

**FEDERAL TRANSIT ADMINISTRATION**

**PROJECT MANAGEMENT OVERSIGHT PROGRAM**

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

**Project No. DC-27-5006**

**Task Order No. 3**

**Grantee: METROPOLITAN TRANSPORTATION AUTHORITY**  
**SECOND AVENUE SUBWAY (MTACC-SAS)**

**REGION II MAJOR CAPITAL PROJECTS**

**Monthly Report – Part I April 2008**

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## LIST OF ACRONYMS

AWO	Additional Work Order
CPM	Critical Path Method
CSI	Construction Standards Institute
DHA	DMJM+Harris and ARUP
ESWA	Early Systems Work Agreement
FD	Final Design
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
MEP	Mechanical, Electrical, Plumbing
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority – Capital Construction
N/A	Not Applicable
NYCT	New York City Transit
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PQM	Project Quality Manual
RAMP	Real Estate Acquisition Management Plan
ROD	Record of Decision
TEAM	Transportation Electronic Award Management
TIA	Time Impact Analyses
S3	Skanska, Schiavone and Shea
SAS	Second Avenue Subway
SCC	Standard Construction Categories
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined

## SECTION III            SECOND AVENUE SUBWAY (SAS) PROJECT

### **I EXECUTIVE SUMMARY**

#### **A. Project Description**

- **General Description:** The Second Avenue Subway (SAS) 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 project consists of four phases, with Phase 1 providing an Initial Operating Segment (IOS) from 96<sup>th</sup> Street to 63<sup>rd</sup> Street, and will connect with the existing Broadway Line that extends to Lower Manhattan and Brooklyn. Subsequent phases will extend the line northward to 125<sup>th</sup> Street and to the southern terminus at Hanover Square in Lower Manhattan.
- **Length:** Phase 1 - 2.3 miles from 63<sup>rd</sup> Street to 105<sup>th</sup> Street. Total Project - 8.5 miles from 125<sup>th</sup> Street and Lexington Avenue in Central Harlem to Lower Manhattan.
- **No. of Stations:** Total Project -16 new stations. Phase 1-two new mined stations located at 72<sup>nd</sup> and 86<sup>th</sup> Streets, One new cut and cover station at 96<sup>th</sup> Street, and modification of the existing 63<sup>rd</sup> Street Station on the Broadway Line.
- **Additional Facilities:** New storage tracks will be provided along the alignment and at the north and south terminals during the later phases of the project, but not as part of Phase 1.
- **Vehicles:** Total Project - Approximately 224 railcars that are 75 feet long (28 new 8-car train sets). Phase 1 - 68 new rail cars (includes 12 spares).
- **Ridership Forecast:** The full length SAS is forecast to carry 560,000 daily riders in 2030. Upon completion of Phase 1, ridership is expected to be 191,000 per the MTA's Regional Travel Forecast Model.

#### **B. Project Status**

- The project is in the Final Design/Construction phase.

#### **C. Schedule**

- **Preliminary Engineering (PE):** Entry into PE was approved by FTA on December 20, 2001; PE completed April 17, 2006.
- **Record of Decision (ROD):** Record of Decision issued on July 8, 2004.
- **Final Design (FD):** Entry into FD (Phase 1) was approved by FTA on April 18 2006.
- **Full Funding Grant Agreement (FFGA):** The FFGA was executed on November 19, 2007.

- **Construction:** The start of the Construction Phase was authorized with the approval of an Early Systems Work Agreement (ESWA) on January 5, 2007. The first construction contract, Contract 1 Tunnel Boring, was awarded on March 20, 2007. A Ground-Breaking ceremony was held on April 12, 2007. Through *April 30, 2008* construction is *2.17 %* complete based on total expenditures of contract 1 versus total projected construction cost (all contracts) at completion.
- **Project Complete:** Through *April 30, 2008*, total Phase 1 Project percent complete is *10.46 %* (based on total expenditures versus Phase 1 projected cost at completion).
- **Revenue Operations Date:**

**Phase 1 (MOS)**

FFGA	Proposed FFGA as Amended	Forecast Completion		Actual Completion
		Grantee	PMO	
June 30, 2014	N/A	June 2015 <sup>(1)</sup>	TBD	TBD

(1) Proposed MTA 2008-2013 Capital Program dated February 2008

- **Other:** The Environmental Impact Statement was approved on April 8, 2004.
- **Next Quarterly Review Meeting:** *May 13, 2008*

## D. Cost Data for Phase 1

	FFGA			FFGA Amendments	Current Costs Estimate at Completion		Expenditures Thru <i>April 30, 2008</i>	
	(\$ Millions) (1)	(%)	Obligated		(\$ Millions) (2)	(%)	(\$ Millions)	Percent of Current Project Cost
<b>Total Project Cost:</b>	<b>\$4,866.614</b>	<b>100</b>		N/A	<b>\$4,866.614</b>	<b>100</b>	<i>509.249</i>	<i>10.46</i>
<b>Total Federal share:</b>	<b>1,350.692</b>	<b>27.75</b>			<b>1,350.692</b>	-	39.682	0.81
Total FTA share:	1,300.000	96.25			1,300.000	-		
5309 New Starts share	1,300.000	96.25			1,300.000	-		
<b>Total FHWA share:</b>	<b>50.692</b>	<b>3.75</b>			<b>50.692</b>	-		
CMAQ	48.233	95.15			0	-		
Special Highway Appropriation	2.459	4.85			2.460	-		
<b>Total Local share:</b>	<b>3,515.922</b>	<b>72.25</b>			<b>3,515.922</b>		<i>469.567</i>	<i>9.65</i>
State share:	450.000	12.80			-			
Agency share:	3,065.922	87.20			-			
City share:	0	0			-			

(1) Updated to reflect Attachment 6 (Schedule of Federal Funds) from SAS FFGA

(2) Financial data provided monthly by MTACC.

The FFGA budget included a contingency of \$629.0 million. The project contingency is distributed as follows:

- AFI's and AWO's (Design, Pre-bid and construction) - \$ 441 million
- Executive Reserve - \$ 160 million
- Real Estate - \$ 17 million
- Rolling Stock - \$ 11 million

The Project Reserve contingency of \$160 million was renamed Executive Reserve and has not been allocated to date.

## E. Technical Capacity Review

- Project Management Plan (PMP): Updated PMP (Revision 5) for the final design/construction phase of the project was conditionally approved by the FTA on March 22, 2007. Updated PMP (Revision 6) was submitted to FTA in March 2008.
- Project Quality Manual (PQM) Plan: Updated PQM (Revision 2) for the final design/construction phase of the project was approved by the FTA on March 28, 2007.
- Bus Fleet Management Plan (BFMP): Updated BFMP dated February 2007 was conditionally accepted by the FTA in May 2007.
- Rail Fleet Management Plan (RFMP): Updated RFMP conditionally approved by the FTA on April 24, 2007.

## F. System Safety Review

- The New York State Public Transportation Safety Board (PTSB), the State Safety Oversight Agency (SSOA), re-certified NYCT's System Safety Program Plan (SSPP) on March 15, 2006 to the revised 49 CFR Part 659 requirements. Biennial submittals were received by the PTSB in February 2008 and re-certification is anticipated in May 2008.

## G. Major Issues/Problems

- **As a result of an internal review the MTA is projecting a 12-month slip in the Revenue Operations date for SAS Phase 1 from June 2014 to June 2015. *The PMOC will not be able to confirm the validity of the slip without reviewing an updated integrated schedule that reflects the impact of the repackaging plan. The plan is still being defined. The updated integrated schedule reflecting the construction packaging plan and an associated cost estimate were requested at the last Quarterly Meeting by the PMOC.***

**Attachment A - Safety Checklist - Second Avenue Subway**

Areas of Focus	Y/N	Status
<b>State Safety Oversight Agency</b>		
Does the state have a designated State Safety Oversight Agency (SSOA) as defined in 49 CFR Part 659?	Y	New York Public Transportation Safety Board.
If so, does the SSOA's authority extend to pre-revenue operations?	Y	Yes, all phases.
Has the SSOA established its System Safety Program Standards (SSPS)?	Y	Standards are based on the requirements of 49 CFR Part 659.
Has the SSOA received, reviewed, and approved the Grantee's System Safety Program Plan (SSPP)?	Y	SSPP re-certified on March 15, 2006 per the revised 49 CFR Part 659 requirements. Biennial certification is anticipated in May 2008.
Does SSOA participate in Project Development? Participation includes things such as: review design documents; attend review meetings; and comment on the how the safety aspects of the project are being addressed.	Y	Reference section 2.2.7 of the SAS System Safety & Reliability Plan.
Has the SSOA performed a pre-revenue safety review of the Grantee's project?	N	No
<b>System Safety</b>		
Is the Grantee's overall Safety Program properly documented in its Project Management Plan (PMP)?	Y	See PMP Section 3
Do the Grantee's PMP and associated Safety Program include an appropriate safety policy adopted by its top management?	Y	By approving plan
Do the Grantee's PMP and associated Safety Program establish a specific organizational entity and/or individual responsible for the Safety Program?	Y	See PMP

**Attachment A - Safety Checklist - Second Avenue Subway**

Areas of Focus	Y/N	Status
Do the Grantee's PMP and associated Safety Program specify staffing requirements, procedures and authority for the safety activities?	Y	See PMP Section 3
Do the Grantee's PMP and associated Safety Program include a formal Safety Certification Program (SCP)?	Y	See PMP and SAS System Safety & Reliability Plan.
Do the Grantee's PMP and associated Safety Program include the development/use of a Safety Design Criteria Manual (DCM) or equivalent documents?	Y	See DCM Chapter 26 and SAS System Safety & Reliability Plan.
Has the Grantee developed and the SSOA approved the Grantee's SSPP? What is the status of this process between the Grantee and SSOA?	Y	SSPP re-certified on March 15, 2006 per the revised 49 CFR Part 659 requirements. Biennial certification is anticipated in May 2008.
Is the Grantee implementing its Safety Program as defined in the PMP? Are the safety milestones being met? (Note: This assumes that the Safety Program is properly documented in the PMP.)	Y	See Project Schedule
<b>Construction Safety</b>		
Is the Grantee's Construction Safety Program (CSP) documented in the PMP?	Y	Included in the Construction Phase PMP.
Has the Grantee implemented its CSP?	Y	CSP is on-going. Toolbox meetings are held to acquaint personnel with the safety requirements as defined in the General Specification. MTACC and contractor's safety personnel and the OCIP representative continue to monitor the site for compliance. Safety is discussed at each Job Progress Meeting.

**Attachment A - Safety Checklist - Second Avenue Subway**

Areas of Focus	Y/N	Status
How do the Grantee's OSHA statistics compare to the national average for the same type of work? If the comparison is not favorable, what actions are being taken by the Grantee to improve its safety record?	-	<i>The recordable incidents for the project continue to trend below the national average (2.47 vs. 5.89). Lost time accidents are trending slightly ahead of the national average (2.47 vs. 2.27). The contractor has increased the number of safety meetings and safety subjects being discussed.</i>
Is the Grantee using wrap-up insurance on this project?	Y	Owner Controlled Insurance Program (OCIP) has been implemented. Insurance coverage by Allied North America, administered by Project Technologies International, LLC.
Is the Grantee using safety incentives/disincentives on this project?	Y	Ongoing.
<b>Shared Track</b>		
Does this project have shared track?	N	
Has the Grantee coordinated with FRA regarding waivers for shared track usage?	N/A	
<b>Shared Corridor</b>		
Does this project include shared corridor? Please describe the geography of the shared corridor.	N	
What is the Grantee doing to specifically address safety concerns in the shared corridor portion of the project?	N/A	

## II. ACTION ITEMS – ITEMS FOR GRANTEE ACTION

### Status of Action Items

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

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

### Key Item

2. XX PMO CLIN 5 – Project Management Plan

3. XX PMO CLIN 3 – Project Monitoring

### Legend

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

**Items for Action**

Pr	Item	Identification	Nature of Problem	Grantee Action			Comments	Status
				D	A	I		
2	CLIN 003 Sub Task 12.a SAS-A01-1007	Rent Stabilization Plan	FTA/PMOC have no information for MTA's Plan for Rent Stabilization.	N	N	N	MTA provide FTA/PMOC their plan or policy for Rent Stabilization.	R
1	CLIN 003 Sub Task 12.a SAS-A02-0208	Real estate challenges associated with entrance 3 at 72 <sup>nd</sup> Street Station	Two challenges were filed (State and Federal courts) with regards to the proposed relocation of entrance 3 of the 72 <sup>nd</sup> Street Station. The challenge filed in Federal Court is under NEPA and names FTA, MTA, and DHA.	N	N	N	The FEIS identified the location of entrance 3 within a building. The proposed location is on the sidewalk of the northeast corner of 72 <sup>nd</sup> Street. MTA's Real Estate will coordinate efforts with legal representatives of FTA Region 2 to resolve this issue.	R
2	CLIN 003 Sub Task 12.a SAS-A03-0208	Real estate acquisition for 96 <sup>th</sup> Street Station	Real estate acquisition for the 96 <sup>th</sup> Street Station is 3 to 6 months behind schedule.	N	N	N	Not having the real estate available will not impact the heavy civil, structural and utility relocation scope of work (Contract 2A) for the 96 <sup>th</sup> Street Station. Contract 2A was advertised on March 10, 2008 with bids anticipated by the end of <i>May 2008</i> . The real estate will be required for Contract 2B.	R

Pr	Item	Identification	Nature of Problem	Grantee Action			Comments	Status
				D	A	I		
2	CLIN 003 Sub Task 12.a SAS-A04-0208	Updated Integrated Project Schedule	Integrated Project Schedule does not reflect delays due to Contract 1 negotiated time extensions, Real Estate problems and Contract Repackaging.	N	N	N	The Integrated Project Schedule needs to be updated to reflect the Contract Packaging Plan, Contract 1 time extension, and 96 <sup>th</sup> Street real estate acquisition delays and challenges. Updates need to be performed timely and provided to the PMOC.	R
2	CLIN 003 Sub Task 12.a SAS-A05-0208	Contract 1 east side utility relocation lessons learned.	Lessons Learned from the west side utility relocation will be used to benefit the east side utility relocation effort.	N	N	N	Document the Lessons Learned from the west side utility relocation effort, submit to the FTA, and share with the other MTACC Major projects. <i>The SAS team is finalizing the development of the Lessons Learned Program.</i>	R
2	CLIN 003 Sub Task 12.a SAS-A06-0208	Contract Packaging Plan	Having more contract packages as a result of splitting the existing contract packages into smaller packages will increase the time required to complete the project.	N	N	N	Efforts are ongoing, as directed by MTACC upper management, to reallocate the scope of work into smaller contract packages. Recommendation from a Peer Group Workshop to limit the packaging plan to 10 contracts was not accepted.	R
2	CLIN 003 Sub Task 12.a SAS-A07-0208	Coordination with the BRT Project.	FTA reminded MTACC to coordinate their planning with the nearby BRT project.	N	N	N	The SAS Designers met with the BRT to coordinate their planning	R

Pr	Item	Identification	Nature of Problem	Grantee Action			Comments	Status
				D	A	I		
2	CLIN 003 Sub Task 12.a SAS-A08-0207	Noise Level Compliance	MTACC's Acting President wants to make sure the SAS project complies with MTA standards for Noise Levels.	N	N	N	The Green Stickers for the equipment will be inspected.	R
2	CLIN 003 Sub Task 12.a SAS-A09-0207	Real estate appraisals for FTA review	Two property appraisals for the 96 <sup>th</sup> Street Station (Rainbow Hardware and the Lumber Yard) were over \$2 million and require FTA review and approval.	Y	N	N	The appraisals were subsequently submitted to the FTA. FTA was unable to concur with the estimated appraised value for the two properties. Concerns were noted in a letter to MTA's Director of Real Estate dated March 28, 2008.	R

### III. OBSERVATIONS AND CURRENT ISSUES

#### A. GENERAL AGENCY ASSESSMENT

MTA Capital Construction (MTACC) Company is a public corporation with a specific mission to plan, design and construct major current and future MTA system expansion projects, including the Second Avenue Subway (SAS) project. MTACC has engaged the services of a design consultant, DMJM+Harris and ARUP (DHA), and a consultant construction management services firm, PB Americas, to assist in its management of the project by supplementing MTACC staff. MTA's Real Estate Department is taking the lead in the acquisition of property required for the project.

**In establishing its 2008 to 2013 Capital Program Budget (subsequent to the FFGA), MTA conducted a 30-day review of its expansion projects currently underway (SAS Phase 1, ESA, Fulton Street Transit Center, and the South Ferry Subway Station). The review was completed in February 2008 and resulted in three major actions: completion dates will be extended to allow for smaller contracts thus avoiding cost escalation due to single bidders on big contracts; project budgets will be increased to reflect market conditions; and the exploration of ways to mitigate rising cost without compromising the transportation benefits of the projects will be ongoing. SAS Phase 1 was impacted in that the ROD was revised from June 2014 to June 2015. The PMOC could not substantiate the revised ROD because an updated integrated schedule has not been developed. The proposed 2008 to 2013 Capital Program Budget also shows a \$297 million increase in the total project cost. Details of the increase have not been provided or allocated to the SCCs.**

#### B. BUDGET/COST STATUS

The MTACC has updated the SAS Project Phase 1 cost estimate to address the concerns noted during the 2007 Risk Assessment process. Adjustments were made to increase the unallocated contingency, real estate cost, and support an additional 6 months' float. The MTACC submitted the cost estimate and its various attachments to the FTA as required by the FFGA application. Total project cost was \$4,866,614,000 and was broken down into the Standard Cost Categories (SCC) as follows:

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

\*It is anticipated that the values in this table will change as a result of MTACC's recent review of the project and the Risk Assessment currently underway.

**Project Funding:** On November 19, 2007, the FTA and MTA executed a FFGA in the amount of \$4,866,614,468, including finance costs. Total Federal participation is \$1,350,692,821 and Local participation is \$3,515,921,647. The table below lists the associated grants *being evaluated in the Transportation Electronic Award Management (TEAM) system* with respective appropriated and obligated amounts as of April 30, 2008.

<b>Grant Number</b>	<b>Amount</b>	<b>Obligated (\$M)</b>	<b>Disbursement (\$M) thru April 30, 2008</b>
NY-03-0397	\$4,980,026	\$4,980,026	\$4,980,026
NY-03-0408	\$1,967,165	\$1,967,165	\$1,967,165
NY-03-0408-01	\$1,968,358	\$1,968,358	\$1,968,358
NY-03-0408-02	\$24,502,500	\$24,502,500	\$24,502,500
NY-03-0408-03	0	0	0
NY-03-0408-04	0	0	0
NY-03-0408-05*	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
<b>Total</b>	<b>\$35,877,870</b>	<b>\$35,877,870</b>	<b>\$35,877,870</b>

**Project Expenditures and Commitments:** A total of \$509.249 million has been expended on the project through April 30, 2008, including \$5.455 million on the Manhattan East Side Access (ESA) study and related FEIS work during the 1995-1999 capital program. (See Table 2 at the back of this section.)

**Project Cost Management and Control:** *MTACC's work breakdown structure allows for effective monitoring, control, and reporting of project costs and expenditures.* The PMOC will continue monitoring MTACC's budget control system during the final design, construction, and test phases.

**Change Orders:** The table below shows the status of change orders for professional service, and construction contracts *approved/negotiated as of April 30, 2008.*

<b>Professional Service/Construction</b>	<b>Total # of Approved Change Orders</b>	<b>Approved Change Orders</b>	<b>% of Award Value</b>
DHA (Contract Mod.)	1	\$44,772.00	.01%
Contract 1 (C26002)	24 (2 credits)	\$2,128,800.00	.6%

### **C. PROJECT SCHEDULE STATUS**

Currently, MTA is in the process of repackaging the SAS Project to provide smaller contracts that should attract more bidders and consequently lower bids. This process has been going on for several months and the parameters were changed several times during the process. This resulted in restarting the process several times. Because the project is in a state of flux, MTA does not intend to update the project estimate or schedule until the scope of each package is known. Thus, there is no accurate data to use in forecasting the Revenue Operations Date. Once the PMOC has received the updated schedule that reflects the actual project plan and has reviewed the logic, then a realistic forecast will be made.

Table 1 identifies major project milestones established by the MTACC through award of the first construction contract. *MTACC is in the process of redefining the construction packaging plan which could have a major impact on the project schedule. An updated SAS Phase 1 Project Integrated Schedule will be developed once the construction packaging plan is defined. The PMOC has requested that the schedule address the delays associated with the real estate acquisition for the 96<sup>th</sup> Street Station, Contract 1 time extensions, real estate challenges associated with the 72<sup>nd</sup> Street Station, and project float.* At the February 7, 2008 Quarterly Meeting the MTACC was reminded that the schedules must be updated and submitted to the PMOC on a timely basis [Ref: SAS-A04-0208]. Submittal of the updates continues to be an issue.

*Final Design (FD) Schedule Rev. 2.2.5 update 22 as of March 31, 2005 was issued in April 2008.*

*Skanska, Schiavone and Shea (S3)'s Critical Path Method (CPM) schedule Update No. 10 (thru March 2008) was accepted by MTACC. MTACC is currently evaluating S3's proposed Time Impact Analyses (TIA) for Additional Work Orders (AWOs). Once the TIAs are agreed upon, they will be incorporated into the updates. Update No. 11 (thru April 2008) is in progress.*

**Table 1 – Project Milestones**

Activity / Event	MTACC's Schedule Information	
	Current	Previous Report
FTA Approval of Final Environmental Impact Statement (FEIS)	Apr. 8, 2004 (A)	Apr. 8, 2004 (A)
MTA Board Approval to Advertise First D/B Tunneling Contract	Apr. 28, 2004 (A)	Apr. 28, 2004 (A)
Notice of Availability of FEIS in Federal Register	May 7, 2004 (A)	May 7, 2004 (A)
Contractor Session for SAS and No.7 Line Extension	May 25, 2004 (A)	May 25, 2004(A)
MTACC In-House Risk Analysis for entire Phase 1	June 4, 2004 (A)	June 4, 2004 (A)
Advertise 1 <sup>st</sup> Design/Build Tunneling Contract	June 21, 2004 (A)	June 21, 2004 (A)
Value Engineering 2 <sup>nd</sup> Stage for Phase 1	June 7, 2004 (A)	June 7, 2004 (A)
Pre-Bid Meeting for 1 <sup>st</sup> D/B Tunneling Contract	July 20, 2004 (A)	July 20, 2004 (A)
Record of Decision (ROD)	July 8, 2004 (A)	July 8, 2004 (A)
Submit request to enter Final Design (Phase 1)	Sept. 13, 2004 (A)	Sept. 13, 2004 (A)
Revised request to enter Final Design (Phase 1)	Nov. 15, 2005 (A)	Nov. 15, 2005 (A)
PE for the Full Length of SAS Substantially Complete	Dec. 20, 2004 (A)	Dec. 20, 2004 (A)
Complete Extended Preliminary Engineering	Nov. 30, 2005(A)	Nov. 30, 2005(A)
Complete Final Preliminary Engineering	April 17, 2006(A)	April 17, 2006 (A)
Award Final Design for Phase 1	April 18, 2006 (A)	April 18, 2006 (A)
FTA Approval to Enter Final Design	April 18, 2006(A)	April 18, 2006 (A)
FTA Approval of Early Systems Work Agreement (Approval of ESWA also view as authorization to enter Construction)	Jan. 5, 2007 (A)	Jan. 5, 2007 (A)
Award/NTP Contract for Tunnel Work (1 <sup>st</sup> Contract)	Mar 20, 2007 (A)	Mar 20, 2007 (A)
Receipt of Full Funding Grant Agreement	Nov. 19, 2007 (A)	Nov. 19, 2007 (A)

## D. DESIGN ENGINEERING STATUS

### Design Management

MTACC awarded the Final Design (FD) of Phase 1 to DHA on April 18, 2006 at a value of approximately \$143.485 million (\$116.000 million FD and \$27.485 million construction phase design support). Design completion milestones have been incorporated into the project schedule. Working group meetings are ongoing to support the Final Design of the various contract packages. PMOC continues to monitor these meetings. Final Design is progressing to the completion dates as indicated below (*DHA's Final Design Schedule Rev. 2.5.5 Update #20 as of March 2008*):

- Contract 1 –C 26002 FD was completed in June 2006 (TBM Tunnels)
- Contract 2A –C 26005 (96th Street Station Structure and Heavy Civil) FD was completed in February 2008. This contract was advertised on March 10, 2008 pre-bid held on March 26, 2008, and bids are scheduled for *June 3, 2008*.
- Contract 2B –C 26010 (96th Street Station Finishes & MEP) *FD scheduled completion date is June 13, 2008.*
- Contract 3 –C 26006 (63rd Street Station) *FD scheduled completion date is June 26, 2009.*
- Contract 4A –C 26007 (72nd Street Station Structure and Heavy Civil) *FD scheduled completion date is July 7, 2008.*

During February 2008, it was decided to eliminate the third track at this station. The Design Team concluded that the risks involved in building a cavern wide enough to accommodate three tracks far outweighed the operational benefits. *During April 2008, various two track alignment options, south of the station, were evaluated with all but two being eliminated. The evaluation of these two alignments is ongoing.* Design enhancements were made during March 2008 to lower the invert of the station 5 feet to provide added rock cover.

- Contract 4B –C 26011 (72nd Street Station Finishes & MEP) *FD scheduled completion date is August 6, 2008.*
- Contract 5A –C 26008 (86th Street Station Structure and Heavy Civil) *FD scheduled completion date is July 7, 2008.*
- Contract 5B –C 26012 (86th Street Station Finishes & MEP) *FD scheduled completion date is August 6 2008.*
- Contract 6 –C 26009 (Systems) *FD schedule completion date is July 10, 2009.* The signal systems design is on hold awaiting the final alignment that will reflect the change from three tracks to two tracks south of the 72nd Street Station.

The SAS team has been coordinating their designs with the local BRT project to avoid duplication of efforts. [Ref: SAS-A07-0208].

## E. CONSTRUCTION STATUS

### Construction Management

On May 31, 2007, MTACC awarded a contract to PB Americas to perform Construction Management services for Phase 1 of the SAS project. As Consultant Construction Manager (CCM), PB Americas will provide services for 91 months with a not-to-exceed value of \$80.9 million. PB is playing an active role coordinating activities among the various agencies, the contractor (S3) and the SAS Project Team. S3 concerns are being addressed with action items being assigned and tracked for closure. Working Group and Job Progress Meetings are being held bi-weekly to keep all parties informed. If the Contract Packaging Plan is revised, the CCM contract will require a change order to provide funding for the additional personnel required for each added contract. Although functions like scheduling or quality assurance may not be affected, the number of resident engineers and inspectors will increase.

#### **Contract 1: C-26002 (TBM Tunnels from 92<sup>nd</sup> to 63<sup>rd</sup> Streets)**

**Description:** Contract 1 provides for the construction of tunnels between 92nd Street and the existing Lexington Ave. /63rd Street Station, using a Tunnel Boring Machine (TBM) and other mining methods. It includes all preparatory work for tunneling, such as utility relocation and construction of a launch box and two vertical shafts. It also includes preparatory work for the subsequent contracts, such as maintenance of electrical and other facilities.

**Schedule:** Notice-to-Proceed was issued on March 20, 2007, with a July 20, 2010 completion date (duration 40 months). Relocation of the utilities on the west side of Second Avenue was completed in February 2008 approximately 3 months behind schedule. The delay was due primarily to the removal of unidentified utilities and a large sub-surface wall which were not on the plans. Lessons Learned from the west side utility relocation will be applied in the relocation of utilities on the east side. At the February 7, 2008 Quarterly Meeting, FTA requested that MTACC prepare a paper on these Lessons Learned and share them with all of the MTACC projects. In this way, all of the projects will benefit from the SAS experience. Also, MTACC was requested to submit the Lessons Learned to the FTA [Ref: SAS-A05-0208].

*S3's Critical Path Method (CPM) schedule Update No. 10 (through March 2008) was accepted by MTACC. MTACC is currently evaluating S3's proposed Time Impact Analyses (TIAs) for AWOs. The TIAs, which would be a possible two month impact, will be incorporated into the schedule once agreement is reached. Update No. 11 (thru April 2008) is in progress.*

**Construction Progress:** Contract 1 was awarded to S3 Tunnel Contractors (a joint venture of Skanska, Schiavone and Shea) on March 20, 2007 for \$337,025,000. *During April 2008, the contractor continued relocating utilities on the east side of Second Avenue. The work included the excavation for the 30-inch gas main from 92nd to 95th Streets; excavation for installation of new sewer and manholes from 91st to 95th; installation of Con Ed manholes between 91st and 92nd; and installation of secant piles between 91st and 92nd.*

**Budget:** The budget for Contract 1 is \$353,876,250. It is comprised of S3's bid price of \$337,025,000 plus a contingency of \$16,851,250. The contingency is 5% of the bid price and is allocated to cover additional work orders (AWOs). *Total expenditure through April 30, 2008 is \$60,832,345. Twenty-four (24) AWOs have been approved/negotiated for a total of \$2,128,800.*

The contract is within budget with an estimate at completion of \$339,153,800 (bid price plus approved AWOs).

**Quality:** MTACC has approved S3's Quality Control System. S3's quality organization is actively conducting preparatory meetings, design process control reviews, testing and inspection of material, controlling non-conforming material, and audits of suppliers. MTACC's Quality Department is providing adequate oversight of S3's compliance to its Quality Control System. The PMOC is pleased with the team work of the Quality Departments of MTACC, DHA and S3 in performing the QA/QC functions. *Subsequent to the Job Progress Meetings (every other week), representatives from each team meet to address any quality concerns.*

**Safety:** S3 has a proactive safety organization. Toolbox meetings are held to acquaint personnel with the safety requirements. S3 safety personnel and the OCIP representative continue to monitor the site for compliance. Violations are corrected immediately. The public is kept abreast of the activity in the work area by message boards. *The recordable incidents for the project continue to trend below the national average (2.47 vs. 5.89). Lost time accidents are trending slightly ahead of the national average (2.47 vs. 2.27). The contractor has increased the number of safety meetings being conducted and additional subject matters are being discussed.*

### **Contract 2: (96<sup>th</sup> Street Station)**

**Description:** This contract provides for the construction of a new station at 96th Street and 2nd Avenue. The repackaging of this contract reallocates the scope of work into two separate packages (Contract 2A –C 26005 Station Structure and Heavy Civil, and Contract 2B –C 26010 Station Finishes & MEP). Contract 2A's scope of work includes construction of the station structure, the station entrances, mezzanines, platforms, ancillary buildings, ventilation plants, and modification of the existing tunnel section between 96th Street and 105th Street. Contract 2B's scope of work will include the construction of the station architectural finishes and mechanical, electrical and plumbing (MEP) elements. It also provides for the infrastructure (structure, finishes, power, and MEP requirements) for the Systems Contract (Contract 6: C-26009).

**Schedule:** *Award Contract 2A August 7, 2008; Award Contract 2B June 30, 2010.*

**Construction Progress:** N/A

**Budget:** N/A

**Quality:** N/A

**Safety:** N/A

### **Contract 3: C-26006 (Rehabilitation of existing Lexington Avenue/63<sup>rd</sup> Street Station)**

**Description:** This contract provides for the rehabilitation of the existing Lexington Avenue/63rd Street Station to accommodate the connection to the SAS Line. The scope of this contract consists of opening half of the station, on both the upper and lower levels, to full revenue service. New entrances are to be added at the 3rd Avenue end of the station. Employee facilities and all MEP facilities are to be added and rehabilitated to support both the existing "F" and new "Q" Line services. It also provides for the infrastructure (structure, finishes, power, and MEP

requirements) for the Systems Contract (Contract 6: C-26009). Contract 3's scope of work will also include the mining of tunnels G3 and G4 from the 63<sup>rd</sup> Street Station to the 72<sup>nd</sup> Street Station.

**Schedule:** *Award Contract June 1, 2010.*

**Construction Progress:** N/A

**Budget:** N/A

**Quality:** N/A

**Safety:** N/A

#### **Contract 4: (72<sup>nd</sup> Street Station)**

**Description:** This contract provides for the construction of a new station at 72nd Street and 2nd Avenue. The repackaging of this contract reallocates the scope of work into two separate packages (Contract 4A –C 26007 Station Cavern and Heavy Civil, and Contract 4B –C 26011 Station Finishes and MEP). Contract 4A's scope of work will include excavation for a three track cavern, construction of the station structure, the station entrances, mezzanines, platforms, ancillary buildings and ventilation plants. Contract 4B's scope of work will include the construction of the station architectural finishes and MEP elements. It also provides for the infrastructure (structure, finishes, power, and MEP requirements) for the Systems Contract (Contract 6: C-26009). The vertical and horizontal alignments are being changed to comply with the decision to reduce the number of tracks from three to two and to lower the station invert by 5 feet, increasing the rock cover.

**Schedule:** *Award Contract 4A June 16, 2009; Award Contract 4B October 15, 2010.*

**Construction Progress:** N/A

**Budget:** N/A

**Quality:** N/A

**Safety:** N/A

#### **Contract 5: (86<sup>th</sup> Street Station)**

**Description:** This contract provides for the construction of a new station at 86th Street and 2nd Avenue. The repackaging of this contract reallocates the scope of work into two separate packages (Contract 5A –C 26008 Stations Structure and Heavy Civil, and Contract 5B –C 26012 Station Finishes & MEP). Contract 5A's scope of work include excavating the station cavern, construction of the station's structure, entrances, mezzanines, platforms, ancillary buildings and ventilation plants. Contract 5B's scope of work will include the construction of the station architectural finishes and MEP elements. It also provides for the infrastructure (structure, finishes, power, and MEP requirements) for the Systems Contract (Contract 6: C-26009).

**Schedule:** *Award Contract 5A January 7, 2009; Award Contract 5B June 30, 2010.*

**Construction Progress:** N/A

**Budget:** N/A

**Quality:** N/A

**Safety:** N/A

**Contract 6: C-26009 (Systems Contract –Track, Signals, Power and Communication)**

**Description:** This contract provides for the installation of all of the systems equipment, integration of the systems that link the new stations to each other and to the existing systems, and the commissioning of the systems for the revenue operation of the new SAS Line.

**Schedule:** *Award Contract 6 January 11, 2010.*

**Construction Progress:** N/A

**Budget:** N/A

**Quality:** N/A

**Safety:** N/A

**F. PROCUREMENT AND CONTRACTING ACTIVITIES**

**Contract Packaging Plan:** The scope of work associated with Phase 1 of the SAS Project was initially defined in 6 Construction Packages (contracts). The scope was subsequently reallocated into 9 contracts as enumerated above. MTACC took this action because contractors were having difficulty getting bonding on contracts valued greater than \$400 million. Contracts 2, 4 and 5 exceeded the \$400 million level. In February 2008, the PMOC was informed that MTACC was investigating the feasibility of reallocating the project scope into additional construction packages (value not to exceed \$300 million).

On March 21 and 22, MTACC held a Peer Review Workshop made up of senior construction personnel from both the SAS Team and outside industry. The purpose was to compare the 9 contract plan against a 13 contract plan that had been developed in February and March 2008, and determine the optimum number of contracts to minimize both market risk and construction risk. Although the workshop presented a 9 or 10 package plan to MTACC's upper management, it was not accepted. Based on MTACC's recent experience on other projects, a further reduction in contract package size was requested as a means of increasing competition and addressing the market risks during the risk assessment process. The SAS Team is currently reviewing its options. *The Grantee will provide an update to the FTA during the Quarterly Meeting scheduled for May 13, 2008.* [Ref: SAS-A06-0208].

The PMOC has expressed its concerns regarding the additional coordination required as more contractors are brought on board, the number of contractors who would be required to work in the limited space and the possibility of additional claims if work areas are not available for

follow-on contractors when scheduled. However, final judgment must await a review of the actual plan, which may have marketing benefits that outweigh the anticipated construction risks. If the scope is properly split, the total impact may be minimal.

Contract 2A was advertised on March 10, 2008 and anticipates a bid opening on May 6, 2008. *The first pre-bid meeting was held March 26, 2008 and a second one to review the utility relocations with the contractors was held in April 2008.*

**Property Acquisition and Real Estate:** MTA Real Estate is handling all real estate matters related to the SAS project and is responsible for acquiring the real estate interests needed for the project. MTA's real estate acquisition process is addressed in the Real Estate Acquisition Management Plan (RAMP). The initial PMOC review determined that the RAMP did not comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act). MTACC submitted an updated RAMP during the last week of May 2007.

Following this update, FTA Real Estate met with MTA's Real Estate group to review lessons learned on the Fulton Street Transit Center project, which utilized the same process as the SAS project. The FTA sent MTA a list of the required additions in an August 13, 2007 letter. The MTA incorporated the comments into the RAMP and resubmitted it to the FTA in October 2007. The PMOC reviewed the Plan and recommended a few changes. A meeting on the lessons learned on the Fulton project was held on November 1, 2007. As a result, the SAS RAMP was revised and submitted. The FTA gave conditional approval of the RAMP (dated May 2007) on November 15, 2007. Of concern were the issues of Just Compensation and Fixtures. The MTA submitted the revised RAMP at the beginning of March 2008 and FTA approved it with the understanding that it would be revised to reflect minor clarifications noted in FTA's letter dated March 20, 2008. MTA still has to provide the FTA with its Rent Stabilization policy. [Ref: SAS-A01-1007].

The MTA has retained a Consultant, O. R. Colan, to assist with relocating residential and commercial tenants. All Contract 1 properties have been acquired. The PMOC is concerned that the real estate acquisition process is taking longer than anticipated and the properties needed for the 96<sup>th</sup> Street Station will be six months late. MTA is rethinking its position of not awarding a construction contract until all the properties have been acquired. At the February 7, 2008 Quarterly Meeting, MTACC accepted an action item to assess the strategy options regarding the possibility of awarding a portion of the 96<sup>th</sup> Street Station contract (C-26005) due to the anticipated six month delay in the acquisition of the required properties. *The scope of work associated with the 96<sup>th</sup> Street Station was subsequently allocated into two contracts (Contract 2A C 26005 and Contract 2B C 26010). Although the real estate will not be available, the heavy civil, structural and utility relocation scope of work (Contract 2A) for the 96<sup>th</sup> Street Station will not be impacted. Contract 2A was advertised on March 10, 2008 with bids anticipated by the end of May 2008. The real estate will be required for Contract 2B.* [Ref: SAS-A03-0208]. MTA Real Estate was also reminded that all future appraisals exceeding the FTA threshold must be submitted to FTA Regional Office 2 [Ref: SAS-A09-0208].

**At the February 7, 2008, Quarterly Meeting FTA was also informed that two challenges were filed (State and Federal courts) with regards to the proposed relocation of entrance 3 of the 72<sup>nd</sup> Street Station. The challenge filed in Federal Court is under NEPA and names FTA, MTA, and DHA. The FEIS identified the location of entrance 3 within a building;**

**the proposed location is on the sidewalk of the northeast corner of 72<sup>nd</sup> Street. MTA's Real Estate will coordinate efforts with legal representatives of FTA Region 2 to resolve this issue [Ref: SAS-A02-0208]. *The Grantee will provide an update to the FTA at the Quarterly Meeting scheduled for May 13, 2008.***

**Rolling Stock:** Activity is not schedule to start until 2010.

#### **G. INTERAGENCY AND MASTER UTILITY PLANNING**

Interagency and master utility planning is progressing as defined in Section 12 of the PMP. During Final Design coordination with utility providers to develop detailed plans for facility rearrangements and integration of these plans into the construction contract documents is ongoing. Work orders are being issued to secure the city's assistance to the project in the areas of public works engineering, and traffic engineering.

Among the major New York City agencies that will interface with the project are: New York City Department of City Planning (NYCDCP); New York City Fire Department (FDNY); New York City Department of Transportation (NYCDOT); New York City Medical Examiner; and New York City Department of Environmental Protection (NYCDEP).

#### **H. SYSTEM SAFETY AND SECURITY**

On November 15, 2007, the FTA approved the SAS Safety and Security Management Plan (SSMP), noting however, that there was a vacancy in the Director of System Safety and Security position. *As of April 30, 2008, MTACC has not hired a Director of System Safety and Security although they have interviewed various candidates.* It appears that the level of compensation is the issue which is preventing this position from being filled. *On the SAS project, DHA's System Safety Manager is supporting the design efforts and CCM PB Americas Safety Manager is supporting construction efforts under the supervision of MTACC Chief-Quality and Safety.* The SSMP is intended to provide an effective management process that applies the system safety and security discipline throughout design, construction, start-up, and operations and maintenance. The SSMP establishes the framework that the SAS Project will use to reduce hazards and vulnerabilities to the criteria specified in contract documents, as determined by MTACC.

#### **I. RISK ASSESSMENT AND RISK MITIGATION**

The SAS Project Team and the FTA's Risk Assessment Team have worked effectively in addressing issues, which could impact the success of the project. They have developed a Risk Management Program through various workshops and mutual cooperation. The PMOC has documented the efforts of the Risk Assessment Team in various draft Spot Reports. On June 6, 2007 the PMOC forwarded the reports to FTA Headquarters for review. The PMOC will monitor the implementation of the Risk Management Program as the project progresses through the design, construction and test phases. The MTACC has identified and documented the risk mitigation initiatives in a scoping document for incorporation into the PMP. This document was reviewed by the PMOC and FTA with all concerns being resolved. The MTACC updated the PMP in February 2008, and sent an informal draft to the PMOC. A formal submission was made in March 2008.

## **J. QUALITY ASSURANCE/QUALITY CONTROL**

MTACC's Quality Manager for Second Avenue has implemented a Total Quality approach for monitoring the Quality Control and Quality Assurance activities on the Project. MTACC Quality Personnel audit both the Designer's and CCM's Quality programs; then the three groups (MTACC, Designer & CCM) audit the Contractors', Subcontractors' and Suppliers' Quality programs. In addition, Contract 1's Quality Manager has a very ambitious Quality program that is scheduled 6 weeks into the future and lists the audits and inspections to be performed. The inspections follow the schedule of work to be performed in those 6 weeks. Materials being delivered for the work tasks are inspected prior to the work beginning and the quality of the work being performed is audited/inspected as it is being done. The status of Non-Conformance Notices and the responsibility to perform corrective actions is distributed monthly. *Representatives from each quality organization meet every other week to address any quality concerns.* The Quality Program is definitely proactive and doing proper oversight.

## **K. COMMUNITY RELATIONS**

As part of its community relations program, MTACC continues to conduct extensive public and community outreach. They have placed message boards in the construction area to show the project's status and have posted a three week look ahead of construction activities and traffic updates on the SAS website. Interested members of the public can join the SAS mailing list, call the SAS Hotline (24 hours/7 days a week), send e-mails and attend the various community meetings. The names of the stores have been placed on the traffic barriers on the east side of 2<sup>nd</sup> Avenue from 91<sup>st</sup> to 95<sup>th</sup> Street. This will help customers locate a specific store and was in response to store owner's concerns. *Weekly meetings are being held with business owners regarding opportunities to mitigate construction impacts.* The SAS team will be checking the Green Stickers on the S3 equipment to verify that noise levels are being monitored. [Ref: SAS-A08-0208].

TABLE 2 - COST AND SCHEDULE SUMMARY

Project	Cost (in Millions)					Schedule						
	Original Budget	Latest Estimate at Completion (EAC)	Percent (%) Difference (+ or -)**	Spent Through 4/30/08 (Funding Report)	Percent (%) Complete Planned Actual	Award/NTP Date	Original Completion Date*	Actual Forecasted Completion	Original Duration (Months)	Duration Percent (%) Difference (+ or -)**	Percent (%) Complete	
Contract 1 - Tunnel Boring S3 Joint Venture ( Skanska/Schiavone/Shea)	\$337,025,000	\$337,025,000		\$60,832,345		18.0%	3/20/2007	7/20/2010	7/20/2010	40 months	N/A	
Contract 2 - 96th Street Station Name of Contractor	N/A											
Contract 3 - 63rd Street Station Name of Contractor	N/A											
Contract 4 - 72nd Street Station Name of Contractor	N/A											
Contract 5 - 86th Street Station Name of Contractor	N/A											
Contract 6 - Track and Systems Name of Contractor	N/A											
Contracts to Be Bid	\$2,231,975,000	<b>\$2,469,852,489</b>	237,877,489.0									
OCIP (Insurance)	\$160,000,000	<b>\$169,000,000</b>	9,000,000.0	\$85,168,131		50.4%						
TA Labor	\$28,000,000	<b>\$28,000,000</b>										
Engrg. Force Account	\$42,000,000	<b>\$52,000,000</b>	10,000,000.0	\$773,977		1.5%						
3rd Party Reimbursement	\$58,000,000	<b>\$58,000,000</b>		\$1,221,868		2.1%						
Artwork Allowance	\$6,000,000	\$6,000,000										
Preliminary Engr. & EIS	240,814,507	240,814,507		236,711,869		98.3%						
Final Design	\$169,185,493	\$169,185,493		\$87,487,557		51.7%	4/18/2006					
Construction Mgmt.	\$86,000,000	<b>\$91,000,000</b>	5,000,000.0	\$1,931,051		2.1%	5/31/2007					
Rolling Stock	\$157,000,000	\$157,000,000										
Property Acquisition	\$245,000,000	\$245,000,000		\$29,764,322		12.1%						
Contingency	\$129,000,000	<b>\$141,000,000</b>	12,000,000.0	\$5,358,300		3.8%						
Project Reserve		\$23,000,000	23,000,000.0									
Executive Reserve	\$160,000,000	\$160,000,000										
<b>Subtotal</b>	4,050,000,000	4,346,877,489	296,877,489.0	509,249,420		11.7%						
Financing	816,614,000	-										
<b>Totals</b>	4,866,614,000	4,346,877,489	296,877,489	509,249,420		11.7%						

**Attachment B - Summary of Concerns and Recommendations**

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

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

**Key Item**

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

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

**Legend**

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

**Attachment B -Summary of Concerns and Recommendations**

Pr	Item	Identification	Cat	Nature of Concern	PMO Recommendation	Grantee Action			Status	Status
						D	A	I		

There are no PMOC Concerns and Recommendations for SAS that are not already shown in the Action Items Table.