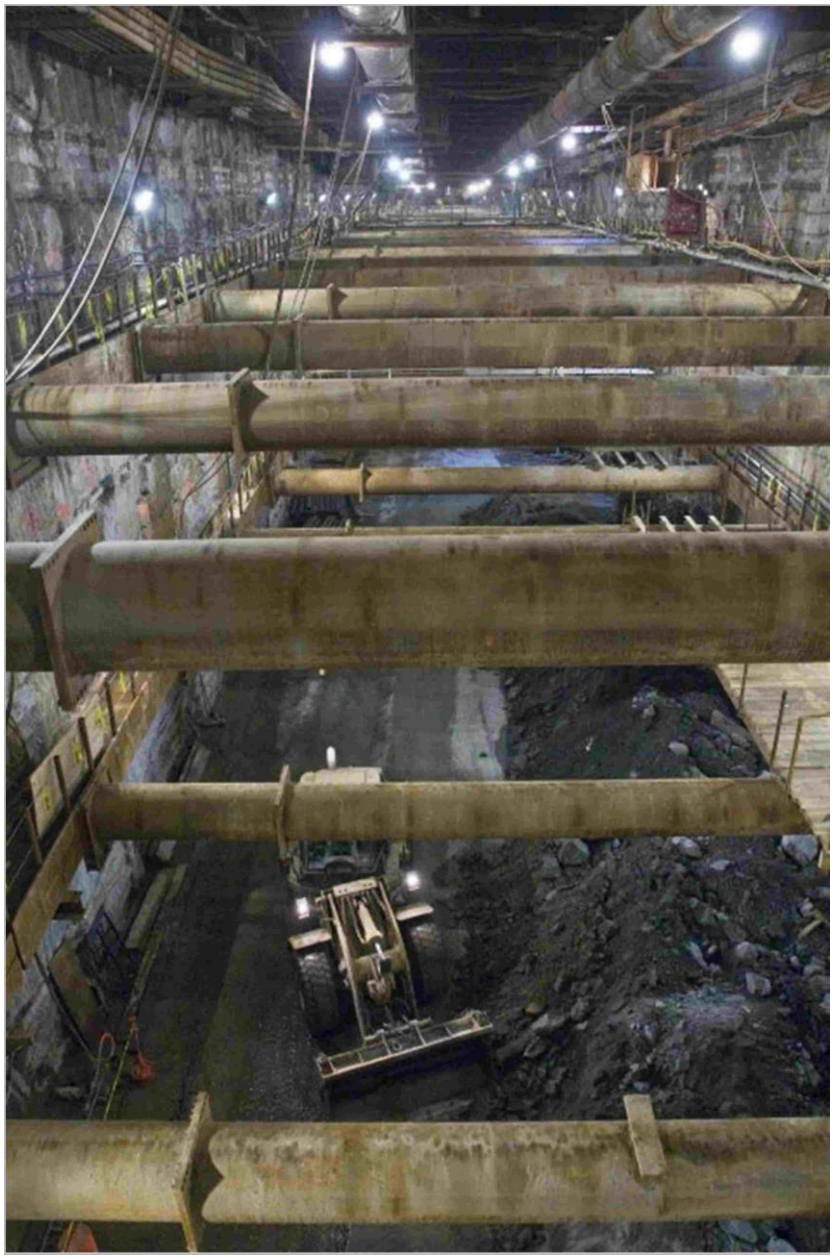


. This photo shows the tunnel boring machine launch box underneath Second Avenue between 91st and 95th Streets.



General view of excavation of Starter Tunnel (looking south)

94th-95th St: Continued construction of muck bin observation deck at Tier 3 bracing level



This photo shows the lateral bracing across Second Avenue. On the right addition rock has to be removed