

PMOC MONTHLY REPORT

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

December 1 to December 31, 2013



PMOC Contract No. D1FT60-09-D-00007

Task Order No. 7, Project No. DC-27-5235, Work Order No. 1

Urban Engineers of New York, P.C., 2 Penn Plaza, Suite 1103, New York, New York 10121
PMOC Lead, Charles A Halboth, PE, 212-736-9100; cahalboth@urbanengineers.com
Length of time on project: 2 years

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THIRD PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for the Federal Transit Administration (FTA). This report should not be relied upon by any party, except FTA or the project sponsor, in accordance with the purposes as described below.

For projects funded through FTA Full Funding Grant Agreements (FFGAs) program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution.

Therefore, the information in the monthly reports may change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This monthly report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. D1FT60-09-D-00007, Task Order No. 004. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

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

MONITORING REPORT

The contents of this report are cumulative in nature, and may reference or build upon topics discussed in previous reports. All comments received pertaining to previous reports have been incorporated in this report.

EXECUTIVE SUMMARY

1. PROJECT DESCRIPTION

The Second Avenue Subway project will include a two-track line under Second Avenue from 125th Street to the Financial District in lower Manhattan. It will also include a connection from Second Avenue through the 63rd Street tunnel to existing tracks for service to West Midtown and Brooklyn. Sixteen new ADA accessible stations will be constructed. The Second Avenue Subway will reduce overcrowding and delays on the Lexington Avenue line, improving travel for both city and suburban commuters, and provide better access to mass transit for residents of the far East Side of Manhattan. Stations will have a combination of escalators, stairs, and, in compliance with the Americans with Disabilities Act, elevator connections from street-level to station mezzanine and from mezzanine to platforms.

Phase One of the project includes the construction of new tunnels from 92nd Street and Second Avenue to 63rd Street and Third Avenue, with new stations along Second Avenue at 96th, 86th and 72nd Streets and new entrances to the existing Lexington Ave./63rd Street Station at 63rd Street and Third Avenue. New track and rail systems will extend from the 63rd Street Station through the new tunnels and previously constructed tunnels to 105th Street; facilitating intermediate service at the completion of Phase 1 between 96th Street and Brooklyn via the connection to the existing Broadway Line.

2 CHANGES DURING 4th Quarter 2013

a. Engineering/ Design Progress

The Design Consultant continues to provide contract administrative and technical support for ongoing construction contracts, develop design modifications as required and provide technical support throughout the construction procurement process.

b. New Contract Procurements

All design and construction services required for the execution of SAS, Phase 1 have been completed.

c. Construction Progress

All construction is approximately 62.0% complete (overall project completion is approximately 61.2%) as of December 31, 2013. Summary progress for each contract is as follows:

- The 96th Street Station Heavy Civil/Structural Contractor (Contract C2A) achieved Substantial Completion on November 5, 2013. Punch list and contract close out activities continued during December 2013.
- The 96th Street Station Finishes, Mechanical, Electrical, and Plumbing Systems and Ancillary Building and Entrances (Contract C2B) is approximately 30.2% complete. Contractor's efforts are directed towards the completion of Milestones 2 and 5. Completion of these milestones will allow shared access for Contract C6.
- At the 86th Street Station (Contract C5B), blasting is 100% complete. Waterproofing in the Entrance #1 incline is complete and concrete wall placement has begun. Placement of concrete lining for both the cavern walls and the southeast tunnel arch continues and construction of arch forms in the Public Cavern is ongoing. The contractor is beginning mud mat placement on the escalator/stair incline at Entrance #2.
- C-26012 (Contract C5C) 86th Street Station Architectural and MEP (C5C). The contractor is continuing with submittals and purchasing of long lead items. Limited site access for construction activity is forecast for late April 2014 with full access still forecast for October 2014.
- Because of negotiated excusable delays, Substantial Completion of the 72nd Street Station Heavy Civil/Structural (Contract C4B) was re-forecasted to January 14, 2014. Inspection of the completed work is ongoing by Construction Management and New York City Transit personnel.
- At the 63rd Street Station Rehabilitation (Contract C3) the contractor continues to progress with an increasing focus on the installation of permanent architectural finishes particularly at the platform level. Construction of masonry walls for rooms is ongoing on

all mezzanines. Mechanical and electrical work continued. Ancillary #2 work in the existing garage is complete and work began above grade.

- The Track, Signal, Traction Power, and Communication Systems Contract (C6) has progressed to approximately 17.7% complete. Significant achievements during this reporting period included the installation of power, signal, communication, and fiber optic cables from 96th Street to 105th Street and the delivery of long lead items.

d. Continuing and Unresolved Issues

- Design and procurement of switchgear required to provide permanent power to the stations is requiring an extraordinary amount of time, in part due to design reviews and changes required by ConEdison. There is a high probability that permanent power will not be available to support the C6 contractor's test schedule. To date, MTAACC has been unable to fully detail the scope and magnitude of the problem in order to determine appropriate mitigation strategies.
- Discretionary design changes requested by NYCT have added cost and schedule delays to several SAS construction packages. At this stage of the project, these change requests must be minimized to allow the project team to focus on executing the remainder of the project.
- Resolution of MTAACC's request for a non-availability waiver of Buy America requirements for the Low Vibration Track (LVT) boot-and-block assembly is needed.
- SAS construction management staff commonly demonstrates a passive approach to schedule management. In many cases, a more consistent, aggressive, pro-active attitude is needed to assist in expediting construction work in order to achieve project schedule goals.

e. New Cost and Schedule Issues

- Recent IPS updates appear to suffer from a lack of internal review and quality control. Logical errors and omissions are resulting in potential compromises to the end product and a realistic assessment of the project schedule status.

3. PROJECT STATUS SUMMARY AND PMOC ASSESSMENT

a. Grantee Technical Capacity and Capability

During the 4th Quarter 2013, MTAACC generally demonstrated the capability and capacity to successfully manage the construction phase of this project. Although all elements of the construction management effort are not being optimally executed, MTAACC has demonstrated the effort and ability to respond and resolve deficiencies.

Specifically, it is the opinion of the PMOC that the SAS construction management effort lacks the guidance and direction necessary to produce a consistent, pro-active management effort among the various construction packages. MTAACC has committed to improving this situation.

b. Real Estate Acquisition

All real estate for the SAS Phase 1 Project has been acquired. Real estate acquisition and tenant relocation was 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

c. Engineering/ Design

The final design phase of the project was completed in late November 2010. However, during the 1st Quarter 2013, MTA determined it was necessary to relocate and redesign Entrance #1 at the 72nd Street Station due to an irreconcilable dispute with the adjacent building owner at 301 E 69th Street. This unforeseen condition has increased the design phase scope, but has not interfered with the ongoing engineering and construction support activities performed by the design consultant.

While some delays in technical submittal processing have been noted, the design engineer has generally provided adequate support to the project during the construction phase in a timely fashion.

d. Procurement

All design and construction services required for the execution of SAS, Phase 1 have been completed.

e. Railroad Force Account (Support and Construction)

Force Account labor on the SAS Phase 1 Project is being provided by New York City Transit (NYCT) employees. The Revision 10 Current Working Budget increased the funding for this effort from \$43,000,000 to \$95,400,000. Through the 4th Quarter 2013, \$33,271,713 has been expended.

f. Vehicles

No additional vehicles will be procured for the SAS Phase 1 Project. MTA has previously demonstrated to FTA, and FTA has agreed, that the rolling stock needed for Phase 1 SAS operations can be provided from the existing fleet of New York City Transit (NYCT).

g. Systems Testing and Start-Up

Responsibility for Systems testing and start-up is allocated to the Track, Power, Signals and Communications Systems Contract C-26009 (C6). The scope of the contract calls for the hiring of a Systems Integration Manager (SIM) supported by Systems Engineering Specialists (SES) to coordinate the efforts of the Systems Contractor and the Stations MEP Contractors in the preparation of their Systems Commissioning and Integration Testing (SIT) Plans. The SIT Plan provides the roadmap for the way forward for systems integration to ensure that the systems elements are integrated and tested in a structured, managed, comprehensive manner that enables MTA/NYCT to confirm that the SAS system installation is "built-up" on a segment-by-segment basis and is compliant with the SAS plans and specifications. The plans will be developed based on the MTA Capital Construction Guidelines for a Systems Commissioning and Integrated Test Plan.

During the 4th Quarter 2013, the contractor continued the submission of contract deliverables, procurement of long lead equipment/material, and construction activities at the 63rd Street Station. Coordination meetings are ongoing between the SIM, SES and the Integration Test Managers from the Stations MEP Contractors.

h. Project Schedule

Construction progress and implementation or risk mitigation measures during the 4th Quarter 2013, continues to support MTA's forecasted Revenue Service Date of December 30, 2016 (see Table 1 below).

Table 1: Summary of Critical Dates

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	March 20, 2007 A	March 20, 2007 A
Construction Complete	December 31, 2013	Sept. 16, 2016	October 2017
Revenue Service	September 30, 2014	December 30, 2016	February 2018

i. Project Budget/ Cost

The Current Working Budget (Estimate Revision 10) for the SAS Phase 1 Project is still \$4,451,000 M (exclusive of \$816,614 M financing cost). The MTA Board has approved Local Funds totaling \$3,509,000 M. Total Federal participation in the SAS Phase 1 Project is \$1,350,693 M of which \$1,063,942 M has been obligated. See Table 2 below for additional details.

MTA's Estimate at Completion (EAC) and the PMOC's analysis currently indicate the project can be built within the limits of the Current Working Budget, assuming general conformance with the current IPS.

Table 2: Project Budget/ Cost Table



	FFGA			FFGA Amend	MTA Current Working Budget (CWB)		Expenditures as of December 31, 2013	
	\$ Millions	% of Total	Obligated (\$ Millions)	TBD	\$ Millions	% of Total	\$ Millions	% of Total
Grand Total Cost:	4,866.614	100	4,572.942		5,267.614	100	2,723.798	51.71
Financing Cost	816.614	16.78			816.614	15.50		
Total Project Cost:	4,050.000	83.22	4,572.942		4,451.00	84.50	2,723.798	51.71
Total Federal:	1,350.693	27.75	1,063.942		1,350.693	24.60	817.282	15.52
Total FTA share:	1,300.000	96.25	990.049		1,300.000	23.68	753.030	14.30
5309 New Starts share	1,300.000	100	990.049		1,300.000	23.68	753.030	14.30
Total FHWA share:	50.693	3.75	73.893		50.693	0.96	64.252	1.22
CMAQ	48.233	95.15	71.433		48.233	0.88	61.792	1.17
Special Highway Appropriation	2.460	4.85	2.460		2.460	0.04	2.460	0.05
Total Local share:	2,699.307	55.47	3,509.000**		**3,509.000	63.92	1,906.516	36.19
State share	450.000	16.67	100.000		450.000	8.20		
Agency share	2,249.307	83.33	1,145.782		3,059.000	55.72		
City share	0	0			0	0		
<p>* Obligated amounts obtained from the Transportation Electronic Award Management (TEAM) system and MTA's Grant Management Department.</p> <p>** Current MTA Board approved budget is \$3,509,000,000.</p>								

j. Project Risk

Major issues that have either increased or decreased the risk of project schedule and cost increases during the 4th Quarter 2013 have been summarized as follows:

Decrease	Increase
<ul style="list-style-type: none">• MTACC has supplemented project staff through the hiring of a CM for the C5C Contract and a scheduler dedicated to coordination and development of the IPS updates.• Pending substantial completion of Contract C4B, combined with the completion of blasting activity on C5B essentially eliminates future geotechnical risk to the project.	<ul style="list-style-type: none">• Delay in providing permanent power at stations. MTACC's inability to develop a comprehensive schedule model of this risk combined with the apparent expansion of scope to include traction power.

MONTHLY UPDATE

The information contained in the body of this report is limited, in accordance with Oversight Procedure 25, to "inform the FTA of the most critical project occurrences, issues, and next steps, as well as professional opinions and recommendations." Where a section is included with no text, there are no new "critical project occurrences [or] issues" to report this month.

ELPEP SUMMARY

The 4th Quarter 2013 meeting to review MFACC's compliance with ELPEP requirements was held on December 12, 2013. With respect to SAS, the current status of each of the main ELPEP components is summarized as follows:

- **Technical Capacity and Capability (TCC):** MFACC's 4th Quarter 2013 ELPEP Compliance Audit indicates it is "in compliance" with its TCC Plan. FTA has recommended this plan be updated; this effort is in progress.
- **Schedule Management Plan (SMP):** MFACC will reissue the SMP incorporating corrective actions developed during its internal audit. MFACC's 4th Quarter 2013 ELPEP Compliance Checklist indicates MFACC is "in compliance" with its SMP.
- **Cost Management Plan (CMP):** MFACC will reissue the CMP incorporating corrective actions developed during its internal audit. MFACC's 4th Quarter 2013 ELPEP Compliance Checklist indicates MFACC is "in compliance" with its CMP.
- **Risk Mitigation Capacity Plan (RMCP) and Risk Management Plan (RMP):** MFACC will reissue the RMP incorporating corrective actions developed during its internal audit. MFACC's 4th Quarter 2013 ELPEP Compliance Checklist indicates MFACC is "in compliance" with its RMP.

1.0 GRANTEE'S CAPABILITIES AND APPROACH

1.1 Technical Capacity and Capability

1.1.1 Organization, Personnel Qualifications and Experience

Status:

In late December 2013, MTACC announced the following organizational changes for the SAS Phase 1 project management team

- A construction manager for the CSC contract has been identified and started work on the project in late December, 2013.
- A scheduler will be added to the core staff located at 2 Broadway. After a brief transition period, this position will have responsibility for updating and reconciling the project IPS.

Observation:

MTACC has indicated that further staffing refinements may occur to better align staff qualifications with the evolving needs of the project.

Concerns and Recommendations:

The PMOC is concerned that, in most cases, procurement of additional qualified CM staff has required an excessive period of time. This situation amplifies the need for senior management to evaluate current staff and forecast future staff requirements as early as possible in order to provide adequate lead time for procurement.

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

a) Adequacy of Project Management Plan and Project Controls

Status:

PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MTACC.

Observation:

Sub-plans of the SAS PMP will require updating also to reflect the current status and phase of the project and the results of MTACC's internal audit.

Concerns and Recommendations:

MTAA should develop a schedule to review and update all PMP sub-plans.

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

Status:

MTACC continues to utilize the ELPEP and its various sub-plans in management of the FFGA. A collaborative effort with FTA RII and the MTACC to update the original ELPEP document, dated January 15, 2010, to reflect the current status of the SAS projects' scope, schedule and budget baselines is in progress. Completion of the update is now anticipated in the 1st Quarter 2014.

The PMOC notes that “Buy America” and “Ship America” compliance issues continue to be encountered.

Observation:

Nonconformances to the “Buy America” provisions have been raised on several items for the C2B, C4C, C5C and C6 contracts. MTAACC’s internal analysis to determine if the items are sub-components thus not coming under the “Buy America” provision is ongoing.

While MTAACC has been diligent in informing contractors of “Buy America” requirements, the PMOC has observed that MTAACC/SAS does not have a standard procedure for independently reviewing design documents to identify potential “Buy America” nonconformances nor does MTAACC/SAS have a standard procedure for analyzing and resolving “Buy America” issues identified by the construction contractors.

Concerns and Recommendations:

PMOC recommends MTAACC/SAS upgrade and document its capability to identify and evaluate “Buy America” issues at the earliest possible time to minimize any delays encountered in their resolution. Any “Buy America” issues identified should be communicated to all Construction Managers since many of the manufactured products are common to all of the station contracts.

c) Grantee’s Approach to Force Account Plan

Status:

Utilization of NYCT staff is ongoing in providing force account resources. Through the 4th Quarter 2013, \$33,271,713 of the \$95,400,000 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 for the design of the track and signal elements of the system and to support construction activities for each individual contract. The Force Account budget appears to be adequate and has not changed in Revision 10 of the SAS Cost Estimate.

Concerns and Recommendations:

None

d) Grantee’s Approach to Safety and Security Plan

Status:

Each construction contractor continued implementation of its Safety, Security and Health Programs during the 4th Quarter 2013. First aid, recordable and lost time incidents are reported and corrective action taken to address deficiencies and negative trends.

The SAS Project Safety Team (CCM and OCI P representatives) continued its oversight of the construction contractors Safety, Security and Health Programs by performing daily/weekly inspection of work areas, investigation of incidents, and performing quarterly safety audits.

The Monthly Project Wide Safety Meeting continues to be held the first Friday of each month. Lessons learned from incidents/accidents are being shared such that the total project can benefit. OCI P observations are being trended to focus uniform corrective action across the project.

Observation:

Section 4 of the PMP includes the required project Health and Safety Plan (HASP) that describes the responsibility and protocols to maintain a safe environment throughout the construction of the SAS Project. The Monthly Project Wide Safety Meeting is ongoing and is a good forum in providing “Lessons Learned” in order to promote safe practices across the entire project.

Section 4 of the PMP also outlines the Project Safety and Security Management Plan (SSMP) as required by 49 CFR Part 659, which includes the Safety and Security Certification Plan (SSCP) and the Systems Safety and Reliability Assurance Program Plan (SSRA). MTAACC is in the process of updating the SAS SSMP to more completely identify and define the required activities during the construction phase of the project. Select CM staff has received training on their roles in supporting this effort.

Concerns and Recommendations:

None

e) Grantee’s Approach to Asset Management

Status:

Asset Management – Identification and control of project assets will be coordinated among the Track, Power, Signals and Communications Systems Contractor (C6), Station Contractors (C2B, C4C and C5C) and NYCT’s Department of Subways.

Observation:

The SAS project team has developed a project asset inventory list which will be integrated into the NYCT property management system

Concerns and Recommendations:

None

f) Grantee’s Approach to Community Relations

Status:

MTAACC has launched implemented several initiatives to improve community access to SAS project staff and provide transparency to the project. Starting in November 2011, Community Outreach initiatives include:

- **General Public Sessions (Workshops and “Ask the Experts”)**. These sessions allow residents, employees and business owners to receive construction progress information and discuss quality of life and other issues directly with project representatives.
- **Good Neighbor Initiative.** MTAACC staff review each station area weekly, and work directly with residents and NYC agencies to address sanitation, transportation and other pedestrian experience issues.
- **Air Quality Monitoring Information** This information is available online for each station area, and updated each week.

- **Daily Emails.** Project representatives send daily emails notifying the public of upcoming underground blasts, changes in construction procedures, street closings, and MPT changes.
- **Construction Advisory Committees.** Project staff and community stakeholders meet regularly to discuss concerns and solutions regarding construction-related issues. There is a CAC for each station area. The CAC meetings provide community stakeholders face-to-face access to construction managers, project executives, and MFACT staff to discuss issues and work toward solutions. PDF files of CAC presentations, as well as newsletters and other information, are available on the SAS website.
- **Community Information Center.** The Second Avenue Subway Community Information Center (CIC) is located at 1628 Second Avenue between 84th and 85th Streets. The CIC was developed as a one-stop shop to learn about the Second Avenue Subway, its construction and its long history. The CIC is a place to access any information needed about the project and bring issues of concern to the attention of project staff. The center will be open through the completion of the project's first phase.
- **Community Tours.** In December 2011, MFACT began taking members of the community on site tours. These tours are an opportunity for community members to observe the magnitude and progress of the construction taking place. More than 900 members of the community have visited the project sites via the 72nd Street Station cavern or the 86th Street cavern. The tours provide additional opportunities for community members to speak with project executives in person. Tours are scheduled periodically, with more anticipated throughout 2014.
- **Community Newsletters.** Distribution of monthly newsletters for each station area began in February 2012. The newsletters are available online, in hardcopy and are emailed to the SAS community distribution list. The newsletters provide information about construction updates and milestones, work hours, as well as photos and renderings of future station areas. All newsletters are available on the SAS website.
- **On-Site Transparency.** The community liaison staff includes the Community Outreach, Environmental Compliance, Good Neighbor Initiative, and Maintenance and Protection of Traffic teams. The public is encouraged to use these community liaisons as resources for information or to address any immediate concerns.

Observation:

The MFACT's approach to community relations is set forth in detail in Section 12 of its Project Management Plan for SAS Phase 1. This plan is focused on the pre-construction activities generally involving dissemination of project-related information to the affected community and public hearings to support the NEPA process. Construction phase activities are described in Section 12.3.3 of the PMP as "appropriate outreach activities."

Conclusions and Recommendations:

MFACT's approach to Community Outreach has been successful in addressing and mitigating the adverse impacts of the construction process on the adjacent community. The PMOC notes that the overall goals and approach involved in this effort have not been formally documented. The PMOC has recommended MFACT update its Project Management Plan with a more

comprehensive plan for construction phase community relations going forward, including an overall execution plan and proposed scope of activities. [Ref: SAS-22-Jun 12].

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

a) Federal Requirements

During the 4th Quarter 2013, MTA continued its grant management process by issuing monthly financial reports and updating the Transportation Electronic Award Management (TEAM) System to reflect disbursements from the active grants.

b) Uniform Property Acquisition and Relocation Act of 1970

Real estate acquisition and tenant relocation has been completed 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

c) Local Funding Agreements

Funds totaling \$2.964 were allocated in MTA's 2000-2004 and 2005-2019 Capital Plans. The balance of \$1.487 billion to complete SAS Phase 1 was budgeted in the 2010-2014 Capital Plan. On April 28, 2010, the MTA Board approved the 2010-2014 Capital Plan. The Capital Program Review Board (CPRB) approved the plan on June 1, 2010. The MTA Board and CPRB approved amendments (latest July 2013) to the 2010-2014 Capital Plan and retained the \$1.487 billion to complete SAS Phase 1.

1.2 Project Controls

1.2.1 Scope Definition and Control

Status:

The scope of the Phase 1 SAS Project is still defined in ten construction packages (contracts). During the 4th Quarter 2013, there has been no material change in the scope of the SAS Project. However selected work elements in the C2A contract were transferred to the C2B contract and work elements in the C4B contract were transferred to the C4C contract.

Observation:

Transfer of work from one contract to another has been an effective means of mitigating schedule delays and consequential subsequent cost increases. The SAS Project Team is effectively managing this activity. The scope of the SAS Project is still defined by the FEIS, ROD and the FFGA. NYCT is providing support for rail systems engineering installation and overall operating systems inspection and testing.

Concerns and Recommendations:

None this period

1.2.2 Quality

Status:

During the 4th Quarter 2013, the Second Avenue Subway Quality Management team continued holding Quality Meetings and Quarterly Quality Oversight of the Contractor with CCM

MTACC and PMOC participation. They participated in the job progress meetings, monitored quality matters in the field for each construction contract, reviewed and provided comments for Quality Work Plans, and participated in Preparatory Phase Sessions for numerous construction processes.

Observation:

Implementation of the Quality Management System as defined in the contract specification is ongoing. Quality control activities are being performed by the contractors per their Contractor's Quality Plans (CQPs). The MTACC's SAS Quality Managers and Project Contractor Quality Managers are performing quality assurance activities. The PMOC attends Monthly Quality Management Meetings and Quarterly Quality Oversight on each SAS contract. The major issues noted by the PMOC during the fourth quarter of 2013 were delinquent submittals of Inspection Daily Reports on the C2B and C5B contracts, lack of nonconformance report documentation on the C2B contract, excessive time to close nonconformance reports on the C3 contract, and out of specification conditions for concrete on the C3 and C5B contracts.

Revision 3 of the SAS Project Quality Manual (PQM), issued in April 2009, has been revised by the SAS Quality Manager. However, MTACC is revising their quality system to utilize 19 quality elements instead of the present 15. Until this is official and the MTACC Quarterly Quality Oversight (QQO) checklists are revised, Revision 4 cannot be issued. This may take several months since the MTACC QQO rating system is also being modified.

An analysis of concrete strength results was performed on the C4B project and a draft document entitled "Statistical Evaluation of CIP Concrete Strength Results", dated October 15, 2013, was issued. This document contains a statistical evaluation of concrete strength test results to demonstrate compliance with the Contractual acceptance criteria of 5,000 psi for all cast-in-place concrete placed under Contract C4B. Based on this analysis, the Engineer of Record, AAJV, agreed that the concrete NCRs that are open can be closed. The NCRs are now with the SAS Quality Manager for closure. When the C3 and C5B contractors perform a similar analysis, their concrete NCRs can be closed. The C2B contractor has not prepared Nonconformance Reports for out of spec concrete conditions since July 9, 2013.

Contract Packages C2A and C2B	
Stat us:	<p>On C2A through December 31, 2013, a total of 36 NCRs have been issued. 30 have been closed by both the contractor and MFACC, 2 NCRs were voided, and 4 NCRs are still open. In December 2013, no new NCRs were written and none were closed.</p> <p>On C2B through December 31, 2013, a total of 14 NCRs have been issued. Eight have been closed and six NCRs are still open. No NCRs have been written since September 30, 2013 and no concrete NCRs have been written since July 9, 2013.</p> <p>Inspection Daily Reports are current on the C2A contract and on the C2B contract, they are five weeks behind in entering the mint o the CMS System</p>
Observati on:	<p>On the C2A contract, of the four open NCRs, two are for concrete that was out of specification as reported by the contractor's test lab</p> <p>On the C2B contract, of the six open NCRs, one is for concrete that was out of specification</p>
Concerns and Reco mmendati ons:	<p>The PMOC is concerned that entry of Inspection Daily Reports on the C2B contract is again five weeks behind. The contractor's C2A C2B Manager has agreed to provide additional support based on the PMOC's concern and recommendation but to date this has not been effective. The contractor's Quality Manager expects to be one week behind by the end of January 2014.</p>
Contract Package C3	
Stat us:	<p>Through December 31, 2013 a total of 69 NCRs have been issued. 43 have been closed and 26 NCRs are still open. In December 2013, seven new NCRs were written and none were closed. Four of the new NCRs were for concrete placement.</p> <p>Entering of Inspection Daily Reports is current.</p>
Observati on:	<p>Of the 26 open NCRs, 19 are for concrete that was out of specification</p>
Concerns and Reco mmendati ons:	<p>The PMOC is concerned that no NCRs have been closed since October 18, 2013 and that the SAS C3 Contractor's Quality Manager has not prepared the statistical analysis that will enable the concrete NCRs to be closed. The PMOC recommends that the requested analysis be completed and that effort be expended to close the seven NCRs that are not concrete related</p>
Contract Package C4B	
Stat us:	<p>Through December 31, 2013, a total of 118 NCRs have been issued. 87 have been closed and 31 NCRs are still open. In December 2013, five new NCRs were written and 28 were closed. Three of the NCRs written in December were for concrete placement and 27 of the closed NCRs</p>

	<p>were for out of specification concrete that was accepted by the engineer of record based on the statistical analysis that was performed.</p> <p>Entering of Inspection Daily Reports is current.</p>
Observation:	Of the 31 open NCRs, 27 are for concrete that was out of specification.
Concerns and Recommendations:	The PMOC is concerned that there are still 31 open NCRs on this Contract since substantial completion is scheduled for January 14, 2014.
Contract Package C4C	
Status:	<p>Through December 31, 2013, a total of five NCRs have been issued. One has been closed and four NCRs are still open. In December 2013, two new NCRs were written and one was closed. Both of the NCRs written in December were for concrete placement.</p> <p>Entering of Inspection Daily Reports is current.</p>
Observation:	All four of the open NCRs are for concrete that was out of specification.
Concerns and Recommendations:	None at this time.
Contract Package C5B	
Status:	<p>Through December 31, 2013 a total of 49 NCRs have been issued. 20 have been closed and 29 NCRs are still open. In December 2013, no new NCRs were written and one was closed.</p> <p>Entering of Inspection Daily Reports is three weeks behind in entering the mirror of the CMS System.</p>
Observation:	Of the 29 open NCRs, 22 are for concrete that was out of specification. The SAS C5B Contractor's Quality Manager has prepared the statistical analysis that will enable the 22 concrete NCRs to be closed. The analysis is being reviewed by the contractor's management and will be submitted to SAS management in January 2014.
Concerns and Recommendations:	The PMOC is concerned that there were no NCRs written against concrete since October 29, 2013 since the Contractor's Quality Manager was not sure how to interpret direction from the SAS Project Office. The PMOC recommended to the SAS and C5B Quality Managers that NCRs should always be written when an out of specification condition occurs. The PMOC is also concerned that entry of Inspection Daily Reports is five weeks behind.

Contract Package C6	
Status:	Through December 31, 2013 a total of five NCRs have been issued. Four have been closed and one NCR is still open. In December 2013, one new NCR was written and none were closed. None of the five total NCRs were for concrete placement. Entering of Inspection Daily Reports is current.
Observation:	None.
Concerns and Recommendations:	None at this time.

Concerns and Recommendations:

Refer to previous section.

1.2.3 Project Schedule

Status:

A summary of project schedule information is as follows:

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	March 20, 2007 A	March 20, 2007 A
Construction Complete	December 31, 2013	Sept. 16, 2016	October 2017
Revenue Service	September 30, 2014	December 30, 2016	February 2018

MTACC established December 30, 2016 as its target Revenue Service Date (RSD) and bases its schedule and schedule contingency reporting on this target. FTA ELPEP used February 28, 2018 as its target RSD with the condition that a minimum 240 CD of contingency be maintained against this target through September 30, 2016. To date, the MTACC criteria has been the more stringent and has therefore been the basis of routine schedule and schedule contingency reporting.

Observation:

The RSD as forecast by Update #88 of the MTACC's Integrated Project Schedule (IPS), has remained December 30, 2016. For the 3rd Quarter 2013, the calculated completion of Phase 1 construction and testing has been revised to September 20, 2016, with 102 calendar days (CD) of schedule contingency when measured against the MTACC's target RSD of December 30, 2016.

Concerns and Recommendations:

The SAS Project Team has demonstrated its capability and capacity to actively manage the project schedule. Corrective action has been initiated through a series of actions designed to

improve the schedule updating process and “retune” the IPS so that it is an accurate forecast of work to be performed on the project.

1.2.4 Project Budget and Cost

Status:

Total project cost in the approved FFGA (\$4,866,614,000) and Current Working Budget (CWB) which is based on Revision 9 to the Project Cost Estimate, are allocated into the Standard Cost Categories (SCC) as shown below in Table 1-1.

Table 1-1: Standard Cost Categories

Std Cost Category (SCC)	Description	FFGA	MTA’s Current Working Budget (September 30, 2013)
10	Guideway & Track Elements	\$612,404,000	\$642,478,000
20	Stations, Stops, Terminals, Intermodal	\$1,092,836,000	\$1,277,642,000
30	Support Facilities	0	\$0
40	Site Work & Special Conditions	\$276,229,000	\$524,561,000
50	Systems	\$322,707,000	\$250,134,000
60	ROW Land, Existing Improvements	\$240,960,000	\$281,500,000*
70	Vehicles	\$152,999,000	0**
80	Professional Services	\$796,311,000	\$1,026,608,085
90	Unallocated Contingency	\$555,554,000	\$448,076,915
Subtotal		\$4,050,000,000	\$4,451,000,000
Financing Cost		\$816,614,000	\$816,614,000
Total Project		\$4,866,614,000	\$5,267,614,000


* Includes \$36.5M Cost-to-Cure

** FTA Region II has accepted MTA/CCNYCT’s assertion that recent services reductions will provide ample spare vehicles for the SAS Phase 1 Project.

Table 1-2 lists the associated grants in the Transportation Electronic Award Management (TEAM) System with respective appropriated, obligated, and disbursed amounts as of December 31, 2012. No additional Federal Funds were obligated to the MTA for the SAS Phase 1 Project during the 4th Quarter 2013. Grant amendment NY-03-0408-09 in the amount of \$186,566,000 is still pending FTA approval. This amount represents the full FFY 2012 allocation published in the Federal Register on January 11, 2012. Total Federal Funds obligated as of December 31, 2013 is \$1,063,942,000.

Table 1-2: Appropriated and Obligated Funds

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru December 31, 2013
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	\$167,810,300
NY-03-0408-06	\$274,920,030	\$274,920,030	\$274,920,030
NY-03-0408-07	\$237,849,000	\$237,849,000	\$188,282,060
NY-03-0408-08	\$197,182,000	\$197,182,000	0
NY-03-0408-09	\$186,566,000	Pending	0
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
NY-36-001-00*	\$78,870,000	\$78,870,000	\$78,870,000
NY-95-X009-00	\$25,633,000	\$25,633,000	\$25,633,000
NY-95-X015-00	\$45,800,000	\$45,800,000	\$45,800,000
Total	\$1,250,508,200.00	\$1,063,942,200.00	\$817,193,260

 * Denotes American Recovery and Reinvestment Act (ARRA) funds.

A total of \$2,723,798,156 has been expended on the project through December 31, 2013, of which \$466,382,483 has been spent on design and \$1,616,553,066 on construction (MFACC's December 2013 Cost and Schedule Summary Input).

Observation:

Local funds totaling \$1,906,604,896 have been spent as of December 31, 2013.

Concerns and Recommendations:

The PMOC recommends the MFACC update its project cost allocation into the Standard Cost Categories to include its Revision 10 update of the Project cost Estimate.

1.2.5 Project Risk Monitoring and Mitigation

Status:

The SAS Project Team employs a variety of risk management techniques to identify, quantify and manage risks that may impact the project cost or schedule. A full-time Risk Manager supervises implementation of specific risk monitoring and mitigation techniques as prescribed by Section 6.0 of the PMP and the SAS Risk Management Plan. Monthly reports documenting project risk management activities are published.

Observation:

The SAS risk management process has been instrumental in the development of strategies and techniques to manage a variety of retained risks including inter-contract interfaces, safety and security certification and submittal processing, among others.

Major risks to the project currently include the management and execution of the numerous prime contract interfaces as well as overall construction delay and failure to achieve the December 30, 2016 RSD goal. These risks are under continual review and evaluation by the SAS Project Team.

Concerns and Recommendations:

The PMOC continues to recommend the SAS Project Management Team refresh and refocus its risk management effort to a more focused and finite level to identify those “micro” technical and organizational issues that could delay the RSD. Potential issues in this category may include availability of permanent power, required NYC DOB or other third party acceptance of completed work, and management of specific, schedule-critical handoffs between contracts.

1.2.6 Project Safety and Security

Status:

Safety – The OSHA Lost Time Accident Rate and Recordable Accident Rate from the start of construction until November 31, 2013 are 1.92 and 5.51, respectively. The Lost Time Accident rate is below the national average of 2.0 and the Recordable Accident Rate is significantly above the national average of 3.5. The cumulative construction time worked since the project inception is 7,297,274 hours. Total lost time injuries since project inception is 70 and other recordable injuries are 131. The total number of recordable injuries is 201 (sum of the lost time injuries and the other recordable injuries).

Security – Implementation of the Contractor’s Site Security Plans are ongoing.

Observation:

The high rate of recordable incidents is being driven by three contractors and the lost time rate is being driven by one contractor. Management of these specific contractors has been requested to implement corrective action thru increased training and monitoring.

Concerns and Recommendations:

None

1.3 FTA Compliance

Status:

The PMOC and FTA received the final updated SAS Project Management Plan (Revision 9) for review. Comments will be transmitted to the MFACC in the near future.

The SAS Project Team has substantially complied with ELPEP and its associated sub-plans throughout the 4th Quarter 2013. Any non-compliance issues are specifically discussed in Section 4.4 (Compliance With Schedule Management Plan), Section 5.4 (Project Cost and Contingency) and Section 6.3 (Risk Management Status) of this report.

Observation:

Several issues involving compliance with “Buy America” requirements have been encountered. The most recent and potentially the most serious of these issues involves the “Low Vibration Track System”.

On September 11, 2013, MTAACC submitted its “Request for Non-Availability Waiver for Low Vibration Track System” to the FTA in accordance with 49 C.F.R. §661.7(c). On December 17, 2013, MTAACC’s waiver request was published in the Federal Register for a 30-day comment period, which will expire on January 16, 2014.

Concerns and Recommendations:

Time required to resolve the Low Vibration Track System compliance matter may result in adverse schedule and cost impacts.

1.3.1 FTA Milestones Achieved

The last key FTA milestone achieved was entry into the Full Funding Grant Agreement on November 19, 2007.

The ELPEP Hold Point “90% Project Bid/50% Construction Complete” was achieved in March 2013. The next ELPEP Hold Point “100% Project Bid/85% Construction Complete” is currently forecast to be achieved in the 4th Quarter 2014.

1.3.2 Readiness for Revenue Operations

Status:

No change this period

2.0 PROJECT SCOPE

2.1 Status & Quality: Design/Procurement/Construction

2.1.1 Engineering and Design

Status:

The design phase of SAS Phase 1 was completed in late November 2010. The redesign of Entrance 1 at the 72nd Street Station is under way. This redesign was deemed necessary due to irreconcilable differences with adjacent building owners regarding utility relocations and access.

Observation:

The primary role of the design team currently includes:

- Construction Administration, generally including shop drawing review responding to RFIs, providing design clarifications where needed and technical support during construction package bidding
- Detailing and documentation of design changes as may be required
- Supporting AWO evaluation and resolution
- Entrance 1 redesign at 72nd Street Station

Concerns and Recommendations:

Incorporation of user-requested and third-party agency design changes during the construction phase is impacting the schedule. The SAS project staff should continue working with the user groups and third-party agencies to minimize and prioritize the design changes to ensure that only necessary changes are incorporated and that their impact to construction cost and schedule is minimized.

2.1.2 Procurement

Status:

All design and construction services required for the execution of SAS, Phase 1 have been completed.

Observations and Analysis:

None.

Concerns and Recommendations:

None

2.1.3 Construction

Status:

All 10 construction contracts for SAS Phase 1 Project have been awarded. No significant delays or problems were encountered during this reporting period that would jeopardize the achievement of the RSD.

Observations:

Contract G 26002 (C1) – TBM tunnels from 92nd Street to 63rd Street

- This contract has been completed and closed

Contract G 26005 (C2A) 96th Street Station Heavy Civil, Structural and Utility Relocation

- Substantial Completion was achieved on November 5, 2013. In order to achieve Substantial Completion some of the work scope associated with Entrance 1 (Rainbow Hardware) was transferred to the C2B Station contract. Punch list and contract close out activities are ongoing

Contract G 26010 (C2B) 96th Street Station Concrete, MEP/Finishes, Utilities, and Restoration

- Milestone 1 which provided shared access to existing tunnels 99 thru 105 and hatch at 102 Street to the C6 System contractor was completed
- Milestone 3 MDU signed on 8/20/13 closed this milestone out. Subsequent access was provided to the C6 Systems contractor for equipment and rail delivery
- Milestone 5 work is ongoing in order to complete all of the work in the east and west tunnels south of 96th Street Station (between STA 1225+25 and STA 1209+00) and provide “Shared Access to Perform Work” in this area to the C6 Systems contractor. Contract completion date is 2/21/2014.
- The coordination meetings between the C2B and C5B contractors are being held on an “as-needed” basis now that the adjacent blasting in the cavern is complete.
- CTJV performed the initial fire test on the IMC cable and it failed
- AAJ Vis is investigating the possibility of relocating the ECS duct banks because of interference with the roof at Ancillary 2

Contract G 26006 – (C3) 63rd Street Station Upgrade

- Surveying of the Deformation Monitoring Points (DMPs) is ongoing and will continue throughout the project. Additional DMPs are being added to Entrance #1 as necessary as the work advances.
- MPT
 - The MPT reconfiguration in the Plaza at E 63rd & 3rd Ave. is complete. The next MPT set up will be in 2014 for work on Entrance #3.
- Area 5
 - Completing removal of the Gantry Crane and reconfiguring the hoisting scheme from 6th Mezzanine to the lower levels. This opens more area for completing 6th Mezzanine work including new 4-elevator bank.
 - Installing column clips for the permanent column cladding continued at 6th Mezzanine
 - Continued installing electric conduits throughout.
 - Continued masonry wall room enclosures and door frame installation

- Completed installation of equipment and conduits in the UPS & UPS Battery Rooms.
- Entrance #1
 - Completed construction of new Gas Meter Room and re-installation of service to all building tenants. Electrical and water line work continued.
- Ancillary #1
 - The work is substantially complete. During the 4th Quarter 2013 the keys to the building were “turned over” to the building owner, on October 31, 2013.
- Ancillary #2
 - Milestone #5 – “Complete all work in Underground Parking Garage” is complete, approximately 4 months behind the approved milestone date of August 30, 2013. A walk through to inspect the work was conducted on December 17, 2013. Above grade work is ongoing.
- Platforms
 - Continued with light fixture and ceilings installation at the G4 platform. Approximately 50% of finish ceiling will be temporarily left open to allow future access to the C6 contractor.
 - Continued with installation of conduits at the G3 & G4 platforms.
 - Completed installation of service carriers on the G3 platform and resumed ductwork installation.
 - Floor topping was completed in the G3 Elevator Lobby.
- Fan Plants
 - Completed fans installation in East & West Fan Rooms.
 - Completed installation of the permanent access stair in the West Fan Room.

Contract G-26007 (C4B) 72nd Street Station Mining and Lining

- Final concrete liner was completed.
- Rebar installation and permanent concrete placement for the low bench in the main cavern was completed.
- Permanent concrete placement for the low and high benches in G3/S1 cavern was completed.
- Permanent concrete placement for the low and high benches in the G4/S2 cavern was completed.
- Disassembly of the muck house at 69th was completed.
- Substantial Completion is forecasted for January 14, 2014.

Contract 26011 (C4C) 72nd Street Station - Station Finishes, MEP Systems Ancillary Buildings and Entrances

- The first safety incident, back pain, occurred in December, requiring first aid, no lost time. It was followed by a lost time incident where a tradesman was pinned between a steel plate and a lull which resulted in 3 fractures. The General Contractor (GC) conducted an investigation which included alcohol test that showed 0% alcohol & drug test, results of which the GC is waiting for.
- **Ancillary 2 Entrance 2 ABCG is grinding tight concrete areas before the ABC CC can make any progress with the waterproofing at the south wall. Waterproofing is approximately 85% completed (waiting on the ABC contractor to complete grind operation). Removal of the HFC decking has been completed and the installation of drainage piping at the lower mazzari invert slab and installation of waterproofing at the lower mazzari is in progress.**
- **Station North of 71st Street: 1st & 2nd Mazzari concrete pours were completed. Stripping & removing forms has been completed and the forming and placing rebar for Pours #3 and #4 is in progress.**
- **Entrance 3 Base slab & equipment pads have been poured. Knee wall forming rebar installation, installation of conduit and plumbing piping was completed. The placing of the concrete occurred the last week of December 2013.**

Contract C-26008 (C5B): 86th Street Station Cavern & Heavy Civil

- Work continues with 2 shifts. All surface operations end at 10:00 PM daily.
 - Through December 27, 2013 the overall excavation was approximately 99.9% complete. This remaining miscellaneous excavation is mostly the work at Entrance #2.
 - Permanent concrete placement was approximately 46.2% complete with completion still forecast for August 2014.
- Schedule
 - Through December 2013 the contractor's schedule update shows the overall project at -101 days, improved from the previous -119 days. The delays generally are focused on Entrance #2 and the Pump Room work in the southeast tunnel. Milestone #1 is experiencing a 22 day delay with the delays in delivery and erection of the arch forms for the south Ancillary Cavern.
- Main Cavern (North and South)
 - The concrete wall placements continued in the Cavern moving south to north and were approximately 78% complete through December 27, 2013.
 - Work continues in the deep sump pit at the north end of the cavern with completion of waterproofing and preparation for the final invert slab placement.
 - Continued with waterproofing of the Ancillary & Cavern Arches and with assembly/erection of the Ancillary & Public Cavern arch forms and building the arch rebar cages.
 - Completed construction & waterproofing of the bulkhead between the south Ancillary and Cavern Arch.
 - Waterproofing is complete in the CIR Room.

- Ancillary #1/ Ancillary #2
 - At Ancillary #1 the contractor began clearing out of the area, which includes removing the temporary access stair, fans, gantry, etc. By March 2014 everything in the cavern and east tunnel will be cleared from E 85th St. south for Milestone #1.
 - Ancillary #2 continues to be a support/laydown area for the project.
- Entrance #1
 - The contractor continued with removal of temporary underpinning steel and completed the invert slab for the stair/escalator incline.
 - Waterproofing is complete & concrete wall placement is under way along the inclined walls.
- Entrance #2
 - MFACTC and the contractor completed negotiations for the proposal to accelerate the Entrance #2 work. Implementation of the plan began in December 2013.
 - Mucking is substantially complete. Work continues on the incline from the Mezzanine to the Cavern with placement of mud mats.
- Option #1 (Lining the south, east tunnel and mining the Cross Passage ways)
 - In the Pump Room erection of structural concrete walls is ongoing and is approximately 9% complete. Completed waterproofing in the Cross Passage ways.
 - In the East Tunnel concrete lining continues from north (south cavern) to south (73rd St), and has advanced south of the Pump Room and is approximately 74% complete. Trimming of steel ribs is ongoing prior to lining placement.
- Milestone #1
 - The contractor has requested to MFACTC scheduling inspection dates for the Milestone #1 area. As a part of Milestone #1 the contractor will turn over the water treatment system, minimum lighting and a power source.

Contract C26012 (5C) – 86th Street Station Finishes, Mechanical, Electrical, Plumbing Systems, Ancillary Buildings and Entrances

- The contractor's field office is at 207 E 94th St., 3^d floor. The MFACTC Project Office will relocate from its present location to one closer to the contractor's office. The actual location is TBD.
- During December 2013 the Escalator Technical Meeting was held. The Quality Kick-Off Meeting is now scheduled for January 21, 2014.
- MFACTC and the contractor continued to meet on the revised Baseline Schedule and MFACTC comments. The contractor will conduct a Schedule Presentation Meeting on January 17, 2014.
- The contractor continued with pre-construction mobilization activities, including submittals, purchasing and OCP sign-up for subcontractors.

Contract G26009 (G6): Systems – Track, Power, Signals and Communications

- Electrical: Contractor currently have 24 craft electricians (includes 6 supervisors and 1 warehouse man) on the job. Network equipment is being delivered to the Communication Rooms at 63rd Street for installation.
- Installation of power, signal, communication and fiber optic cables from 96th Street to 105th Street is ongoing. Steel for the 147 CIR was delivered.
- Civil (Rail Welding): Rail welding operation is now complete with the exception of the rail closure welds.
- Civil (63rd Street Area): Currently, there are no craft works at 63rd Street. G3/G4 minor punch list activity will be completed during the in-services.
- Material Procurement: Continue the manufacture of communications, SCADA and traction power equipment.

Concerns and Recommendations:

The SAS Project Team continues to identify, prioritize and address construction problems which have the potential to delay the project. There are no new concerns or recommendations at this time.

2.1.4 Force Account (FA) Contracts

Status:

As of December 31, 2013, force account expenditures are \$33,271,713 of the \$95,400,000 budget.

Observation:

Force account labor is being provided by NYCT. Expenditures are for general orders, work trains, and flagging support.

Concerns and Recommendations:

None

2.1.5 Operational Readiness

Status:

NYCT has developed a Concept of Operations Plan for the SAS Project. NYCT will validate SAS Phase 1 readiness during Pre-Revenue Service Operations Training and Testing scheduled from September 15, 2016 to October 25, 2016.

Observation:

Customer Service Centers are being deleted at various stations.

Concerns and Recommendations:

The Concept of Operations Plan should be updated to reflect how the stations will function with the deletion of the Customer Service Centers.

2.2 Third-Party Agreement

Status:

During the 4th Quarter 2013, the SAS Project Team continued its Interagency Coordination as defined in Section 12 of the SAS PMP. MTAACC, PB/CCM and contractors met with Con Edison and ECS representatives bi-weekly to discuss and resolve utility related issues. Third-Party reimbursement as of September 30, 2013 is \$45,045,589.

Observation:

MTAACC/ NYCT has entered into cooperative and force account agreements as needed with other agencies and utility providers to perform construction work for the Project. Revision 10 of MTA's Current Working Budget increased the Third-Party Agreement budget to \$91,586,000.

Concerns and Recommendation:

None

2.3 Contract Packages and Delivery Methods

Phase 1 of the Second Avenue Subway is being delivered via ten separate construction packages. Each construction contract package utilizes the design-bid-build process based upon a fixed price construction contract. Competitive procurements are based on NYCT standard procedures. There was no change to the procurement or delivery method for any of the construction packages during the 4th Quarter of 2013.

2.4 Vehicles

No change. No additional vehicles will be procured for the SAS Phase 1 Project.

2.5 Property Acquisition and Real Estate

Status:

Real estate acquisition and tenant relocation was 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.

All real estate acquisitions required for the construction of SAS Phase 1 have been completed.

Observation:

Acquisition of easements associated with the revised design of Entrance #1 at the 72nd Street Station have been completed.

Conclusions and Recommendations:

None

2.6 Community Relations

Status:

During the 4th Quarter of 2013, Community Liaisons held monthly Construction Advisory Committee meetings and continue to follow up on issues raised by resident stakeholders.

Distribution of outreach materials such as monthly newsletters, website updates, and brochures are ongoing.

Observation:

MTACC expends a significant amount of effort in maintaining community relations, which has generally been effective in facilitating the resolution of adverse construction impacts and communicating with community stakeholder groups.

Conclusions and Recommendations:

None.

3.0 PROJECT MANAGEMENT PLAN AND SUB-PLANS

3.1 Project Management Plan

Status:

MTACC issued draft Update #9 of the PMP for review. PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MTACC.

Observation:

Update #9 does not adequately reflect the current phase and status of the project.

Concerns and Recommendations:

MTACC and FTA/PMOC will need to resolve review comments.

3.2 PMP Sub Plans

Status:

As part of the ongoing PMP update, any revisions in the PMP which have a "ripple impact" to the PMP Sub Plans will require updating.

Observations:

SAS Sub-Plan documents consist of: Project Quality Manual, Contractors' Quality Assurance Plans, Risk Management Plan, Design Criteria Manual, Cost Management Plan, Schedule Management Plan, Project Design Quality Manual, Real Estate Acquisition Plan, Real Estate Acquisition Management Plan, Contingency Management Plan, Safety and Security Management Plan and Quality Implementation Procedures.

Concerns and Recommendations:

Any non-compliance issues are specifically discussed in Section 4.4 (Schedule), Section 5.4 (Cost Contingency) and Section 6.3 (Risk Management Status) of this report.

3.3 Project Procedures

Status:

MTACC is currently conducting an audit of 21 of the total of 79 project procedures that are referenced by the SAS PMP or its sub-plans (particularly the CMP and SMP) and the ELPEP.

Formal training to the procedures for SAS employees is scheduled to begin in January 2014. The PMOC will be invited to attend this training.

Observations:

Results of this audit should be available in early 2014. This audit may initiate additional revisions to the PMP and/or its major sub-plans.

Concerns and Recommendations:

None

4.0 PROJECT SCHEDULE STATUS

4.1 Integrated Project Schedule

Status:

The Integrated Project Schedule (IPS) is a management level schedule that integrates all ten construction packages along with design, procurement, start up and other support activities. IPS Update #89 was received on January 15, 2014 and is based on a Data Date of December 1, 2013. This update contained “.PDF” schedule reports for all remaining work, the critical/longest path, variance tabulation between Updates # 88 and 89, summary schedule and the “.XER” schedule file for the IPS. The IPS forecasts the completion of all construction and NYCT Pre- Revenue Training & Testing activities by September 20, 2016, with approximately 102 calendar days (CD) or 73 work days (WD) of contingency when measured against MTAACC’s target Revenue Service Date (RSD) of December 30, 2016.

Table 4-1: Summary of Schedule Dates

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	March 20, 2007 A	March 20, 2007 A
Construction Complete	December 31, 2013	Sept. 16, 2016	October 2017
Revenue Service	September 30, 2014	December 30, 2016	February 2018

Table 4-2 provides a tabulation of schedule performance and current completion status for each construction contract.

Table 4-2: Summary Schedule Performance by Construction Package

Pkg	Award Date	Contract S/C	% Complete			Upd. #86 Forecast S/C	Upd. #89 Forecast S/C	Schedule Duration	Quarterly Change
			Contract Time %	Payment %	Δ Time v. Money				
C1	3/20/07	3/20/12	100%	100.0%	0.0%	3/20/12A	3/20/12A	609 CD	0 CD
C2A	5/28/09	4/17/13	114%	99.2%	15.0%	10/2/13	11/5/13A	202 CD	34 CD
C2B	6/22/12	11/25/15	42%	30.2%	11.9%	3/10/16	6/3/16	191 CD	85 CD
C3	1/13/11	5/13/14	87%	65.5%	21.1%	1/15/15	6/15/15	398 CD	151 CD
C4B	10/1/10	12/3/13	100%	97.2%	2.6%	1/2/14	1/14/14	42 CD	12 CD
C4C	2/14/13	11/13/15	29%	4.4%	24.5%	11/11/15	11/13/15	0 CD	2 CD
C5A	7/9/09	11/16/11	100%	100.0%	0.0%	11/16/11A	11/16/11A	313 CD	0 CD
C5B	8/4/11	9/4/14	75%	73.8%	1.6%	2/6/15	2/10/15	159 CD	4 CD
C5C	5/25/16	5/25/16	0%	0.0%	0.0%	5/25/16	5/16/16	-9 CD	-9 CD
C6	1/18/12	8/18/16	41%	17.7%	23.1%	8/18/16	8/18/16	0 CD	0 CD

1. Quarterly Change reflects schedule gain/loss over most recent calendar quarter. Negative sign denotes time decrease and positive sign denotes time increase.

2. Schedule Duration reflects schedule gain/loss based on current contract duration. Negative sign denotes time decrease and positive sign denotes time increase.

Observations and Analysis:

Table 4-2 compare the percentage of contract time expended versus the percent complete based upon progress payments. It also calculates total time overrun/underrun and the quarterly change in forecast substantial completion date. These metrics result in the following observations:

- The large Quarterly Change calculated for the C3 construction contract reflects the use of the contractors forecast rather than that of MFACC. The “true date” probably lies between the two however use of the contractors forecast presents the worst possible case. Contract 3 continues to demonstrate a large variance between elapsed contract time and work completed of 21.1%. This is consistent with the 398 CD delay to Substantial Completion currently forecast.
- The forecast substantial completion date used for the C4B contract is the date on which substantial completion was actually achieved.
- Quarterly Change indicated for the C4B, C4C, C5B and C6 contracts are nominal and represent good schedule performance during the period.
- For the 4th Quarter 2013, the C2B construction contract shows a schedule loss of 85 CD. This loss is a combination of delays are due to the late achievement of Contract 2A “handoff milestones” and some are based on C2B AWOs.

- Contracts C4C and C6 exhibit a variance of 24.5% and 23.1% between percentage of work completed and the percentage of contract time elapsed to date. This variance is the result of access restraints from predecessor contracts and was anticipated based upon the overall requirements of those contracts.

Milestone Summary: Atabulation of current schedule performance against contractual milestones is presented in the following table.

Table 4-3: Schedule Milestone Performance

Pkg	MS	Description	Dates			Variance		Sch Float (87)
			Adjusted (2)	Ud #88 (3)	Ud #89 (4)	Contract = (2) - (4)	Month = (3) - (4)	
C2B	MS #2	Complete work & provide shared site access @93rd Street shaft	03/22/14	3/21/14	9/10/14	-172	-173	603
C2B	MS #4	Complete work & provide shared access in East & West track-ways thru Sta (1238+50 - >1225+25); 97th -> 99th St Tunnel in 99th to 105th St Tunnels	09/21/14	10/20/14	12/11/14	-81	-52	40
C2B	MS #5	Complete work & provide shared access @East & West Tunnels South of 96th St Station (1225+25 and STA 1209+00)	02/20/14	2/21/14	2/21/14	-1	0	58
C2B	MS #6	Complete work & provide full access to Comms Rooms & Closures	08/21/14	10/21/14	12/2/14	-103	-42	208
C2B	MS #7	Complete work & provide full access to Signal Rooms	08/21/14	10/21/14	12/2/14	-103	-42	261
C2B	MS #8	Complete work & provide full access to Traction Power Rooms:	08/21/14	10/21/14	12/2/14	-103	-42	179
C2B	MS #9	Complete work & provide full access to Station Service Centers	11/21/14	3/6/15	6/22/15	-213	-108	399
C2B	MS #10	Complete all Comms, Signal, & Traction Power work in remaining areas not identified in Milestones 1 through 9	09/21/14	3/24/15	2/26/15	-158	26	481
C2B	SS	Substantial Completion	12/21/15	3/25/16	6/3/16	-165	-70	150
C3	#3c	Compl Mzzz Lvl's Comm Rms/ Sta Serv Gr	04/15/13	03/04/14	07/31/14	-472	-149	216
C3	#4	Compl Lwr/ Upr Hatfor ns & Signal Rms	10/14/13	01/13/14	03/31/14	-168	-77	186
C3	#4b	Compl Lwr/ Upr Hatfor ns & Signal Rms	10/14/13	05/01/14	07/31/14	-290	-91	216

Pkg	MS	Description	Dates			Variance		Sch Float (87)
			Adjusted (2)	Ud #88 (3)	Ud #89 (4)	Contract =(2) - (4)	Month =(3) - (4)	
C3	#5	Compl All work Anc #2 in Park'g Garage	08/30/13	12/16/13	12/30/13	-122	-14	420
C3	SS	Substantial Completion	05/13/14	01/15/15	06/15/15	-398	-151	56
C4B	SS	Substantial Compl/ All work South GL 17	12/03/13	12/30/13	12/30/13	-27	0	29
C4C	MS #1	Provide vehicle access thru 72nd Street Station 1172+40 -> 1163+00	02/13/14	02/14/14	02/14/14	-1	0	128
C4C	MS #2	Provide limited access thru 72nd Street Station 1172+40 -> 1163+00	01/13/14	06/13/14	06/13/14	-151	0	102
C4C	MS #3	Provide shared access thru 72nd Street Station 1172+40 -> 1163+00	11/27/14	11/25/14	11/26/14	1	-1	55
C4C	MS #4	Provide vehicle access south of 72nd Street Station 1163+00 -> 149+50	2/13/14	02/14/14	02/14/14	-1	0	128
C4C	MS #5	Provide limited access south of 72nd Street Station 1163+00 -> 149+50	4/14/14	04/14/14	04/14/14	0	0	145
C4C	MS #6	Provide shared access south of 72nd Street Station 1163+00 -> 149+50	6/13/14	06/09/14	06/09/14	4	0	106
C4C	MS #7	Provide full access turnover of Communications Rooms to Systems Contractor	8/28/14	08/27/14	08/27/14	1	0	337
C4C	MS #8	Provide full access turnover of Signal Rooms South of station to Systems Contractor	7/15/14	07/08/14	07/08/14	7	0	375
C4C	MS #9	Comp. work in all Signal Rooms except MS	9/29/14	09/26/14	09/29/14	0	-3	12
C4C	MS #10	Comp. work in north power rooms	2/25/15	10/10/14	10/17/14	131	-7	261
C4C	MS #11	Comp. work in south power rooms	03/24/15	11/19/14	10/16/14	159	34	262
C4C	MS #12	Complete work, provide full access @Station Service Center(s)	08/28/14	08/19/14	09/29/14	-32	-41	310
C4C	MS #13	Complete work, provide full access @Lubrication Room(s)	08/28/14	08/21/14	08/21/14	7	0	343
C4C	MS #14	Complete work in all remaining Comm Signals & Traction Power Rooms	08/28/14	08/29/14	10/08/14	-41	-40	310
C5B	#1	Compl All work South of Grid Line 15	03/04/14	04/15/14	04/22/14	-49	-7	96

Pkg	MS	Description	Dates			Variance		Sch Float (87)
			Adjusted (2)	Ud #88 (3)	Ud #89 (4)	Contract =(2) - (4)	Month =(3) - (4)	
C5B	SS	Substantial Compl/All Work incl. Ent. #2	-	02/06/15	02/10/15		-4	185
C6	#2A	Complete LAN - 96th St. Station	05/18/15	05/18/15	05/18/15	0	0	314
C6	#2B	Complete WAN - 96th St. Station	05/18/15	05/18/15	05/18/15	0	0	314
C6	#3A	Complete LAN - 86th St. Station	07/18/15	07/20/15	07/17/15	1	3	155
C6	#3B	Complete WAN - 86th St. Station	07/18/15	07/20/15	07/17/15	1	3	155
C6	#4A	Complete LAN - 72nd St. Station	02/18/15	02/19/15	02/18/15	0	1	399
C6	#4B	Complete WAN - 72nd St. Station	02/18/15	02/19/15	02/18/15	0	1	399
C6	#5A	Complete LAN - 63rd St. Station	04/18/14	10/06/14	10/03/14	-168	3	187
C6	#5B	Complete WAN - 63rd St. Station	04/18/14	10/06/14	10/03/14	-168	3	187
C6	#5C	Complete all 63rd St. Station work	04/18/14	11/14/14	11/13/14	-209	1	187
C6	SS	Substantial Completion	08/18/16	08/26/16	08/18/16	0	8	23

Notes:

1. All schedule dates based upon December 1, 2013 update (IPS Update #89)
2. Contract packages 1 and 5A have completed all work and follow-on activities are proceeding w/o impact.
3. Contract package 5C; no variances with contract milestones to date.
4. Dates followed by an "A" signify an actual completion on that date.

- For C3, the IPS does not reflect the Contractor's Milestone 3 and Milestone 4 forecast dates as of December 1, 2013. MFACC is evaluating the Contractor's requests for time extensions affecting these milestones. Milestones 3 and 4 are also dependent on GO's which the contractor has requested and are under consideration.
- For C2B, the IPS update of December 1, 2013 does not reflect the Contractor's Milestone forecast dates for Milestones 4 through 10 and Substantial Completion. Time extension requests associated with several AWO are currently under evaluation to determine what impact they might have on interim milestones and the Substantial Completion date.
- For C4B, C4C and C5B the IPS reflects the Contractor's Milestone forecast dates as of December 1, 2013.
- For C5C, the IPS is based on and reflects the Contractor's Access and Milestone dates.
- For C6, the IPS does not reflect the Contractor's Milestone forecast dates as of December 1, 2013 for all interim Milestones #2A, #2B, #3A, #3B, #4A, #4B, and #5A, #5B, #5C. MFACC disagrees with the Contractor's forecast Substantial Completion date and the Contractor's Substantial Completion date is shown. MFACC expects a mitigation plan from the Contractor to formally regain the Substantial Completion date of August 18, 2016.

Concerns and Recommendations:

Generally, 4th Quarter 2013 schedule milestone performance (monthly variance) was good. MTACC continues to evaluate the C6 schedule acceleration proposal. The PMOC has expressed concern about this effort. MTACC will present its TAC paper containing complete analysis and recommendations in early 2014.

4.2 90-Day Look-Ahead

Status:

Based on the Integrated Project Schedule (IPS) Update #89 (DD=12/01/13), major activities that can be anticipated to either start or complete over the upcoming 90 days include the following:

Table 4-4: 90-Day Look-Ahead Schedule

Activity ID	Start	Finish
C2B – 96th Street Station Concrete, Finishes & Utilities		
Place Concrete Mezzanine Slab - 95th to 92nd Streets		1/17/14
Install Wall/ Roof Waterproofing – Ancillary #1	1/23/14	
Build Roof Slab – Entrance #2		1/22/14
Place Concrete Roof Slab – 95th to 99th Streets	5/4/14	
C3 – 63rd Street Station Rehab		
MEP Work @2 nd Mezzanine – Area 5		3/25/14
Shoring Frames @Entrance #1		2/20/14
MEP @ Ancillary #2		3/4/14
Structural Work – Entrance #3		3/17/14
C4B – 72nd Street Station Mining & Lining		
Substantial Completion		12/30/13
C4C – 72nd Street Station Finishes		
On-Site Mobilization		2/21/14
Anc. #2 – Mezz. WP, Rebar, Slab & Walls		2/26/14
Anc. #2 – 1 st Upper Mezz. WP, Rebar, Slab & Walls		3/14/14
Station Mezzanine – Section 1 thru 8		1/20/14
Station Platform Pre-Cast Panels Col Line 17-24		2/18/14
C5B – 86th St. Station Mining & Lining		
Entrance #1 – Remaining Structural Concrete		3/11/14
Pump Station – Complete Concrete		3/18/14
South Cavern Concrete Arch		3/27/14

Activity ID	Start	Finish
North Cavern Wall Concrete		2/11/14
C5 C – 86th St. Station Finishes & MEP		
Mobilization		12/20/13
C6 – Systems		
Signal Rooms @72 nd Street - Submit/ Approve Layout		1/30/14
Comm Room MR223D (@63 rd Street) – Test Remote Monitoring Sys.		2/25/14
Comm Room MR223E (@63 rd Street) – Test Remote Monitoring Sys.		2/25/14
Submit/ Approve Data Cabinets @96 th Street		3/14/14

Observations and Analysis:

During the next 90-day period, construction contract C4B will achieve substantial completion. Timely completion of this contract and availability of unrestricted site access for the follow on contract C4C is “critical” to achieving the currently forecast RSD of December 30, 2016.

Concerns and Recommendations:

Refer to See Section 4.3 of this report for additional comments and recommendations.

4.3 Critical Path Activities

Status:

Based on Update #89 of the IPS, the calculated date for completion of all SAS Phase 1 activities is September 20, 2016. This results in 102 calendar days of contingency when compared to the MTAACC’s revenue service goal of December 30, 2016.

The IPS contains numerous contractual milestones and schedule constraints which support modeling the interaction of the construction packages. Accurate modeling of the interaction of the active construction packages complicates the identification and interpretation of the overall project critical path. Due to the inherent limits in the accuracy of CPM methodology and the information developed in a complicated project of this nature, the schedule model can never be a 100% accurate representation of the project. As such, the PMOC considers the monitoring and evaluation of key “near-critical” paths to be an important element of this schedule review.

Based on a review of the critical path(s), the PMOC notes the following:

- The primary “critical” or “near-critical” schedule drivers involve completion of signal system installation at and in the vicinity of the 72nd and 86th Street Stations. Necessary predecessors to this work involve equipment procurement, construction of spaces for signal equipment and track installation.
- The project schedule is no longer controlled by the bulk civil/structural work. It is now focused on MEP and rail systems work as well as specific civil/structural predecessor activities.
- Communications system installation and testing does not appear to be a major schedule driver at this time. This is somewhat counter-intuitive as communications system issues

are frequently cited as significant concerns. It is noted that MfACC's previous commitment to enhance the detail of communication system detail within the IPS has yet to be fulfilled.

- MfACC has expressed continuing concern over the potential schedule impact of delay in availability of permanent power and difficulty in obtaining necessary information to accurately demonstrate the matter in a schedule format. This problem remains a potential "game changer" and is not represented in the IPS.

Observations:

Project Critical Path: For IPS Update #89, the project critical path continues to involve construction at the 72nd Street Station; however some changes to the specifics of the activities within that path have occurred. The TF=0 portion of the path extends from the data date (December 1, 2013) and extends continuously through to the forecast completion of all construction and testing activity on September 20, 2016.

1. This path begins with Activity C6P4-400, "Signal Rooms @72nd – Procure relays, vitals, racks, etc." Procurement of these signal system components is forecast to complete on November 7, 2014. Concurrent Activity C6D2 – 1025, "Signal Rooms @72nd – Submit and approve room layouts" is also indicated as TF=0; its forecast completion date is January 30, 2014.
2. Signal system installation at 72nd Street begins on November 3, 2014. This work continues through field testing and acceptance of work in the relay room on July 28, 2016.
3. This schedule presumes that Proof of Operations Testing can complete before the completion of all signal system testing. Proof of Operations testing is currently scheduled to start on April 28, 2016 and complete on July 28, 2016. The PMOC questions the validity of this logic.
4. Based on this schedule, the only work that follows the signal system testing are the Route Familiarization, and Systems and Equipment Familiarization activities required by NYCT, resulting in a theoretical completion of all work on September 19, 2016.

The PMOC has several comments relative to this path.

1. Procurement of signal system equipment controls approximately one-third of the total time defined by this path. This is a summary activity which may involve substantially more than just traditional "long-lead" type items. MfACC reports there are no concerns regarding C6 equipment procurement, however the PMOC recommends ongoing monitoring of the status of equipment procurement.
2. To date, Proof of Operations Testing has been solely defined as an activity that has to start three months prior to C6 Substantial Completion. As the focus on testing and startup become sharper, the PMOC recommends a better definition of this activity and the activities which must be completed prior to its start.
3. In Update #89, MfACC has resolved previously noted undocumented gaps in time in the critical path. The PMOC considers this an important element of verifying the validity of a critical or near-critical path.

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

- +12 WD:** This path involves construction of the mezzanine and Ancillary #2 at the 72nd Street Station and is initiated by Activity C4C-ANC2-LM10001-1 “Anc. #2 Lower Mezz, WP, Rebar, Slab & Wall” which is forecast to complete on January 20, 2014. The path continues through the Structural Build out of the 1st Upper Mezzanine, 2nd Upper Mezzanine, Sub Basement and Basement Levels as well as the MEP installation of Ancillary 2 Mezzanine Level, which allows construction of the Signal Rooms (# 5103, 5105, 5106 & 5109) located in Ancillary 2 to start in early August 2014. Completion of these rooms, forecast for September 29, 2014, satisfy C4C Milestone #9 and transfer the Signal Rooms to the C6 Contractor.
- +14 WD:** NYCT Pre-Revenue Operation Activities scheduled to start on August 18, 2014 is unchanged this period. Float on this path remains unchanged this update period.
- +23 WD:** This path begins with a new activity added to the schedule this period, Activity C6P6-435, “Survey of Tunnel Alignment – North of 96th Street” which is forecast to be complete on December 6, 2013. Completion of this work allows the start of Activity C6TW011 “Zone 1 Track S1 @96th –Set Ties, Thread & Clip Rails, Surface & Align, Install Riser Boxes Rebar and Conduit” and continues through the installation of the Trackwork in Zone 1 through Zone 7 which is complete by 19-Feb-15. This path then shifts to the installation of the wayside equipment at 72nd Street which starts with Activity #C6C4-290 “Wayside @72nd –Install Riser Boxes, Conduits, Tray” and completes with Activity #C6C4-299 “Wayside @72nd – Perform Punchlist Work” on August 18, 2016. The completion of the wayside equipment punchlist at 72nd Street then ties to Substantial Completion of Contract 6 which finishes on August 18, 2016 and then ties into the “Proof of Operations Tests”, then completion of “Dispatch Tower Tests at 96th S Station”, “Traction Power Operational Test”, “Route Familiarization and Equipment Training”, tying to an Operational Revenue Service Date (ORD) of September 20th, 2016.
- +28 WD:** This path is an offshoot of the previously discussed +23 WD path. Zone 1 track installation is forecast to start on December 9, 2013 and continues through the completion of track installation in Zone 10 on August 5, 2015. This path then shifts to the installation of the wayside equipment at 86th Street which is forecast to complete on July 19, 2016. Completion of the 86th Street wayside equipment punchlist work on August 11, 2016 then ties to Substantial Completion of Contract 6 on August 18, 2016, followed by the “Proof of Operations Tests” and an Operational Revenue Service Date (ORD) of September 20th 2016.
- +55 WD:** This path involves the completion of Entrance #1 at the 63rd Street Station and is initiated by utility relocations, which are currently under way and forecast to complete on December 26, 2013. Subsequent activities include shoring foundation piles and the structural construction of Entrance #1. Escalator installation and testing completes the work at this location. Completion of all work is forecast for June 15, 2015. This work gained approximately 25 WD of schedule float this update period.

Concerns and Recommendations:

The PMOC notes that significant progress appears to have been made in accurately updating schedule information for the C6 construction contract. Hopefully this effort will continue and yield a more accurate view of the schedule paths and issues that are of primary importance in achieving timely completion of the project.

Page 8 of the narrative report accompanying IPS Update # 89 states in part:

“Signal testing starts on December 16, 2016 (typo) and completes on July 28, 2016 marking the completion of all Systems Integration Testing for the SAS Phase I Project.”

However, Update #89 indicates that:

- Wayside equipment installation and punchlist work at 72nd Street is not forecast to complete until August 18, 2016 (Activity C6C4-299), one month after the completion of all integrated systems testing. The schedule indicates this activity has 23 WD of schedule float.
- Wayside equipment installation and punchlist work at 86th Street is not forecast to complete until August 11, 2016 (Activity C6C5-309), almost one month after the completion of all integrated systems testing. The schedule indicates this activity has 28 WD of schedule float.
- The completion of traction power system integrated testing is forecast for April 15, 2016 and all tracks are scheduled to be energized in May 2016 (Activity 861 TTF1210). This scheduling is questioned based upon the significant level of activity occurring adjacent to the track and 3rd rail through mid-August 2016.

While it is likely that some signal system testing can occur prior to the completion of work at 72nd Street and 86th Streets, it is unlikely that the testing can be completed one month in advance of completion of a major portion of the signal system installation work. It is the opinion of the PMOC that this represents a significant schedule logic flaw and a potential change of several months to the current forecast for completion of all installation and testing work.

Problems involving Milestone definition have been a major component of delays associated with Milestone #3 at the 63rd Street Station. Milestone #9 at the 72nd Street Station is similar. The PMOC recommends MFACC utilize the lessons learned at 63rd Street and verify the compatibility of the respective contract milestone requirements and the functional requirements of the spaces to be turned over in order to ensure timely and complete hand-off between contracts.

4.4 Compliance with Schedule Management Plan

Status:

Since August 2010, the PMOC has monitored and evaluated the SAS Project Team's compliance with its Schedule Management Plan, developed as part of the overall ELPEP process.

Observations and Analysis:

In the opinion of the PMOC, SAS Phase 1 remains in substantial compliance with the metrics, deliverables and intangible goals enumerated in the Enterprise Level Project Execution Plan (ELPEP), dated January 15, 2010 (Section IV.b, page 8) and as further described by the Schedule Management Plan (SMP).

Management of a schedule of this scope and complexity involves numerous technical and managerial challenges, most of which add to the difficulty of providing a meaningful schedule forecast. SAS Senior Management has recognized that corrective action is occasionally required and has effectively implemented such action when required. MTACC is addressing previously expressed PMOC concerns relative to the IPS. The PMOC is confident that when completed, these actions will support and enhance the overall schedule management effort.

The current status of schedule metrics identified by the ELPEP includes:

- Forecast Revenue Service Date
 - ELPEP Requirement: February 28, 2018
 - Current Forecast: December 30, 2016
- Minimum schedule contingency (measured against February 28, 2018 RSD)
 - ELPEP Requirement: 240 CD
 - Current Forecast: 530 CD
- Minimum Allowable Float; Real Estate Acquisition
 - ELPEP Requirement: 60 CD
 - Current Forecast:
 - C4C Entrance #1: Condemnation period for new easement (Act # C4C ENT1 REL) = 189 WD (approx. 260 CD)
- Minimum Allowable Secondary Float Path
 - ELPEP Requirement: 25 CD
 - Current Forecast: Independent “near critical” path @+12 WD (17 CD). It may not appear to be economically reasonable to mitigate (accelerate) work on this path to achieve full ELPEP compliance.
- Secondary Schedule Mitigation (critical path compression)
 - ELPEP Requirement: 125 CD
 - Current Forecast: Not Available.

The SAS Management Team has demonstrated that it is using the IPS to actively plan, organize, direct and control individual packages and the overall project, and to provide reliable forecasts of the SAS revenue service date (RSD) and other major accomplishments.

Concerns and Recommendations:

With respect to project schedule management, the MTACC has realized the beneficial outcomes envisioned by the ELPEP on SAS. MTACC has generally been in compliance with its Schedule

Management Plan; however, the current effort to “refresh” the IPS must be completed and maintained in order to assure continued compliance with its SMP.

The PMOC is concerned about the significant reduction in schedule float for the cost-to-cure work at Entrance #1 of the 72nd Street Station. This change in schedule status should receive greater attention in the monthly schedule narrative. No further concerns or recommendations in this section.

5.0 PROJECT COST STATUS

5.1 Budget/ Cost

Status:

The FFGA baseline budget and current working budget are broken down into Standard Cost Categories in year of expenditure dollars as follows:

Table 5-1: Allocation of FFGA and Current Working Budget to Standard Cost Categories

Std Cost Category (SCC)	Description	FFGA	MTA's Current Working Budget (September 30, 2013)
10	Guide way & Track Elements	\$612,404,000	\$642,478,000
20	Stations, Stops, Terminals, Intermodal	\$1,092,836,000	\$1,277,642,000
30	Support Facilities	0	\$0
40	Site Work & Special Conditions	\$276,229,000	\$524,561,000
50	Systems	\$322,707,000	\$250,134,000
60	ROW Land, Existing Improvements	\$240,960,000	\$281,500,000*
70	Vehicles	\$152,999,000	0**
80	Professional Services	\$796,311,000	\$1,026,608,085
90	Unallocated Contingency	\$555,554,000	\$448,076,915
Subtotal		\$4,050,000,000	\$4,451,000,000
Financing Cost		\$816,614,000	\$816,614,000
Total Project		\$4,866,614,000	\$5,267,614,000

* Includes \$36.5 M Cost-to-Cure

** FTA Region II has accepted MTA/ACC/ NYCT's assertion that recent services reductions will provide ample spare vehicles for the SAS Phase 1 Project.

Observation and Analysis:

Table 5-1 represents MTA/ACC's most recent update (September 30, 2013) of its CWB into the FTA Standard Cost Categories. Revisions to the SCC allocations incorporate the Revision 10 modifications to the MTA/ACC's CWB. MTA/ACC converts the CWB to the SCC for next quarterly.

Conclusions and Recommendations:

MTA/ACC continues to execute Phase 1 of the SAS within the constraints of its CWB. The PMOC will continue to monitor MTA/ACC conformance to its budget.

5.1.1 Project Cost Management and Control

Status:

The SAS Project Team accumulates and reports actual cost expenditures against MFACC established cost categories on a monthly basis. The aggregate budget value of the cost categories equals the CWB of \$4.451B. In general, MFACC cost categories correspond to individual contracts or groups of contracts for products or services supplied by a 3rd party vendor. Values within the MFACC Cost Categories mapped to the FTA Standardized Cost Categories on a Quarterly basis.

Observation:

MFACC continues to demonstrate that its cost reporting and management processes and procedures are adequate for and responsive to the needs of the project. No new observations this period.

Concerns and Recommendations:

None.

5.1.2 Project Expenditures and Commitments:

Status:

As of December 31, 2013, a summary comparison of the SAS Current Working Budget (Estimate Revision #10) and expenditures is as follows:

Description	CWB	Expended	%
Total Construction (1)	\$2,674,814,299	\$1,724,377,936	62.0%
Total Soft Cost	\$1,308,108,085	\$999,420,220	76.4%
Contingency	\$468,077,616	(Included above)	
Subtotal	\$4,451,000,000	\$2,723,798,156	61.2%

(1) % complete includes AWOs executed to date.

Observations:

The PMOC notes that expenditures are generally representative of the level of completion of each project element. It is noted that "soft costs" as defined on this project, include significant front-end costs (property acquisition, OCIP, etc.) which skew the percentage of those categories expended to date.

Based upon financial expenditures reported by the MFACC during December 2013, SAS Phase 1 is approximately 61.2% complete. The completion status of the active construction contracts through September 2013, also based upon reported expenditures through that date, is as follows:

- C26002 (Tunnel Boring) – 100%
- C26005 (96th Street Station) – 99.2%
- C26010 (96th Street Station) – 30.2%

- C26013 (86th Street Station) – 100 %
- C26008 (86th Street Station) – 73.8 %
- C26012 (86th Street Station) – 0 %
- C26006 (63rd Street Station) – 65.5 %
- C26007 (72nd Street Station) – 97.2 %
- C26011 (72nd Street Station) – 4.4 %
- C26009 (Systems) – 17.7 %

Aggregate Construction % Completion:

- 100 % of all construction work is under contract
- 62.0 % of all construction is complete

Based upon cost data received from M^TACC for September 2013:

- Value of construction in place this period = \$20,708,293
- Estimated value of construction remaining = \$950,436,363
- Target construction completion = August 18, 2016
- # Months remaining = 32.7

Conclusions and Recommendations:

The estimated average rate of construction required to achieve target completion date = \$29,038,458/ MO. The average progress (payments) achieved over the most recent six month period is \$41,198,484/ MO. Although reported progress in December 2013 was below this target value, overall progress over the most recent six-month period has been adequate. In December, payments were not processed for several contracts, artificially reducing the estimated progress achieved.

Soft Cost expenditures (not including real estate, O&P, etc.) during September 2013 totaled approximately \$5.2 M. Expenditures for Final Engineering Design (including Construction Administration) over recent periods have been higher than forecast by the current CWB. If these expenditures continue an overrun may occur and additional contingency funds will be needed. At this rate, the PMOC estimates there is adequate soft cost budget remaining to complete the project, assuming the lack of a significant delay beyond the M^TACC's current RSD of December 30, 2016.

5.1.3 Change Orders

Status:

As of December 31, 2013, the status of Additional Work Orders (AWOs) on Phase 1 of the Second Avenue Subway Project is summarized as follows:

Table 5-2: AWO Summary

Contract / (Package)	% Complete	Award	Exposure		Executed	
			\$	% of Award	\$	% of Award
C26002 (1)	100.00 %	\$337,025,000	\$41,086,647	12.19 %	\$41,086,647	12.19 %
C26005 (2A)	99.22 %	\$325,000,000	\$51,521,892	15.85 %	\$41,121,070	12.65 %
C26010 (2B)	30.24 %	\$324,600,000	\$19,926,178	6.14 %	\$4,924,880	1.52 %
C26006 (3)	65.53 %	\$176,450,000	\$11,489,827	6.51 %	\$8,331,515	4.72 %
C26007 (4B)	97.25 %	\$447,180,260	\$3,721,582	0.83 %	\$5,004,513	1.12 %
C26011 (4C)	4.36 %	\$258,353,000	\$221,969	0.09 %	\$32,062	0.01 %
C26013 (5A)	100.00 %	\$34,070,039	\$6,525,471	19.15 %	\$6,525,471	19.15 %
C26008 (5B)	73.80 %	\$301,860,000	\$10,774,895	3.57 %	\$7,937,172	2.63 %
C26012 (5C)	0.00 %	\$208,376,000	\$0	0.00 %	\$0	0.00 %
C26009(6)	17.73 %	\$261,900,000	\$9,630,112	3.68 %	\$1,374,231	0.52 %
TOTAL TO DATE		\$2,674,814,299	\$154,898,573	5.79 %	\$116,337,561	4.35 %

To date, approximately \$1,616,533 (60.4 %) of all base contract construction work has been completed. As a % of work completed, the AWO exposure for these contracts = 9.58 % and the executed AWO % = 7.20%. Based on performance to date, a forecast of total AWO expenditure of slightly less than \$200M appears reasonable. This compares favorably with the \$229M AWO contingency contained in the MFACC CWB. This forecast assumes there is no significant delay MFACC's current RSD of December 30, 2016.

Observation and Analysis:

The value of AWOs reported by MFACC/ NYCT in December 2013 is summarized as follows:

	<u>Executed AWOs</u>	<u>AWO Exposure</u>
December 2013	\$116,337,561	\$154,898,573
November 2013	\$116,465,660	\$147,505,764
Change	(\$128,099)	\$7,392,809
Change	(0.11 %)	5.01 %

The change in AWO Exposure during December 2013 for each construction contract is summarized as follows:

Const. Pkg.	AWO Exposure \$			Changes this Period
	Dec. - 13	Nov. - 13	Period Δ	
C1	\$41,086,647	\$41,086,647	\$0	Final value as reported by MFACC
C2 A	\$51,521,892	\$51,274,883	\$247,009	Net increase is the result of modified estimates for AWO # 153, 163 and 169 as well as initial estimates for AWO # 162, 165, 166, 167, 168, 170, 171.

Const. Pkg	A WO Exposure \$			Changes this Period
	Dec. - 13	Nov. - 13	Period Δ	
C2 B	\$19,926,179	\$21,555,697	(\$1,629,519)	Net decrease is the result of revised estimates for AWO # 2, 21, 33, 48, 49, 51 and initial estimates for AWO # 10, 53, 55, 56, 57, 58, 59, 60, 62 and 66.
C3	\$11,489,827	\$10,850,028	\$639,799	Net increase is based on revised estimates for AWO # 71, 74, 77, 90, 94, 97, 99, 102, 103, 104, 105, 108 and 110 as well as initial estimates for AWO # 96, 106, 107, 109, 111, 112, 113 and 114.
C4 B	\$3,721,582	\$2,632,742	\$1,088,840	Increase is based on initial estimates for AWO # 42, 80 and 86.
C4 C	\$221,969	\$110,278	\$111,691	Increase is a result of initial estimates for AWO # 13 and 14.
C5 A	\$6,525,471	\$6,525,471	\$0	Final value as reported by MTACC.
C5 B	\$10,774,895	\$10,774,895	\$0	No change this period.
C5 C	\$0	\$0	\$0	No change this period.
C6	\$9,630,112	\$2,695,123	\$6,934,989	Net increase is based on initial estimates for AWO # 8, 13, 23, 32 and 35 as well as a revised estimate for AWO # 26. The estimated value for AWO # 22 was restored this month after having been deleted in the November report.
	\$152,711,625	\$147,505,764	\$5,205,861	

The changes in Executed AWO Value for each construction contract are summarized as follows:

Const. Pkg	Executed AWO \$			Changes this Period
	Dec. - 13	Nov. - 13	Period Δ	
C1	\$41,086,647	\$41,086,647	\$0	Final value as reported by MTACC.
C2 A	\$41,121,070	\$41,124,870	(\$3800)	Net decrease is the result of execution of AWO # 112, 165, 166, 167 and 168.
C2 B	\$4,924,800	\$4,791,943	\$132,937	Increase is based on the execution of AWO # 55, 56, 57, 58, 59 and 66.
C3	\$8,331,515	\$7,990,751	\$340,764	Net increase is based on execution of AWO # 72, 97 and 112.
C4 B	\$5,004,513	\$5,004,513	\$0	No change this period.

Const. Pkg	Executed AWO \$			Changes this Period
	Dec. -13	Nov. -13	Period Δ	
C4C	\$32,062	\$32,062	\$0	No change this period
C5 A	\$6,525,471	\$6,525,471	\$0	Final value as reported by MTACC
C5 B	\$7,937,172	\$7,937,172	\$0	No change this period
C5 C	\$0	\$0	\$0	No change this period
C6	\$1,972,231	\$2,695,123	(\$598,000)	Decrease is based on the deletion of previously logged approval values for AWO # 2 and 3
	\$114,150,613	\$116,465,660	(\$2,315,047)	

Concerns and Recommendations:

MTACC, with support from NYCT, has generally demonstrated a disciplined and diligent approach to effectively negotiating additional work orders for a fair and reasonable price. Credits for deleted or reduced work scope are pursued aggressively.

The PMOC is concerned about irregularities in the manner by which AWOs are tracked and tabulated for the C26006 and C26009 contracts. Irregularities in the AWO logs cast doubt as to their accuracy and the diligence with which they are maintained.

The AWO log for C5C currently contains no entries and a total \$0 exposure value. This is somewhat counterintuitive as there are 28 AWOs currently entered in the C4C AWO log. C4C and C5C are very similar projects. The PMOC is concerned that the preconstruction period on C5C is not being effectively used to identify and minimize the impact of changes during construction.

5.2 Project Funding

Status:

Total Federal participation is currently \$1,350,692,821. Appropriated, obligated and disbursed totals are shown in Table 5-3 below

Table 5-3: Appropriated and Obligated Funds (Federal)

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru December 31, 2013
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	\$167,810,300

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru December 31, 2013
NY-03-0408-06	\$274,920,030	\$274,920,030	\$274,920,030
NY-03-0408-07	\$237,849,000	\$237,849,000	\$188,282,060
NY-03-0408-08	\$197,182,000	\$197,182,000	0
NY-03-0408-09	\$186,566,000	Pending	0
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
NY-36-001-00*	\$78,870,000	\$78,870,000	\$78,870,000
NY-95-X009-00	\$25,633,000	\$25,633,000	\$25,633,000
NY-95-X015-00	\$45,800,000	\$45,800,000	\$45,800,000
Total	\$1,250,508,200.00	\$1,063,942,200.00	\$817,193,260.00



* Denotes American Recovery and Reinvestment Act (ARRA) funds.

A total of \$2,723,798,156 has been expended on the project through December 31, 2013, of which \$466,382,483 has been spent on design and \$1,616,553,066 on construction (MTACC's December 2013 Cost and Schedule Summary Input).

Observation and Analysis:

The New York State Legislature has agreed to fund the remaining three years of MTA's 2010 – 2014 Capital Program which will provide adequate funds to support the SAS Phase 1 Project's current working budget.

Concerns and Recommendations:

None

5.2.1 Overall Project Funding

Refer to Section 5.2 of this Report.

5.2.2 Local Funding

Refer to Section 5.2 of this Report.

5.3 Cost Variance Analysis

Status:

Events that represent major project milestones for measuring cost variances include:

- Full Funding Grant Agreement (FFGA) – 11/19/2007
- Enterprise Level Project Execution Plan – 01/15/2010
- MTACC Current Working Budget – 6/2011
- MTACC Current Working Budget – 8/2013

Budget variances identified at these milestones provide insight to the internal and external forces shaping the project and their impact on the final cost of the project. This analysis includes MTACC's Revision 10 to the SAS Phase 1 Cost Estimate and will be updated based upon future budget revisions.

Observation and Analysis: Each milestone has been matched to the revised SAS Phase 1 Cost Estimate/Budget that was “current” at that time. In several instances, information from these estimates was used to support development of key agreements or documents. Budget information is based upon MFACC documentation and has been summarized into the categories used by MFACC in its periodic cost reporting.

This period, the PMOC has adjusted this table to handle contingency values in a more consistent manner. All contingency (construction and non-construction) is now included in the Contingency line item.

Milestone Estimate Date	FFGA Rev. 5d Jun-07	ELPEP Rev. 7 Oct-09	CWB Rev. 9 Jun-11	CWB Rev. 10 Aug-13	Variance FFGA → CWB R 10	Variance ELPEP → CWB R 10
Construction	\$ 2,360,000	\$ 2,791,066	\$ 2,728,273	\$ 2,674,814	\$ 314,814	\$ (116,252)
		18.27 %	-4.17 %	-10.46 %	13.34 %	-4.17 %
Eng./Prof. Svcs.	\$ 491,000	\$ 541,000	\$ 592,000	\$ 622,862	\$ 131,862	\$ 81,862
		9.24 %	13.83 %	5.30 %	26.86 %	15.13 %
3rd Party Exp.	\$ 626,000	\$ 747,000	\$ 535,000	\$ 554,086	\$ (71,914)	\$ (192,914)
		16.20 %	-36.06 %	3.61 %	-11.49 %	-25.83 %
TA Expenses	\$ 75,000	\$ 103,000	\$ 124,000	\$ 131,160	\$ 56,160	\$ 28,160
		27.18 %	22.71 %	2.34 %	74.88 %	27.34 %
Δ (\$)	\$ 3,552,000	\$ 4,182,066	\$ 3,979,273	\$ 3,982,922	\$ 430,922	\$ (199,144)
Δ (%)					12.13 %	-4.76 %
Contingency	\$ 498,000	\$ 490,934	\$ 471,727	\$ 468,077		
TOTAL (rounded)	\$ 4,050,000	\$ 4,673,000	\$ 4,451,000	\$ 4,451,000		

All \$ values are x 1000

Based on the PMOC’s review of Revision 10, the proposed increase in soft costs (basically professional services as defined by Section 8.0 of the FTA SCC) is primarily driven by design and CCM cost increases. Using the Rev. 10 numbers, soft costs are approximately 20.8 % of the project budget (\$4.45B) and 22 % of the EAC (approx. \$4.2B). These percentages compare favorably to FTA documented averages (Reference TCRP 31, Managing Capital Costs of Major Federally Funded Transportation Projects) of about 24 %. Adequate contingency remains to ensure the project will complete the project within the CWB.

Table 5-4: Estimate @ Completion

Category	Current Working Budget	EAC Forecast
Total Construction	\$2,674,814,299	\$2,958,215,195
Engineering Services Subtotal	\$622,862,000	\$625,000,000
Third Party Expenses	\$554,086,273	\$557,500,000

Category	Current Working Budget	EAC Forecast
TA Expenses	\$131,160,085	\$130,775,000
Contingency	\$308,077,343	
Executive Reserve	\$160,000,000	
Subtotal	\$4,451,000,000	\$4,271,490,195

Conclusions and Recommendations:

Budget: Revisions to the project budget from FFGA through the most recent budget update indicate the following:

- Over six years, the project has experienced cost growth of approximately 12.13%
- Since inception of the ELPEP, the project has experienced overall cost reduction of 4.76%. A substantial portion of this decrease in project cost can be attributed to the elimination of a new vehicle purchase to support the new extension. However, during this same period, estimated construction cost (not including AFI or AWO contingencies) has experienced similar cost reduction of 4.17%
- Increases in the cost of Engineering and Professional Services (Design Engineering Construction Management) account for the largest net cost growth experienced by the project.

Estimate- At- Completion

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

5.4 Project Contingency

Status:

The ELPEP requires the MTACC to maintain specific contingency funds in accordance with the following "achievement driven" schedule:

- \$220M through 90% Bid and 50% Construction
- A linear reduction in contingency from \$220M to \$45M through 100% Bid and 85% Construction
- \$45M through Start Up and Pre-Revenue Operations

The independent analysis of contingency drawdown maintained by the PMO is generally consistent with that maintained by the SAS Project team and confirms it to be in compliance with the estimated minimum contingency balance of \$132,500,000.

Observations and Analysis:

During December 2013, contingency changes included routine incorporation of AWOs into the individual project and overall program reporting systems. Cost models maintained by both the PMOC and the SAS Project Team verify that the current contingency balance is greater than the Planned Balance and exceeds the ELPEP Required Balance.

Phase 1 Budget	\$ 4,451,000,000
Construction Awards	\$2,674,814,299
Soft Cost Expended	\$999,420,220
Soft Cost Forecast to Complete	\$308,687,865
A WO Exposure	\$154,898,573
<hr/>	
Available Contingency	\$313,179,043
ELPEP Requirement	\$132,500,000

During March 2013, it was agreed that MFACC had achieved the initial "hold point" (90% Bid, 50% Constructed) on the contingency drawdown curve. From that point forward, the ELPEP required minimum contingency balance will be reduced monthly. The next "hold point" (100% Bid, 85% Constructed) is currently forecast to be achieved during the 4th Quarter of 2014.

As of November 30, 2013, MFACC estimated the available contingency to be \$350,315,000. The variance is primarily due to the PMO's use of the AWO Exposure versus MFACC's use of executed AWOs.

Concerns and Recommendations:

This evaluation is based on a thorough evaluation of construction contingency. Soft cost contingency is evaluated periodically and the analysis adjusted accordingly. At this time, it appears the available contingency is adequate to support completion of the Project.

6.0 PROJECT RISK

6.1 Initial Risk Assessment

No change this period

6.2 Risk Updates

Status:

There was no change in status during this period. Risk Registers for all active contracts should be updated in early 2014.

Observation and Analysis:

Issues observed by the PMOC this period which may represent a risk to project cost or schedule performance include:

- Access agreements with three properties required for the start of work at 72nd Street Station, Entrance #1 were executed during December 2013. Foundation and underpinning work can now start. Execution of the access agreements reduces the risk of delays to this work.
- MTACC is evaluating a schedule acceleration proposal from the C5B contractor for work at Entrance #2. Delays involving Yorkshire Towers, for which MTACC will have to reimburse the contractor, have resulted in a forecast completion date for this work of February 6, 2015. MTACC's goal is to accelerate the work to a completion date that is close to the contract completion date for a price approximately equal to delay costs resulting from the delay.
- MTACC is developing a TAC Paper that will fully document alternatives and recommendations regarding the C6 systems installation and testing schedule acceleration proposal.
- MTACC has identified the supply of permanent power for station facilities at 96th, 86th and 72nd Street Stations to be a significant risk. MTACC has previously stated that delays involving supply of traction power are not considered a significant risk. However, the C6 Risk Register identifies the supply of traction power to each of these stations to be a significant risk, particularly at 96th Street.
- MTACC has previously committed to developing a detailed schedule "fragnet" of activities relevant to the station permanent power risk as a means of quantifying the risk and formally developing mitigation strategies. To date, this "fragnet" schedule has not been finalized.
- MTACC resolved reported deviations in the southeast tunnel shotcrete surface caused by the installation of steel ribs that were installed by the C1 contractor, to support unstable rock. This risk was resolved with minimal cost or schedule impacts.
- Additional cost and delay has been experienced in the execution of construction by the C3 contractor and transfer of spaces to the C6 contractor as a result of a lack of clarity or variance in milestone definitions in the respective contract specifications. This risk is included in the C3 Risk Register, but not in the C2B, C4C or C5C Risk Registers.

Lessons learned from the C3/ C6 milestone coordination need to be applied to the remaining stations before the actual turnover process.

- The risk of late design changes by user departments, specifically communications, has been mitigated over recent months. However, this issue is identified as a significant risk for C2B, C4C and C5C as well as C6.

Conclusions and Recommendations:

The PMOC is concerned that the definition and quantification of the permanent power schedule risk (detailed “fragnet” schedule) has been delayed and that the scope of the risk appears to have expanded to now include traction power.

6.3 Risk Management Status

Status:

Risk Management includes the manner by which the project team identifies and copes with risks retained by the MFACC. The SAS Risk Manager supports and coordinates specific risk management efforts, which may involve a wide range of senior project management personnel.

Observation and Analysis:

The risk management process generally includes:

- Contract Risk Registers are maintained and updated on a Quarterly basis. The last update was completed in September 2013.
- Information from the risk registers is used in the updating of the cost and schedule drawdown curves to provide risk-informed cost and schedule forecasts
- Formal risk mitigation meetings on a monthly basis.
- Issuance of the Monthly Risk Report.

SAS senior managers recognize that management of contract interfaces is one of the most significant risks associated with the project and have initiated an aggressive process to assure this risk is effectively mitigated.

Conclusions and Recommendations:

The SAS Project Team continues to utilize the Risk Management Process as a means to identify threats to the project cost performance and schedule goals and actively manage retained risks.

6.4 Risk Mitigation

Status:

Risk Registers for active construction contracts were updated during September 2013.

Observation and Analysis:

The most significant risks identified in the following table. Also included are descriptions of the current mitigation strategy and an update of the status of the mitigation actions taken to date.

#	<u>Rsk Description</u>	<u>Mitigation Summary</u>
1.	<p>Risk CNS 4 (C6): Delay resulting from management of contractual interfaces during construction</p> <p>Mitigation Strategy:</p> <ol style="list-style-type: none"> Develop Detailed Contract interface Management Plan Provide an organization that is capable of identifying interface issues and resolving them in a timely manner to support the schedule. Interface management position descriptions and responsibilities. A detailed process for interface management and status reporting. As a minimum this includes a detailed work list of items to be completed in chronological order to meet the required interface date. Interface management meetings on a bi-weekly basis. 	<p>Current Status:</p> <ol style="list-style-type: none"> Complete. Interface Manager started work on August 5, 2013. Additional staff is being added. Complete Complete Monitoring of the interface management process and specific problematic interface issues continues. Recent focus has been on completion and turnover of C3-constructed Communication Rooms to C6, specifically Milestone 3B Punchlist work and turnover currently under way.
	<p>Risk C3, C2B, C4C, C5C and C6 Schedules: Construction contract delays that will extend Project Completion beyond the current RSD</p> <p>Mitigation Strategy:</p> <ol style="list-style-type: none"> Develop TAC paper to identify potential schedule acceleration options. Refine schedule acceleration options within MFACC and with contract or(s) as appropriate. Solicit contractor cost proposals for preferred schedule acceleration options. Negotiate and implement. <p>Current Status:</p> <ol style="list-style-type: none"> Complete. Complete. To date, the primary schedule acceleration strategy has involved double-shifting systems installation and testing activities. The SAS project teams continue to evaluate the C6 Contractor's proposal for schedule acceleration. There are significant issues involving equitable distribution of risk and flexibility of implementation that must be incorporated in any agreement. These issues will be addressed via TAC paper that will be available in early 2014. 	
3.	<p>Permanent (Station) Power: Permanent facility power to 72nd, 86th, and 96th Street Stations may be delayed and result in subsequent delays to equipment testing and commissioning</p>	
	<p>Mitigation Strategy:</p> <ol style="list-style-type: none"> Obtain services of an experienced 	<p>Current Status:</p> <ol style="list-style-type: none"> Complete.

#	<u>Risk Description</u>	<u>Mitigation Summary</u>
	<p>ConEd liaison engineer to facilitate design and review process.</p> <ol style="list-style-type: none"> 2. Expedite contractor design and ConEd review processes where possible. 3. Development of detail schedule “fragnet” to identify schedule problems and monitor progress. 4. Expedite construction of supporting infrastructure at each station to minimize potential delay. 5. Advance scheduling and coordination of feeder “cut-in” to minimize delays 	<ol style="list-style-type: none"> 2. For 72nd and 96th Street Stations, review comments for the 30% submittal have been received. Development of 60% submittals are under way. Submittal of 30% design for 86th Street Station (C5C) is pending 3. Detail schedule fragnet is under development. 4. Based on current schedules, it appears some acceleration of infrastructure construction to support permanent power will be required 5. “Cut-in” coordination with ConEd will occur when construction schedules are fully developed and within ConEd planning window
<p>Buy America</p> <p>Delay resulting from resolution of MTA’s request for a non-availability waiver for the LVT Pad and Boot.</p>		
4	<p>Mitigation Strategy:</p> <ol style="list-style-type: none"> 1. On September 11, 2013, MTACC transmitted its request for a “non-availability” waiver for the LVT Pad and Boot. 2. Options include: <ol style="list-style-type: none"> a. MTACC’s position accepted – no changes required b. Request rejected – exclude FTA funding & use local funding only. c. Request rejected – develop alternative with compliant materials. 	<p>Current Status:</p> <ol style="list-style-type: none"> 1. No formal response has been received 2. Informal discussions continue. 3. MTACC’s waiver request was posted in the Federal Register for a 30-day comment period on December 17, 2013. 4. MTACC has requested permission to allow it to proceed “at risk” until the matter is resolved.
<p>Risk C4C Entrance 1 (301 E 69th Street):</p> <p>Work on Entrance 1 will be delayed due to delays in obtaining design approval from Owner for utility relocation in the building</p>		
5	<p>Mitigation Strategy:</p> <ol style="list-style-type: none"> 1. Develop an alternate design (relocation from inside building to side walk) to reduce impacts to building utilities. 2. Prepare a Tech memo and submit to FTA for approval. 3. Develop and negotiate access agreements with affected property 	<p>Current Status:</p> <ol style="list-style-type: none"> 1. In progress. 2. Complete. 3. In progress. 4. Work forecast to start in early December 2013. 5. Complete.

#	<u>Risk Description</u>	<u>Mitigation Summary</u>
	<p>owners</p> <p>4. Excavate/concrete/adit and underpin the common wall via C4C</p> <p>5. Exercise C4C options for Entrance # 1 in order to engage contractor's engineering and to provide time to develop an underpinning design and construction staging plan</p>	
<p>Risk COM2 (C6): Frequent late changes to the communications systems could delay C6 and the RSD</p>		
6.	<p>Mitigation Strategy:</p> <ol style="list-style-type: none"> 1. Confirm that previously agreed Communications design changes have been incorporated into the design. Resolve any outstanding issues. 2. Future User Department requested changes shall go through the CCG CCB approval process. A User Department representative's approval signature is required on the change request forms. The request will include cost and schedule impacts of the requested change. 3. Requested changes exceeding \$50,000 or having any schedule impact, must be presented to the Board by a User Department representative with substantiation of need provided. 	<p>Current Status:</p> <ol style="list-style-type: none"> 1. MTACC has reported that this item has been completed 2. CCG CCB review and approval process appears to be having a positive effect on limiting the number of User Department requests for design changes. 3. Monitoring of the effectiveness of the risk mitigation strategy is ongoing
<p>Risk C3 Entrance 1 (200 E 63rd Street): Work on Entrance 1 will be delayed due to delays in design approval from Owner for utility relocation in the building at 200 E 63rd Street.</p>		
8.	<p>Mitigation Strategy:</p> <ol style="list-style-type: none"> 1. Develop schematic design of all utility relocations. 2. Determine the means of access to utilities in the area between the station structure and existing building structure. 3. Submit design package to building 	<p>Current Status:</p> <ol style="list-style-type: none"> 1. Complete 2. Complete 3. Complete 4. Complete 5. Contractor commenced work in March 2013. This risk will be periodically monitored

#	<u>Risk Description</u>	<u>Mitigation Summary</u>
	owner. 4. Obtain owner's approval and building permits. 5. Commence construction	

Concerns and Recommendations:

The SAS Project Management Team continues to utilize the risk mitigation process to reduce the adverse cost and schedule impact of identified risks. MFACT is in the process of refining and enhancing its risk mitigation process in response to changing project conditions and challenges.

6.5 Cost and Schedule Contingency

6.5.1 Cost Contingency

Status: Refer to Section 5.4 of this report.

6.5.2 Schedule Contingency

Status:

Schedule contingency reported by MFACT, based upon Update #86 of the SAS IPS, conforms to schedule contingency threshold limits established by the ELPEP. Based on this update, schedule contingency measured against MFACT's RSD commitment date of December 30, 2016 is 102 CD. When measured against the FTAP MOC RSD estimate of February 28, 2018, the contingency is currently 537 CD vs. the 240 CD stipulated by ELPEP.

Observations:

Tracking available schedule contingency over recent schedule updates is summarized below

Table 6-1: Schedule Contingency

IPS Update #	74	77	80	83	86	89
Data Date	09/01/12	12/01/12	3/1/13	6/1/13	9/1/13	12/1/13
Contingency (CD)						
RSD=12/31/2016	No	90	90	109	102	
RSD=02/28/2018	Report	513	513	530	537	

Concerns and Recommendations:

None

7.0 LIST OF ISSUES AND RECOMMENDATIONS

Priority in Criticality column 1 – Critical 2– Near Critical

Number with Date Initiated	Section	Issues/ Recommendations	Criticality
SAS-09-Jan10	3.0 PMP	<p>The PMP and its sub-plans must be updated to reflect the new management processes and strategies of the ELPEP.</p> <p>PMOC Recommendation: Update the PMP and its sub-plans within the timeframes established in the ELPEP.</p> <p>Update (September 2013): MIACC issued draft Update #9 of the PMP for review. PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MIACC in October 2013. Update of the various Sub-Plans will be addressed once comments associated with the review of the PMP are resolved.</p> <p>Update (December 2013): PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MIACC when available. MIACC intends to revise the SMP, CMP and RMP sub-plans based upon the results of its internal audit.</p>	2
SAS-20-Dec10	5.1.3 Change Orders	<p>Processing duration for AWOs is excessive. The average processing duration currently equals the published MFA maximum duration of 90 days. Improvement is required to facilitate contract or cooperation and reduce risk of "backlash" through perceived unfair treatment.</p> <p>Update (September 2013): PMOC's monitoring of the high dollar AWOs is ongoing. An in-depth review of the AWO procedure will be performed once authorized by FTA RII.</p> <p>Update (December 2013): Processing durations continue to exceed the period specified by MIACC procedure. To date, no adverse impacts related to excessive processing duration have been observed. PMOC will continue to monitor AWO processing.</p>	1

Number with Date Initiated	Section	Issues/ Recommendations	Criticality
SAS-22- Jun 12	1.1.2 f Community Relations	<p>MTACC's community outreach efforts have had a positive impact on relations with the affected community. Many of the specific issues and resulting actions may have been beyond contemplation prior to the start of construction. Based upon the "lessons learned" to date, the PMOC recommends the MTACC develop a more comprehensive plan for construction phase community relations going forward, including an overall execution plan and proposed scope of activities.</p> <p>Update (September 2013): MTACC issued draft Update #9 of the PMP for review. PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MTACC in October 2013 and will address this concern.</p> <p>Update (December 2013): No change this period.</p>	2
SAS-26- Jun 12	2.6 Community Relations	<p>The community relations effort has proven to be an important element of the management of this project. It is the recommendation of the PMOC that the community relations effort be fully incorporated into the mainstream of project scope, budget and risk management activities to support the goals of cost-effective and transparent decision making and the related goals of the ELPEP.</p> <p>Update March 2013: No update this period.</p> <p>Update September 2013: MTACC issued draft Update #9 of the PMP for review. PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MTACC in October 2013 which will also address this concern.</p> <p>Update (December 2013): Revision to SAS PMP is anticipated in the 1st Quarter 2014.</p>	2

Number with Date Initiated	Section	Issues/ Recommendations	Criticality
SAS-27- Jun 12	3.2	<p>The PMOC has noted that community relations activities continue to be a very significant element of the overall management of this project. However, neither the PMP nor any applicable sub plan identify this work, the manner by which it will be managed or executed, the scope of the work or any budgetary or financial controls.</p> <p>The PMOC recommends the development or update of applicable plans and procedures governing such work during the next PMP update period</p> <ul style="list-style-type: none"> ▪ Update (December) 2012: PMOC will coordinate with the MFACC to issued Candidate Revisions for Update No. 9 to the SAS PMP to address this concern. Update to the PMP is forecasted for mid-2013. ▪ Update (September) 2013: A draft of PMP Rev. 9 for was provided to the FTA/PMOC for review. PMOC's review of SAS PMP (Update #9) was completed and discussed with FTA Region II staff. Review comments will be forwarded to MFACC in October 2013. ▪ Update (December) 2013: Revision to SAS PMP is anticipated in the 1st Quarter 2014. 	2

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	Projected Resolution
SAS- A17- Aug08	2.4 Vehicles	<p>The PMOC requested additional information regarding certain statements in the draft Rail Fleet Management Plan:</p> <ul style="list-style-type: none"> ▪ 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. ▪ MTACC should explain why they are considering removing the vehicles from the project scope without reducing the project funding. <p>Update: The supply of vehicles for SAS Phase 1 will be addressed in the Draft Fleet Management Plan, scheduled for distribution in July 2010.</p> <p>Update: A Draft Fleet Management Plan was not submitted during July 2010. This item remains open.</p> <p>Update: As of August 31, 2010, a Draft Fleet Management Plan has not been submitted.</p> <p>Update: A Draft Fleet Management Plan was received, reviewed with comments provided to the FTA.</p>	2	7/30/10

Number with Date Initiated	Section	Grantee Actions	Criticality	Projected Resolution
		<p>Update: Vehicle requirements and associated cost to be addressed as part of the FFGA amendment.</p> <p>Update: No additional vehicles will be procured for the SAS Phase 1 Project. MTA/ACC/ NYCT's assertion that recent services reductions will provide ample spare vehicles for the SAS Phase 1 Project has been reflected in the Rail Fleet Management Plan which was accepted by FTA Region II. A "zero" dollar budget for the procurement of vehicles is reflected in the project's Current Working Budget (CWB) and also in the latest cost estimate (Rev. 9). No further action is planned by the PMOC.</p>		

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
CR	Candidate Revision
CSJV	Comstock Skanska Joint Venture
CWB	Current Working budget
DC	Design Consultant
DOB	New York City Department of Buildings
EAC	Estimate at Completion
ELPEP	Enterprise Level Project Execution Plan
FAT	Factory Acceptance Testing
FD	Final Design
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GC	General Contractor
HASP	Health and Safety Plan
HLRP	Housing of Last Resort Plan
IFP	Invitation for Proposal
IFB	Invitation to Bid
IPS	Integrated Project Schedule
LF	Linear Feet
MEP	Mechanical, Electrical, Plumbing
MTACC	Metropolitan Transportation Authority – Capital Construction
NA	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
NYCDEP	New York City Department of Environmental Protection
NYCT	New York City Transit
OClP	Owner Controlled Insurance Program
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

RMCP	Risk Mitigation Capacity Plan
RMP	Risk Management Plan
ROD	Record of Decision
ROD	Revenue Operations Date
RSD	Revenue Service Date
S3	Skanska, Schiavone and Shea, JV
SAS	Second Avenue Subway
SCC	Standard Cost Category
SCIT	Systems Commissioning and Integration Testing
SES	Systems Engineering Specialists
SIM	Systems Integration Manager
SOE	Support of Excavation
SSCP	Safety and Security Certification Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSRA	Systems Safety and Reliability Assurance Program Plan
SOE	Support of Excavation
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TEAM	Transportation Electronic Award Management System
TF	Total Float (schedule)
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability Plan
TIA	Time Impact Analyses
UNO	Unless Noted Otherwise
WBS	Work Breakdown Structure
WD	Work Day

APPENDIX B- PROJECT OVERVIEW AND MAP

Project Overview and Map – Second Avenue Subway



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 (MTACC schedule)		
62.0%	Percent Complete Construction at December 31, 2013		
75.01%	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)
4,451 M	Total Project Cost (\$YOE) at Revenue Operations (w/o Financing Costs)
5,267 M	Total Project Cost (\$YOE) at date of this report including \$816 M in Finance Charges
2,723 M	Amount of Expenditures at date of this report from Total Project Budget of \$4,451 M
61.2%	Percent Complete based on Expenditures at date of this report
313 M	Total Project Contingency remaining (allocated and unallocated contingency)

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

APPENDIX C – LESSONS LEARNED

There were no Lessons Learned to report for 4th Quarter for 2013

#	Date	Phase	Category	Subject	Lessons Learned
1	Oct-09	Construction	Schedule	Delays to excavation caused by adjacent Fragile Buildings	The PMOC recommended and MFACT adopted a plan to review the stability of all of the buildings affected by the Second Avenue Subway project. MFACT instructed the DC 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	3 rd Party Utilities changed the size of an electric vault after construction began	The PMOC recommended that MFACT get the utility companies to agree that once they have approved the plans, they cannot make major changes after award. MFACT's SAS Project Executive is meeting with the utilities to work out this problem.

APPENDIX D – PMOC STATUS REPORT
(Transmitted separately)

APPENDIX E – SAFETY AND SECURITY CHECKLIST

Project Overview			
Project mode (Rail, Bus, BRT, Multi mode)	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/Build/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	7041.01.007308-0 Appendix D		Certification by New York State Public Transportation Safety Board (NYSPTSB)
System Safety Program Plan			
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			
Construction Safety and Security Plan		N	Each active construction contractor's Construction Safety and Security Program Plan has been approved by MTAACC
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		NYSPTSB
Has the oversight agency reviewed and approved the grantee's SSPP as	Y		The NYSTB issued a letter of recertification

Project Overview		
per Part 659.17?		on September 2, 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	Certification is within the scope of the C6 Systems Contract.
Has the grantee implemented security directives issued by the Department of Homeland Security, Transportation Security Administration?	Y	
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 and is reported at each contractor's Job Progress Meeting
Has the grantee established staffing requirements, procedures and authority for safety and security	Y	Responsibilities during the design and construction phases

Project Overview		
activities throughout all project 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	None active construction contracts are being monitored daily 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	Y	Ongoing part of design

Project Overview		
with safety and security requirements in design?		review process
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	Verification will continue with the procurement of equipment during the Station contracts (C2B, C4B, and C5B).
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?	Y	Certifiable elements have been identified and are currently being verified during equipment factory acceptance testing. Effort is ongoing.
Does the grantee evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?	Y	Part of formal configuration control process. Efforts are ongoing.
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	Referenced plans are being developed as part of the Systems Contract (C6).
Has the grantee issued final safety and security certification?	N	To be covered as part of the testing in

Project Overview		
		Contract 6
Has the grantee issued the final safety and security verification report?	N	To be covered as part of the testing in Contract 6
Construction Safety		
Does the grantee have a documented/implemented Contract or Safety Program with which it expects contractors to comply?	Y	
Does the grantee's contract or(s) have a documented company wide safety and security program plan?	Y	
Does the grantee's contract or(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?	The OSHA Lost Time Accident Rate and Recordable Accident Rate from the start of construction until November 31, 2013 are 1.92 and 5.51, respectively. The Lost Time Accident rate is below the national average of 2.0 and the Recordable Accident Rate is significantly above the national average of 3.5. The cumulative construction time worked since the project inception is 7,297,274 hours. Total lost time injuries since project inception is 70 and other recordable injuries are 131. The total number of recordable injuries is 201 (sum of the lost time injuries and the	National Average 2.0 and 3.5 respectively

Project Overview		
	other recordable injuries).	
If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	<p>MT ACC has expanded its safety program to include a monthly walk-thru of the various work zones by the SAS Project Management Team. In addition the SAS Project Safety Manager holds a monthly meeting with all Contractor Safety Managers, OCP Representative, and the insurance carrier representative in order to make all aware of the safety concerns on the project and to exchange lessons learned. Each contractor is also holding its own "tool box" meetings focusing on various safety topics. Corrective Action Plans have been requested from contractors with high safety incident rates.</p>	
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 under way?	NA	
Other FRA required Hazard Analysis	NA	

Project Overview		
- Fencing etc.?		
Does the project have Quiet Zones?	NA	
Does FRA attend the Quarterly Review Meetings?	NA	

APPENDIX F – ON-SITE PICTURES
(Transmitted separately)

Appendix G-- Core Accountability Items				
Project Status:		Original at FFGA	Current*	ELPEP**
Cost	Cost Estimate	\$4,050 M	\$4,451 M	\$4,980 M
Contingency	Unallocated Contingency	\$555.554 M	\$0 M	\$0 M
	Total Contingency (Allocated plus Unallocated)	\$555.554 M	\$313 M (Dec. 2013)	\$132 M
Schedule	Revenue Service Date	September 30, 2014	December 30, 2016	February 28, 2018
Total Project Percent Complete	Based on Expenditures	61.2 %		
	Based on Earned Value	N A		
Major Issue				
Buy America		Status		Comments
		Open		Non-availability waiver for Low Vibration Track pad and block assembly is under review.
Safety and Security Certification		Open		The C6 Contractor is now staff with a Systems Integration Manager (SIM) supported by Systems Engineering Specialists (SES) to coordinate its efforts with the Stations MEP Contractors in the preparation of their Systems Commissioning and Integration Testing (SCIT) Plans.
Date of Next Quarterly Meeting:		TBD		

* MFACC's Current Working Budget

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

All data based on December 31, 2013 reporting