

PMOC MINI MONTHLY REPORT

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

July 1 to July 31, 2010

PMOC Contract No. DTFT60-09-D-00007

Task Order No. 2, Project No. DC-27-5115, Work Order No. 01

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

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Length of time on project: 0 years

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EXECUTIVE SUMMARY

PROJECT DESCRIPTION

The Second Avenue Subway project will include a two-track line along 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 will include tunnels from 105th 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.

COST BASELINE

FFGA \$4.87 billion (Federal = \$1.35; Local = \$3.52 billion including financing cost of \$817 million.

SCHEDULE BASELINE

Key Milestones:

- | | |
|---|-------------------|
| ▪ Preliminary Engineering (PE): | December 2001 |
| ▪ Final EIS Record Of Decision (ROD): | July 8, 2004 |
| ▪ FFGA: | November 19, 2007 |
| ▪ Final Design: | April 2006 |
| ▪ Original FFGA Revenue Service Date (RSD): | June 30, 2014 |
| ▪ Current MTA RSD: | December 30, 2016 |
| ▪ Current FTA/PMOC RSD: | February 2018 |

PROGRESS AND ISSUES

Contract C-26002 continued TBM mining activities this month with significantly less-than-anticipated progress. Improved progress is predicted as the work enters an area of better rock quality. Available schedule float has absorbed the resulting delay to date, however future TBM progress will be closely monitored in an effort to forecast and mitigate potential adverse effects to the overall project schedule.

Key Issues to be monitored during the upcoming period:

- *Negotiation and approval of AWO#92 Contract C-26002 (1) which adds 2,209 lf of additional TBM mining in the west tunnel to Station 1150+00 (±).*
- *Coordination with Contract C-26005 (2A) for the tie-in of the 30" gas main and early access that will enable the contractor to accelerate performance of utility work between 94th and 95th Streets.*
- *The evaluation and award process for Contract C-26007 (4B) - (72nd Street Station Cavern and Heavy Civil Construction. This is a major contract for the Second Avenue Subway Project and delays in award could have a significant impact on the project schedule.*
- *MTACC will advertise for construction bids for Contract C-26006 (63rd Street Station Upgrade) on June 17, 2010.*
- *Forecast completion of all design (exclusive of construction support) is September 30, 2010.*

MINI 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

Status:

As of the end of July 2010, MTACC continued to work cooperatively with the FTA to produce Management Plans as called for in the Enterprise Level Project Execution Plan (ELPEP). This month, execution of the TCC Implementation Plan was a priority, with group discussions of the TCC Implementation process on July 1st, 15th, in which the PMOC provided comments regarding the early implementation progress and process. An individual review meeting was scheduled with SAS for August 2, 2010 in which the process and the Acceptance Letter requirements will be reviewed. The MTACC goal is to identify all of their Candidate Revisions (CRs) and prioritize them by the end of August 2010. The top 10 CRs will then be implemented to comply with the Acceptance Letter. Both projects were also given a copy of the PMOC check-sheet for implementation of the PMP Update process, which is based on the MTACC Plan. Both projects

have committed to fully implement the process by the end of August 2010. MTACC has submitted a draft Cost and Cost Contingency Management Plan. The PMOC is reviewing this plan. FTA is finalizing the draft Schedule Management Plan Acceptance Letter.

The PMOC, FTA, MTA and SAS staffs held weekly update meetings on July 1, 15, 22 and 29, 2010. Based on the ELPEP effective date of January 15, 2010, the following items are overdue for completion:

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

Observation:

Based on ELPEP requirements, the overall progress remains behind schedule. MTACC has completed their Schedule Management Plan and a draft letter of acceptance is in final review. The PMOC has performed a preliminary review of the OP53 Chronology Report for Contract 4B. The Cost Management Plan has been submitted as of the end of July 2010 and is in review.

FTA and MTACC continue to participate in a cooperative process to produce the deliverables described in the ELPEP. The process includes weekly ELPEP progress meetings which serve to review progress and look ahead to upcoming milestones. MTACC has begun its TCC Implementation Plan PMP decision point reviews and has modified their priorities to identify all Candidate Revisions first, followed by prioritization and implementation based on the priorities. This approach is in line with the Acceptance Letter. MTACC has committed to implement the PMP Update Process by the end of August 2010. This month, the SAS Project Team has continued to be proactive in the support of the ELPEP implementation effort.

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

- *July 16 – Preliminary Draft Cost and Cost Contingency Management Plan*
- *July 28 – Draft Cost and Cost Contingency Management Plan*

Concerns and Recommendations:

The PMOC recommended strategy of producing flow diagrams to describe the MTACC cost estimate management process has assisted MTACC in their efforts to clearly define the process and has facilitated the production of the draft plan. The PMOC has recommended that the MTACC review the PMP Update procedures requirements laid out in the check-sheet distributed by the PMOC in order to ensure that the process is carried out as planned. The PMOC has also recommended that the TCC Implementation Plan be executed as required in the Acceptance Letter.

Table 1 Project Budget/Cost Table

	FFGA			FFGA Amendments	MTA's Current Working Budget (CWB)		Expenditures as of July 31, 2010	
	(\$ Millions)	(%) Grand Total Cost	Obligated (\$ Million)	TBD	(\$ Millions)	(%) Grand Total Cost	(\$ Millions)	% of Grand Total Cost
Grand Total Cost:	4,866.614	100	1,599.773		5,489.614	100	\$1,017.238	18.53
Financing Cost	816.614	16.78			816.614	14.88		
Total Project Cost:	4,050.000	83.22	1,599.773		4,673.000	85.12	\$1,017.238	18.53
Total Federal share:	1,350.693	27.75	353.991		1,350.693	24.60	272.557	4.96
Total FTA share:	1,300.000	96.25	325.898		1,300.000	94.62	270.097	4.96
5309 New Starts share	1,300.000	100	325.898		1,300.000	94.62	270.097	4.92
Total FHWA share:	50.693	3.75	28.093		50.693	5.38	2.460	0.04
CMAQ	48.233	95.15	25.633		48.233	96.67	0	0
Special Highway Appropriation	2.460	4.85	2.460		2.460	3.33	2.460	0.04
Total Local share:	2,699.307	55.47	1,245.782		3,322.307	60.52	744.681	13.56
State share:	450.000	16.67	100.000		450.000	13.54		
Agency share:	2,249.307	83.33	1,145.782		2,872.307	86.46		
City share:	0	0			0	0		

Data for this table was obtained from the Transportation Electronic Award Management (TEAM) system and MTACC's grant management department.

Table 2 Summary of Critical Dates

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	03/20/2007A	03/20/2007A
Construction Complete	December 31, 2013	May 23, 2016	October 2017*
Revenue Service	June 30, 2014	December 30, 2016 (1)	February 2018*

(1) SAS Phase 1 Integrated Construction Schedule, Revision 3, Update #29 dated January 13, 2009.

* From ELPEP

1.0 GRANTEE'S CAPABILITIES AND APPROACH

1.1 Technical Capacity and Capability

1.1.1 Organization, Personnel Qualifications and Experience

- a) Grantee's Organization**
- b) Staff Qualifications**
- c) Grantee Staffing Plan**
- d) Grantee's Physical Resources**
- e) History of Performance, Adequacy of Management Systems**

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

- a) Adequacy of Project Management Plan and Project Controls**
- b) Grantee's Approach to FFGA and other FTA/Federal Requirements**
- c) Grantee's Approach to Community Relations, Asset Management, and Force Account Plan**
- d) Grantee's Approach to Safety and Security**

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

- a) Uniform Property Acquisition and Relocation Act of 1970**
- b) Local Funding Agreements**

1.1.4 Scope Definition and Control

1.1.5 Quality

1.1.6 Project Schedule

Status:

A summary of project schedule information is as follows:

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	03/20/2007A	03/20/2007A
Construction Complete	December 31, 2013	May 23, 2016	October 2017
Revenue Service	June 30, 2014	December 30, 2016	February 2018

Observations:

The project has experienced delays beyond the current FFGA Revenue Service Date of June 30, 2014 that realistically cannot be recovered. Over the last six months, the MTACC has actively managed the schedule in an effort to eliminate or mitigate additional delays and potentially recover some of the previous delay time as well as develop additional schedule contingency (float) to ensure achievement of their current commitments.

Recommendations and Conclusions:

None

1.1.7 Project Budget and Cost

Status:

Total project cost in the approved FFGA is \$4,866,614 million and is allocated into the Standard Cost Categories (SCC) as shown below in Table 1-1.

Table 1-1 Standard Cost Categories

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

Table 1-2 lists the associated grants in the Transportation Electronic Award Management (TEAM) System with respective appropriated and obligated amounts as of July 31, 2010.

Table 1-2 Appropriated and Obligated Funds

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru July 31, 2010
NY-03-0397	\$4,980,026	\$4,980,026	\$4,980,026
NY-03-0408	\$1,967,165	\$1,967,165	\$1,967,165
NY-03-0408-01	\$1,968,358	\$1,968,358	\$1,968,358

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru <i>July 31, 2010</i>
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	<i>\$164,965,505</i>
<i>NY-03-0408-06</i>	\$274,920,030	0	0
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
NY-36-001-00*	\$78,870,000	\$78,870,000	<i>\$71,713,674</i>
NY-95-X009-00	\$25,633,000	\$25,633,000	0
NY-95-X015-00	\$45,800,000	\$45,800,000	0
Total	\$628,911,200	\$353,991,170.00	<i>\$272,557,049.00</i>

* Denotes American Recovery and Reinvestment Act (ARRA) funds

A total of \$1,017,238,124 has been expended on the project through July 31, 2010, of which \$393,155,211 has been spent on design and \$330,663,627 on construction (MTACC's monthly financial input).

Observation:

Local funds totaling \$744,681,075 (\$1,017,238,124-\$272,557,049) have been spent as of July 31, 2010.

Concerns and Recommendations:

None.

1.1.8 Project Risk Monitoring and Mitigation

1.1.9 Project Safety

Status:

The July 2010 OSHA recordable incident rate for the project is 2.52, and the lost time accident rate is 1.10. Both rates are well below the national averages of 4.2 and 2.2 respectively.

Observation:

SAS has an effective and proactive safety program.

Concerns and Recommendations:

None.

1.2 FTA Compliance Documents

1.2.1 Readiness to Enter PE

1.2.2 Readiness to Enter Final Design

1.2.3 Record of Decision (ROD)

1.2.4 Readiness to Execute FFGA

1.2.5 Readiness to Bid Construction Work

Status:

The PMOC's implementation of the OP53 reviews during July, 2010 included the following actions:

- *Scheduled and conducted two internal progress meetings per week and prepared and issued meeting minutes for SAS 4B Contract review, and general information on other SAS contract reviews to be performed;*
- *Received and proceeded with review of the FTA Contract C1 ARC project chronology for guidance on all OP53 reviews of MTA projects;*
- *Distributed additional package-level design documents directly, through internal server access, and through an FTP server to OP53 Review Team including Design Criteria, Project Implementation Procedures (PIPs), Work Plans, and Contract Packaging Plans (CPPs);*
- *Presented OP53 Risk Mitigation Relationship of ELPEP and OP53 on July 1, 2010 Meeting with FTA/ MTA;*
- *Assembled and distributed additional guidance documents for OP53 review team;*
- *The OP53 review of the 4B package continued with the research of needed documents in the EDMS system, and assembly of available documents for chronology development;*
- *Prepared additional development of Contract 4B Chronology from monthly reports and other information.*

Observation:

None

Concerns and Recommendations:

None

1.2.6 Readiness for Revenue Operations

2.0 PROJECT SCOPE

2.1 Status & Quality: Design/Procurement/Construction

2.1.1 Engineering and Design

Status:

The following table summarizes Final Design Completion Dates as reported by the MTACC via the most recent update of the Integrated Project Schedule (IPS) update #48, dated July 1, 2010. Incidental schedule slippages associated with the completion of the design at 86th Street Station (DHA Mod #57) have been reported for several packages.

Table 2-1 Design Completion Dates

		<i>IPS Update #45</i>	<i>IPS Update #48</i>
<i>Contract</i>	<i>Description</i>	<i>Q1 - 2010</i>	<i>Q2 - 2010</i>
<i>Contract -26010 (2B)</i>	<i>96th Street Station Finishes and (MEP)</i>	<i>09/13/2010</i>	<i>09/23/2010</i>
<i>Contract-26006 (3)</i>	<i>63rd Street Station Modifications</i>	<i>04/19/2010</i>	<i>03/31/2010A</i>
<i>Contract-26011 (4C)</i>	<i>72nd Street Station Finishes and MEP</i>	<i>05/14/2010</i>	<i>06/02/2010A</i>
<i>Contract-26008 (5B)</i>	<i>86th Street Station Cavern Construction</i>	<i>07/02/2010</i>	<i>09/03/2010</i>
<i>Contract-26012 (5C)</i>	<i>86th Street Station Finishes and MEP</i>	<i>09/13/2010</i>	<i>09/30/2010</i>
<i>Contract-26009 (6)</i>	<i>Systems –Track, Power, Signals and Communications</i>	<i>06/23/2010</i>	<i>09/30/2010</i>

Observation:

All design work is expected to be completed by September 2010.

Concerns and Recommendations:

Minor delays to station finish packages (2B, 4C, 5B) are not currently critical to the overall project schedule and are not anticipated to become critical. Procurement of Package 5B is significantly closer to the project critical path (approx 67 WD float). Portions of this package are already on the project critical path. Further procurement delays to this package add the risk of delay to the package as well as the entire project. The PMOC recommends that an investigation of schedule reduction/acceleration options for Package 5B be initiated immediately so that contingency plans are readily available to assist in mitigating future delays.

As shown in Table 2-1, the completion of the design for Package 6 (Rail Systems) has also slipped significantly during the past quarter. Based on IPS update #48, adequate float exists for this package. However, the complex and inter-dependent nature of this project suggests retaining as much schedule contingency as possible.

2.1.2 ProcurementStatus:

The following events occurred this period which affected the near-term construction procurement schedule:

- *Almost immediately upon advertisement, several bidders requested an extension to the 63rd Station bid date. This extension was granted by MTACC.*
- *MTA's evaluation of the bid error alleged by the original C4B low bidder (Tully/OHL, JV) continued. As of July 31, 2010, a formal decision had not been issued.*
- *MTACC and MTA Procurement developed a detailed process and schedule for Contract C-26009.*

A summary of procurement “milestones” for 2010 are summarized as follows:

Table 2-2: Construction Procurement Milestones

Activity #	Description	Date*	Comment
Contract C-26006: 63rd Street Station Upgrade			
C3 PR25	Procurement (IFB) Advertise & Bid	06/24/10A	Bid date extension requested by several contractors.
C3 PR30	Open Bids	09/14/10	
C3 PR40	Award Contract C3	11/10	
Contract C-26007: 72nd Street Station Cavern & Heavy Civil			
C4B PR20	Procurement (Open bids)	06/10/10A	Delay in award due to bid error by original low bidder
C4B PR30	Award Contract 4B	08/27/10	
Contract C-26008: 86th Street Station Cavern & Heavy Civil			
C5B 20m	Procurement – Advertise C5B Bid Package	09/15/10	No change in procurement dates this period.
C5B 25d	Procurement (IFB) Open Bids	01/07/11	
Contract C-26009: Systems			
SYPR 25f	Procurement – Final Design Sign Off & Issue RFP	10/05/10	Proposal submission delayed approximately one month. Contract award delayed approximately 1 week.
SYPR 30a	Prepare Proposals	12/28/10	
SYPR 40	Award Contract	05/03/11	

** Note: All dates reference IPS Update #48 (DD=07/01/10)*

Observations and Analysis:

The decision to extend the bid date for 63rd Street Station was not incorporated into update #48 of the IPS. This delay will consume approximately 30 CD of schedule float. Substantial schedule float remains for this package (approx 365 WD) and this minor delay is not considered significant to the overall project schedule.

The net delay in awarding C-26007 resulting from the alleged bid error is estimated at one month. This 20 WD delay has the effect of consuming approximately 20% of the available float (approx. 100 WD). Subsequent efforts to recover lost float or create additional float for this package may be in the best interests of the project.

No changes to procurement dates for C-26008 were reported. Remaining final design activities appear to support the current procurement schedule.

The procurement schedule for C-26009 was substantially enhanced this period as the process was finalized with MTACC Procurement. While the actual submission of contractor proposals was delayed by one month, the overall contract award was only delayed by approximately one week.

Concerns and Recommendations:

Construction procurement progress during this period was satisfactory. Over the past several periods, procurement dates for C-26009 have slipped slightly. This slippage does not affect the overall project schedule; revised dates should be readily achievable.

2.1.3 Construction

Status:

There are three active construction contracts on the SAS project. Construction progress on these contracts as of July 2010 is as indicated below:

- **Contract C-26002(C1) – TBM tunnels from 92nd Street to 63rd Street**
 - *Probing and mining for the west tunnel continued. Approximately 635 LF idf mining completed as of July 29, 2010.*
 - *Remaining TBM/Trailing Gear & Conveyor system troubleshooting completed. Permanent mucking system operational as of June 30, 2010.*
 - *Continued cellar tie work on west side between 94th and 95th Streets.*
 - *Continue façade tie installation on west side buildings between 94th and 95th Streets.*
 - *72nd Street Shaft wall lining and decking completed.*
 - *69th Street Shaft blasting and excavation complete and concrete wall construction is underway.*
 - *78th Street pump station on hold due to existing steam main interference with excavation of pressure relief manhole.*
- **Contract C-26005 (C2A) -96th Street Station heavy civil, structural and utility relocation**
 - *Completed installation of 18-inch sewer and equilibration piping; east side of 2nd Ave. between 95th and 96th Streets.*
 - *Commenced work on 30-inch gas main.*
 - *Completed east side ECS/Verizon connection to Metropolitan Hospital.*
 - *Completed 12-inch LP gas line crossing east side of 2nd Ave., south of 99th Street.*
 - *Completed Phase I building stabilization work and compaction and compensation grouting test programs at 1873 2nd Ave.*
 - *Completed exploratory boring and soil sampling at Ancillary I.*
 - *Completed MPT switch from east to west side of 2nd Ave. north of 97th Street.*
- **Contract C-26013 (C5A) 86th Street Station excavation, utility relocation and road decking**
 - *Commenced demolition and construction of electric box (DB-6) 54709.*
 - *Completed demolition and construction of Electric MH 54753.*
 - *Completed construction of new Electric Manholes M60317 and M14784.*
 - *Commenced building electric ducts from M60317 to 1602 2nd Ave.*
 - *Electrical ductbank construction:*
 - *MH M51 to M52*
 - *MH M54713 to M14769 and 14778*

- *M51 to MH14769; M54744 to service box 15454; service box 15454 to 240 east of 87th Street*
- *M54744 to M63054*
- *Electric MH14778 to transformer vault*
- *Continued work on PCV13-6 transformer vault NE side of 83rd Street.*

Observations:

For Contract C1:

- *MTACC and S3 agreed to additional scope and cost associated with ground freeze support (AWO # 103) for the east tunnel. Preparatory work started late this period. The risk of this issue adversely affecting the project schedule is significantly reduced.*
- *Negotiation of AWO #92 continued in order to resolve cost and schedule differences regarding the additional 2,209 LF of TBM mining for the west tunnel.*
- *The “startup” section of the tunnel has been completed. However, the mining production rate was lower than anticipated. Significantly higher production is necessary to avoid additional schedule delays that may affect the entire project.*
- *Early release of the area between 94th and 95th Streets is critical to allow C2A to mitigate its schedule delays.*

For Contract C2A:

- *Access to the 94th/95th Street area in order to implement schedule resequencing (see above).*
- *Approval and coordination of gas main work south of 95th Street and at the C1 Launch Box.*
- *Stabilization of buildings at 1867, 1869, 1871 and 1873 Second Ave. in preparation for utility installation.*

For Contract C5A:

- *Coordination with DEP involving construction of MH 86-4.*
- *Coordination with Con Ed to improve schedule performance when cable pulling or splicing operations (performed by Con Ed) are required.*
- *DOT approval for additional or revised MPT staging.*

Concerns and Recommendations:

No specific concerns or recommendations at this time. MTACC continues to make progress in resolving problem issues.

a) Force Account (FA) Contracts

2.1.4 Operational Readiness

2.2 Third-Party Agreement

2.3 Contract Packages and Delivery Methods

Status:

Contract packages and the proposed methods of procuring and delivering construction services have not changed this period.

2.4 Vehicles

Status:

The next NYCT rail car procurement, replacing the R-44 fleet is reported by NYCT preliminarily to be 60 foot vehicles.

NYCT has stated in their Rail Fleet Management Plan and at project progress meetings that the purchase of vehicles for the SAS program may be cancelled based on NYCT projections for their fleet requirements to support the service including the SAS Phase 1 project. FTA and the PMOC have requested analysis to back up the NYCT calculations which according to the RFMP are based on a change to the NYCT fleet spare factor. The RFMP bases the change to spare factor on changes to fleet maintenance requirements.

Observations:

The following issues were discussed with NYCT at a meeting on May 25, 2010:

- *Scheduled Maintenance Interval (SMI) Extension Tests. This initiative was confirmed to be primarily a cost-savings and efficiency improvement effort. NYCT will submit a written summary report on the matter, which will finalize their response.*
- *Fleet Spare Ratio. The PMOC explained that vehicles for SAS Phase 1 Service must be provided with no net effect on fleet operation and maintenance. NYCT stated that a decision to supply cars for SAS Phase 1 from the existing fleet had already been made. The upcoming R179 purchase was also identified as another near-term source of new vehicles.*

NYCT's plan for providing SAS Phase 1 cars will be fully described in the forthcoming draft of the Rail Fleet Management Plan to be issued in July 2010. NYCT further clarified that there is no plan to extend the life of the R46 fleet. NYCT provided an analysis of the extension to Scheduled Maintenance Inspections (SMI) periodicity during July 2010, which has been reviewed by the PMOC and requires additional information in order to be accepted. Further discussions are planned for August 2010.

Concerns and Recommendations:

PMOC does not consider the SMI periodicity to be the only factor to affect NYCT ability to support an increase to the service requirement for the Second Avenue Subway; however, the RFMP provides this change to maintenance practices as justification for no new associated procurement of vehicles for the SAS project. Following an acceptable justification for the extension of SMI intervals is provided, a broader discussion to include fleet requirements to include SAS Phase 1 service can be held.

2.5 Property Acquisition and Real Estate

Status:

Real estate acquisition and tenant relocation is being performed in accordance with the approved SAS Real Estate Acquisition Management Plan and Relocation Plan. These plans address Title 49 CFR Part 24, which implements the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and FTA real estate requirements 5010.1C.

Real Estate acquisitions and relocation activities, commercial and residential, continue for the subway entrances and ancillary facilities at, 96th Street, 86th Street, 72nd Street and 63rd Street. A summary of acquisition activity to date includes:

# of Parcels Identified	# Parcels Closed	# Parcels Under Contract	# Parcels In Negotiation	# Parcels In Appraisal	# Parcels In Condemnation	# Parcels Right of Occupancy
95	76	0	0	4	94	88

Observations:

Seven of the temporarily displaced tenants at 1823 Second Avenue have moved back into their apartments. Eleven tenants at 1825, 1827 and 1829 Second Avenue have been temporarily displaced to allow for work on the façade of the building to be done. MTA is paying for each temporarily displaced tenant's lodging and meals.

Tenants at 1873 Second Avenue will be temporarily displaced during the month of August.

Five of the twenty three commercial relocation claims have been finalized.

Block 1444 Lot 1 – Patsy's Pizzeria, 1312 Second Avenue, File well documented. Contact log up to date with entries through July 22, 2010. File contains General Information Notice, Notice of Eligibility, Trade Fixture Appraisal, and Move Estimates. Business is relocating to a new site.

Block 1417 Lot 23 – Margaret Cormier, 255 East 72nd Street, #35, case closed, Contact log complete, documentation of comparables and inspection of replacement housing. Ms. Cormier received a Housing Replacement Payment of \$124,865 and used it to purchase a condo in Meriden CT.

Concerns and Recommendations:

PMOC does not have any concerns at this time. Further file review will take place to ensure continued compliance and file maintenance.

2.6 Community Relations

3.0 PROJECT MANAGEMENT PLAN AND SUB-PLANS

3.1 Project Management Plan

Status:

On July 28, 2010, a kickoff meeting for formal updating the Project Management Plan was held. This update will demonstrate the manner by which the SAS Project Team will meet the requirements of the ELPEP. Consistent with this overall goal, specific procedures and processes referenced by the PMP will be updated as necessary.

Draft write-ups for all sections are due the week of August 23, 2010.

Observations:

The organization and a brief description of each section contained within the revised PMP are included in Table 3-1. Also included are the individual(s) responsible for each section.

Table 3-1 Revised PMP Sections

Section Number and Name	Description of Contents	Sponsor
<i>Section 1.0 – Project Background, Description, Authority, and Objectives</i>	<i>Describes the objectives and various elements of the Project.</i>	<i>Senior Director, SAS, MTACC</i>
<i>Section 2.0 – Organization and Staffing</i>	<i>Details the relationships between the MTA, MTACC, FTA and other partnering agencies. Describes the roles and responsibilities of the SAS Project staff.</i>	<i>Deputy Program Executive, SAS, MTACC</i>
<i>Section 3.0 – Conformance to the Executive Level Project Execution Plan</i>	<i>Establishes the means of implementing the principles and tools embodied in Executive Level Project Execution Plan</i>	<i>Program Executives/VP Planning</i>
<i>Section 4.0 – Safety, Security, and Health Programs</i>	<i>Summarizes the Health and Safety Program (HASP). Outlines the Contractor's Security Plan during construction.</i>	<i>Safety and Security Director, MTACC</i>
<i>Section 5.0 – Management Control System</i>	<i>Provides a summary of the Cost and Schedule Control, Document Controls and Management Reporting Systems.</i>	<i>Deputy Program Executive/Sr. Director, SAS, MTACC</i>
<i>Section 6.0 – Risk Management</i>	<i>Describes the overall risk management plan, assesses major risk areas and the mitigations provided. Outlines the process for liability distribution, insurance and bonds requirements.</i>	<i>Risk Manager, SAS, MTACC</i>
<i>Section 7.0 – Procurement</i>	<i>Defines procurement policy and procedures. Documents procurement methods and the process for contract modifications.</i>	<i>Senior Director, Procurement, NYCT</i>
<i>Section 8.0 – Design Process</i>	<i>Summarizes the design process for Preliminary Engineering and Final Design.</i>	<i>Lead Design Manager, SAS, MTACC</i>
<i>Section 9.0 – Construction Process</i>	<i>Details the approach used to manage the coordination of various Contractors, pre-award activities, material testing and the administration of construction contractors.</i>	<i>Program Manager, Construction, SAS, MTACC</i>
<i>Section 10.0 – Quality Assurance and Quality Control</i>	<i>Describes the objectives and implementation of the Quality Assurance and Quality Control Program.</i>	<i>Quality Manager, SAS, MTACC</i>

Section Number and Name	Description of Contents	Sponsor
<i>Section 11.0 – Right-Of-Way and Real Estate Acquisition</i>	<i>Outlines the Real Estate program, the responsible parties and the various governing regulations. Describes specific processes involved.</i>	<i>Project Manager, MTA Real Estate</i>
<i>Section 12.0 – Community Relations</i>	<i>Describes the general approach and objectives of the Community Outreach Program. Details the reporting systems and responsible parties.</i>	<i>Assistant Director, Government & Community Relations, NYCT</i>
<i>Section 13.0 Interagency Coordination</i>	<i>Provides a summary of the New York City Transit Interagency Agreements within the agency as well as agreements with other City Agencies.</i>	<i>Project Director, CCM Team, PB Americas</i>
<i>Section 14.0 – Permits and Approval</i>	<i>Details the procedures for identification of permits and the approvals needed. Identifies the responsible agencies, the process used for the renewal of permits, and the responsibilities of filing permits.</i>	<i>Program Manager, SAS, MTACC</i>
<i>Section 15.0 – Test Program Management</i>	<i>Outlines the test program plan for Installation and Acceptance testing, Integrated testing, Contractual testing and Pre-Revenue Operation.</i>	<i>Director, Capital Programs, Department of Subways, NYCT</i>
<i>Section 16.0 – Maintenance of Plan</i>	<i>Describes the “Candidate Revision” process for updating this plan.</i>	<i>Quality Manager, SAS, MTACC</i>

Concerns and Recommendations:

None

3.2 PMP Sub Plan

3.3 Project Procedures

Status:

As the PMP is updated, relevant MTA, MTACC or project specific procedures will be evaluated and included as appropriate. At that time, training and formal implementation will be scheduled.

Observation:

MTACC is behind schedule in developing and implementing their revised procedures. *These procedures will, in many cases, replace the procedures that are currently referenced in the PMP. In that the procedures will be replacing previous procedures of the same type, the review and update of the PMP through the ELPEP process is not contingent upon the completion of these procedures.*

Conclusions and Recommendations:

The PMOC will review procedure updating and implementation concurrently with its review of the PMP update. As previously noted, the first draft of the updated PMP is due the last week of August, 2010.

4.0 PROJECT SCHEDULE STATUS

4.1 Schedule Status

Status:

IPS Update #48 was received on May 24, 2010 and is based on a Data Date of July 1, 2010. Update #48 contained a narrative report, a schedule variance report, a schedule revision log and "PDF" versions of several schedule reports. Project schedule status was essentially unchanged for this period. MTACC continues to forecast a 07/15/16 RSD, with 165 calendar days of contingency until their committed RSD of 12/30/16.

Table 4-1 Summary of Critical Dates

	FFGA	Forecast Completion	
		Grantee	PMOC
Begin Construction	January 1, 2007	03/20/2007A	03/20/2007A
Construction Complete	December 31, 2013	May 23, 2016	October 2017
Revenue Service	June 30, 2014	December 30, 2016	February 2018

The PMOC RSD was derived from conducting a risk analysis on SAS generated schedules and applying selected risk factors in a Monte Carlo analysis. The date represents the project parameters specified at the time of analysis and any subsequent modifications to the schedules and risks have not been analyzed.

Observation and Analysis:

For Contract C1:

- The Substantial Completion date in IPS #48 is 15-Nov-11 versus the contractor's forecast of 31-Jan-12. Changes to extend the TBM mining to 65th Street and removal of the concrete liner from the east bore between 72nd Street and 86th Street are not reflected in the contractor's schedule. These logic changes have been incorporated in the IPS to represent changes that have not been formally incorporated in the contractor's schedule.*
- As of July 31, 2010, 635 feet has been mined. This is an additional 331 linear feet of TBM for the month of July. Progress has been substantially slower than planned. Delays to date have been absorbed by available float. Improved production is expected as the TBM moves into an area of better rock quality.*
- An agreement has been reached and the contractor will receive a 122 work day time extension of which 60 work days are compensable. That leaves the contractor with 85 work days of un-excusable delay. MTACC has requested a recovery plan detailing the contractor's plan to recover this time. Total time extensions granted to the contractor to date total 249 days.*

For Contract C2A:

- The handoff from C2A to C2B currently reflects schedule improvement resulting from resequencing later-stage utility work to an earlier time period. It is anticipated that with*

the planned mitigation, the schedule will recover from the August 2013 date to April 2013. Formal review and approval of the mitigation plan is in progress; the CCM has prepared a TAC paper which is to be circulated for approval over the next 30 days.

- *The utility relocation and reconstruction is being re-sequenced in order to regain time. Stage 6 utility relocation will be completed in Stage 2, thus eliminating Stage 6 relocation work. This will allow slurry walls work to start sooner. Implementing this schedule mitigation plan requires the cooperation of the C1 contractor, who must make available the area between 94th and 95th Streets earlier than planned to support the proposed resequencing.*
- *Based on an analysis of schedule delays, it is estimated that 166 additional work days of delay will be considered the responsibility of the contractor and 80 additional work days will be to the account of MTACC.*

For Contract C5A:

The IPS assumes an earlier turnover for Milestone #2 (March 2011 vs. May 2011) and Substantial Completion (August 2011 vs. September) as a result of an agreement with Con Ed to

- *Work several areas earlier than what is reflected in the contractors schedule.*
- *Adjustments in the size of the North Shaft not yet included in the contractor's schedule.*
- *Contract Milestone #1 with a contract completion date of 5/7/2010 was required to support the rerouting and electrical distribution to the Chase Bank. The entire north area was recently redesigned as a result of changes to the North Pit, including the electrical distribution to Chase Bank where the electrical relocation to support construction in this area is no longer needed. As such, the Milestone will be formally deleted in the near future.*

Concerns and Recommendations:

The SAS project team is aggressively implementing schedule recovery initiatives in an effort to curtail schedule growth and recover time lost to previous delays. The PMOC is confident these initiatives will positively impact the project schedule; however, considers it unreasonably optimistic to anticipate a recovery of the magnitude necessary to regain the FFGA RSD.

The schedule recovery measures outlined above are necessary to recover time lost to delays during construction of the respective packages. These initiatives do not currently address the recovery of any time lost due to delays in the design and procurement processes which precede construction. Procurement delays experienced during 2008/2009 have had the effect of compressing a larger percentage of the work to a later period in the project. This situation increases the risk of construction-related coordination problems and delays.

It is extremely difficult and expensive to make up time that has been lost in design and procurement during construction. The PMOC continues to advocate an aggressive approach to construction procurement as well as development of schedule mitigation and improvement scenarios during construction to offset the impact of unanticipated delays.

4.2 90-Day Look-Ahead

Status:

Based on the Integrated Project Schedule (IPS) *Update #48*, which was received this period, major activities that can be anticipated over the upcoming 90 days include the following:

Table 4-2 90-Day Look – Ahead Schedule

Activity ID	Start	Finish
C1- TBM Construction – Tunnel 96th Box (91st to 95th)		
TBM 1 st Run – Mine West Tunnel from 96 th Street Launch Box to 65 th Street	05/27/10A	12/13/10
Complete Design for Freeze Plant/Issue to S3	03/31/10A	07/12/10A
<i>Procure and Install Freeze Plant</i>	07/01/10A	10/18/10
C3 – 63rd Street Station Upgrade (IFB)		
Bids Due		08/17/10
<i>Award Contract</i>		10/04/10
C4B – 72nd St. Station Existing Demo/Mining & Lining (IFB)		
<i>Bid Opening</i>		06/10/10A
<i>Notice of Award (Estimated)</i>		08/27/10
C5B – 86th St. Station Mining & Lining (IFB)		
<i>Advertise</i>	09/15/10	
C6 – Systems (RFP)		
<i>RFP Available</i>	10/05/10	
CM1188 – Design Services MOD #57		
PE/FD for Ancillary #2 @ 86 th St Station; Contract 5A	05/10/10A	08/05/10
PE/FD for Ancillary #2 @ 86 th St Station; Contract 5B	05/17/10A	08/08/10
PE/FD for Ancillary #2 @ 86 th St Station; Contract 5C	05/24/10A	09/24/10
Systems	06/21/10	09/27/10

Observations and Analysis:

Completion of design work for Packages 5A, 5B, 5C and 6 is generally proceeding according to schedule. The anticipated award of Package 4B in late August 2010, and the advertisement of Package 5B in September 2010 are the most significant activities scheduled for the next several months.

Concerns and Recommendations:

None

4.3 Critical Path Activities

Status:

The following table summarizes the critical path as calculated in this schedule:

Table 4-3 Critical Path Activities

<i>Activity ID</i>		<i>Original Duration</i>	<i>Start</i>	<i>Finish</i>
C5	86th Street Station			
C5A	South End Utility Relocation		01-JUL-10	16-FEB-11
C5A	South End Soldier Piles/Lagging/Exc./Decking		17-FEB-11	01-JUN-11
C5A	South End Drill/Blast Rock, Final MPT & Cleanup		02-JUN-11	17-AUG-11
C5B	South Cavern Exc. Support & Mining		18-AUG-11	22-MAR-13
C5B	South Cavern Concrete & Civil Const		25-MAR-13	16-OCT-13
C5C	Concrete & MEP – South Main & Upper Mezzanines		16-OCT-13	29-DEC-14
C6	Systems			
C6	Communication System Inst		30-DEC-14	27-JUL-15
C6	Local MEP Testing @ 86 th St. Stn.		05-MAY-15	06-MAY-16
NYT	Pre-Revenue Operation Testing; Stations and Systems		21-MAR-16	15-JUL-16
	Contingency		16-JUL-16	31-DEC-16

Observations:

The critical path this period remains as previously reported and begins with utility work associated with Contract C5A. Upon completion of the utility work, drill and blast work for the South Access shaft is completed at the SW quadrant, followed by the SE quadrant, then the South Center of the access shaft where upon achieving Substantial Completion of Contract C5A, the South Shaft is handed over to C5B to begin drill and blast mining operations at the south end of the cavern into cavern concrete work. The critical path then continues from C5B to C5C Mezzanine concrete work, then into 1st and 2nd Fix MEP works in the Public Area. From C5C it travels to C6 Systems MEP installation, testing, and commissioning work in the 86th Street Station. Upon completion, it is handed over to NYCT for Pre-Revenue Operations Testing.

The IPS identifies the handoff date from the Systems Package to NYCT for testing as 23-MAY-16, however NYCT Systems Testing is scheduled to start on 21-MAR-16 and is critical to project completion. This 2-month discrepancy should be explained or resolved in the next update.

The difference between the calculated RSD of July 18, 2016 and December 30, 2016 is the best measure of schedule contingency currently available. Schedule contingency forecast by IPS update #48 is 165 calendar days.

Concerns and Recommendations:

The SAS Critical Path spans a period of approximately 78 months. Of that duration, approximately 65 months are modeled in the IPS using the preliminary schedules developed by MTACC during the design phase(s). Consequently, the accuracy and reliability of the IPS is particularly sensitive to the content and completeness of these schedules. The PMOC recommends a thorough review and evaluation of these schedules as a means of enhancing the reliability of the IPS.

4.4 Compliance with Schedule Management Plan

Status:

During this period, the PMOC initiated a structured review of the MTACC's compliance with its Schedule Management Plan, developed as part of the overall ELPEP process. This initial review is informal, recognizing that the products demonstrating compliance as well as the review process are both in the final stages of development. It is anticipated that this compliance review process will be finalized during August 2010 and be formally implemented in PMOC reporting for that period.

Observations and Analysis:

Schedule Management Plan compliance is based upon achieving four (4) "Beneficial Outcomes" identified in the ELPEP and related documents.

- 1. Establish the IPS' usefulness as a management tool for the planning and organizing the work, and as a decision support tool for evaluation of alternatives and risk-based scenarios.*
- 2. MTACC is actively managing and controlling individual packages and the overall project with input from and consideration of the project schedule.*
- 3. Provide reliable forecasts of the SAS revenue service date (RSD) and other major accomplishments.*
- 4. Facilitate communication of project time-related information, priorities, and issue changes, as may be required.*

Specific Processes, Products and Metrics cited in the ELPEP and companion documents, supporting each "Beneficial Outcome" have been identified. The evaluation of how MTACC satisfies or achieves the Processes, Products and Metrics will determine if the Beneficial Outcomes are achieved and ultimately, if conformance to the Schedule Management Plan has been realized.

A summary of the review conducted this period:

- MTACC "Conforms" to 11 of 24 performance measures*
- MTACC "Does Not Conform" to 3 of 24 performance measures*
- Information was incomplete on 10 of 24 performance measures. Items 2.3(a), 4.1, and 4.3(c) may not be applicable every month or may be limited to quarterly review. Several items require follow-up via separate meeting.*

In general, the PMOC notes that MTACC has made substantial progress in implementing its Schedule Management Plan and anticipates further progress next period.

Concerns and Recommendations:

Compliance with the Schedule Management Plan is a key element of the ELPEP. The PMOC's evaluation process will provide an objective, documented analysis of MTACC's conformance. It is anticipated that this evaluation process may be modified to adapt to evolving needs of the project. Formal evaluations will be conducted quarterly with a follow-up of open items or questionable issues monthly.

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 Current Working Budget to Standard Cost Categories

<i>Standard Cost Category (SCC)</i>	<i>Description</i>	<i>FFGA</i>	<i>MTA's Current Working Budget</i>
10	<i>Guideway & Track Elements</i>	<i>\$612,404,000</i>	<i>\$728,617,000</i>
20	<i>Stations, Stops, Terminals, Intermodal</i>	<i>\$1,092,836,000</i>	<i>\$1,276,632,000</i>
30	<i>Support Facilities</i>	<i>0</i>	<i>\$562,000</i>
40	<i>Site Work & Special Conditions</i>	<i>\$276,229,000</i>	<i>\$537,621,000</i>
50	<i>Systems</i>	<i>\$322,708,000</i>	<i>\$247,627,000</i>
60	<i>ROW, Land, Existing Improvements</i>	<i>\$240,960,000</i>	<i>\$292,000,000*</i>
70	<i>Vehicles</i>	<i>\$152,999,000</i>	<i>0**</i>
80	<i>Professional Services</i>	<i>\$796,311,000</i>	<i>\$885,941,000</i>
90	<i>Unallocated Contingency</i>	<i>\$555,554,000</i>	<i>\$482,000,000</i>
<i>Subtotal</i>		<i>\$4,050,000,000</i>	<i>\$4,451,000,000</i>
<i>Financing Cost</i>		<i>\$816,614,000</i>	<i>\$816,614,000</i>
<i>Total Project</i>		<i>\$4,866,614,000</i>	<i>\$5,267,614,000</i>

* Includes \$47M Cost-to-Cure

** FTA has not approved the removal of the vehicles from the scope of work.

The MTACC's current Estimate At Completion for the Second Avenue Subway is summarized as follows:

Table 5-2 Current Estimate at Completion

<i>Component</i>	<i>FFGA Budget</i>	<i>Current MTA EAC</i>
<i>Design Services</i>	<i>\$410,000,000</i>	<i>\$445,000,000</i>
<i>Construction</i>	<i>\$2,601,211,756</i>	<i>\$2,935,000,000</i>
<i>Soft Costs & Misc.</i>	<i>\$1,038,788,244</i>	<i>\$1,071,000,000</i>
<i>Subtotal</i>	<i>\$4,046,810,188</i>	<i>\$4,451,000,000</i>
<i>Finance Cost</i>		<i>\$816,614,000</i>
<i>TOTAL</i>		<i>\$5,267,614,000</i>

Source: Current Budget Summary, prepared by MTACC, as of June 30, 2010

The Estimate At Completion has not changed this period and no cost events have been identified that pose a significant risk to this value. The PMOC notes that this EAC omits any cost for new

Rolling Stock and that this budget modification has not been approved by the FTA. MTACC EAC values have otherwise been used in this discussion for clarity.

Observation and Analysis:

Construction cost is clearly the most significant and volatile components of the project budget. The risk of increase construction cost can be segregated into two major components: construction bid prices exceeding budget cost estimates and cost increases (AWOs) during construction due to conditions not considered in the original contract. For packages bid to date, a summary of estimated vs. bid price cost indicates substantial cost growth.

Table 5-3 Bid Price Comparison

Package	Estimated \$	Reference	Bid Price
C1; TBM Tunneling	\$319,000,000	Estimate Rev. 5, 08/30/06	\$337,025,000
C2A; 96 th St. Station Utility & Heavy Civil	\$261,000,000	Estimate Rev. 6, 07/11/08	\$325,000,000
C5A; 86 th St. Station Utilities	\$25,000,000	Estimate Rev. 6, 07/11/08	\$34,070,000
C4B; 72 nd St. Station Heavy Civil & Mining	\$449,204,000	Estimate Rev. 7, 10/08/09	\$447,180,260
	\$1,054,204,000		\$1,143,275,260
C4B Bid Price assumes MTA approval of second low bidder.			

The bid variance of \$89,000,000 (approximately 8%) is significant. The complex nature of the work and unusual economic climate both locally and nationally have unquestionably contributed to unpredictable bid results. To the extent possible, these factors should be considered in future cost estimates.

For the active construction contracts, AWOs to date are summarized as follows:

Table 5-4 AWO Summary

Contract	% Complete	Award	AWOs **		Exposure ***	
			\$	% of Award	\$	% of Award
C26002 (1)	74.3	\$337,025,000	\$21,386,625	6.35%	\$44,135,087	13.10%
C26005 (2A)*	20.9	\$325,000,000	\$7,540,361	2.32%	\$8,035,819	2.47%
C26013 (5A)	35.4	\$34,070,039	\$1,067,599	3.13%	\$6,428,253	18.87%
TOTAL	47.5	\$696,095,000	\$29,994,585	4.31%	\$58,599,159	4.42%

* Contract Option 1 added to award value for reporting consistency

** Includes only contract modifications negotiated and approved and reported through 07/31/10

*** Includes both approved AWOs and open AWOs.

AWO values are based on MTA reporting through 07/31/10

Conclusions and Recommendations:

1. Executed AWOs and AWO Exposure have increased significantly over the recent periods.
2. The reported AWO Exposure for C2A is questioned. The relative agreement between executed AWOs and AWO exposure suggest the exposure value is under-reported. The AWO exposure for Contract 2A should be reviewed and updated over the next period.
3. With slightly less than half of construction complete for these packages, AWOs have almost reached the estimated 5% of contract award used in the budgeting process. For two of three contracts, this percentage has been far exceeded. MTACC should review the reasons for cost growth on these contracts and evaluate the use of a larger AWO percentage for pre-construction cost estimating.

5.2 Cost Variance Analysis

5.3 Project Funding Status

Federal

Total Federal participation is currently \$1,350,692,821. Appropriated, obligated and disbursements are shown below:

Table 5-5 Appropriated and Obligated Funds

Grant Number	Amount (\$)	Obligated (\$)	Disbursement (\$) thru <i>July 31, 2010</i>
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	<i>\$164,965,505</i>
<i>NY-03-0408-06</i>	<i>0</i>	<i>0</i>	<i>0</i>
NY-17-X001-00	\$2,459,821	\$2,459,821	\$2,459,821
NY-36-001-00*	\$78,870,000	\$78,870,000	<i>\$71,713,674</i>
NY-95-X009-00	\$25,633,000	\$25,633,000	0
NY-95-X015-00	\$45,800,000	\$45,800,000	0
Total	\$353,991,170.00	\$353,991,170.00	<i>\$272,557,049.00</i>

* Denotes American Recovery and Reinvestment Act (ARRA) funds

Local

No change from last month.

6.0 PROJECT RISK

6.1 Initial Risk Assessment

No change this period.

6.2 Risk Updates

Status:

This period, MTACC initiated a formal risk assessment of Contract Package 3, which is currently advertised for construction bids. The day-long workshop session was held on July 29, 2010 and was attended by MTACC/DHA senior managers, risk assessment specialists and technical discipline lead personnel. As of the writing of this report, the results of this workshop are not available.

Observation:

The workshop included the following major elements:

- Project scope introduction and overview;
- Presentation of existing risks/risk register;
- Additional risk and updated risk brainstorming;
- Quantification (probability of occurrence, cost and schedule impact);
- Current estimate ranging for uncertainty;
- Current schedule ranging for uncertainty.

The analysis will be completed during August 2010, with a draft report available no later than August 31, 2010.

The financial risk to the project that is calculated by this risk assessment will be used to evaluate the appropriateness of the current 5% AWO contingency.

Conclusion and Recommendations:

None

6.3 Risk Management Status

Status:

The Risk Management Meeting for July was postponed to August 5, 2010 due to schedule conflicts.

Observation:

None

Conclusion and Recommendation:

None

6.4 Risk Mitigation Actions

Status:

Actions and activities relevant to risk mitigation during this period are discussed in the following section.

Observations:

- *Risk 15B: Relationship with Utilities/Third Parties: MTACC was unable to achieve its stated goal of 100% executed utility agreements prior to advertising Contract Package 3. The current goal is to have all utility agreements for this package executed by the bid date (currently September 14, 2010).*
- *Risk 35: Settlement of Existing Bldgs. DHA has surveyed a total of 88 buildings adjacent to the 72nd Street Station. Initial findings have been shared with NYCDOB, which has initiated action on violations.*
- *Risk 35: Settlement of Existing Bldgs. MTACC has selected the firm of Domenech Hicks and Krockmalnic, Architect to survey the potentially “fragile buildings” in the vicinity of the 63rd and 86th Street Stations. Their work commenced this period.*

Recommendations and Conclusions:

MTACC is actively pursuing risk mitigation strategies for risks previously identified.

6.5 Cost and Schedule Contingency

6.5.1 Cost Contingency

Status:

The ELPEP requires the MTACC to develop a Cost Contingency Management Plan (CCMP) which will define how the MTACC will forecast required contingency funds, manage and transfer all project cost contingency funds, and how the minimum level of contingency will be maintained. During this period, the MTACC submitted an updated CCMP, which is currently under review. MTACC has agreed to maintain minimum contingency balances referenced in the ELPEP:

- *\$220 million through 90% Bid and 50% Construction*
- *\$140 million through 100% Bid and 85% Construction*
- *\$45 million through Start Up and Pre-Revenue Operations*

Observations and Analysis:

MTACC has stated that they anticipate covering higher than anticipated construction cost growth through surplus AFI. In effect, MTACC is expecting construction bids to be less than the sum of the Direct Construction Cost + AFI.

Available contingency will be affected through the following recent events:

1. *Based on available information, the PMOC anticipates the Contract 4B will be awarded to the second low-bidder SSK, at a contract price of \$447,180,260.*

2. *MTACC and PMOC are in general agreement that available contingency calculations should include executed and negotiated AWO values*

The impact of these events on available contingency is evaluated as follows:

Table 6-1 Available Cost Contingency

Category	Value	Notes
Construction Subtotal	\$2,935,000,000	<i>MTACC Cost Report – July 31, 2010</i>
AWO Contingency	\$178,000,000	<i>MTACC Cost Report – July 31, 2010</i>
Exec. Reserve	\$160,000,000	<i>MTACC Cost Report – July 31, 2010</i>
Construction Budget	\$3,273,000,000	
Contracts Awarded	-\$1,143,275,260	Added anticipated award for Contract C4B
Est. Cost-Contracts to be Awarded	-\$1,612,271,024	Updated Phase 1 Working Estimate thru Rev 7.2-63(3)
Total Contingency	\$517,453,677	
Executed AWOs	\$29,994,585	<i>As of July 31, 2010</i>
Available Contingency	\$487,459,092	

Withdrawal of the C4B low bid makes it difficult to evaluate the construction market climate and forecast the results of future bids and their potential use of available contingency. In this instance, the use of contingency associated with accepting the second low bid appears justified. Achieving any savings through rebid is completely speculative. Accepting the low bid avoids the delay resulting from rebidding this package. Optimum procurement duration of 4 months would push this package very close to the project schedule critical path.

Concerns and Recommendations:

MTACC appears to be managing and reporting on cost contingency in general conformance with the requirements of the ELPEP. Available contingency currently exceeds the threshold value established by the ELPEP.

Judicious use of project contingency to promote progress and avoid further risk of cost increase is justified.

As noted in Section 5.1 of this report, cost growth resulting from AWOs appears to be exceeding initial assumptions. The risk assessment currently underway for Contract 3 will help in evaluating whether 5% is an adequate budget reserve to account for AWO cost growth. Based on the results of this analysis, the PMOC recommends the MTACC evaluate the adequacy of the 5% AWO budget value.

6.5.1 Schedule Contingency

Status:

The MTACC has agreed to the requirements of the ELPEP to develop a Schedule Contingency Management Plan. Development of the plan is substantially complete. MTACC is in the process of aligning its schedule management and reporting processes to conform to these requirements.

Concurrently, the PMOC has developed formalized evaluation criteria against which MTACC compliance will be evaluated. This evaluation is discussed in detail in Section 4.4 of this report.

Observations:

Tracking the available schedule contingency will be accomplished via the accompanying data set, using either a tabular or graphic presentation.

Table 6-2 Schedule Contingency

IPS Update #	45	46	47	48	49	50
Data Date	04/01/10	04/30/10	06/01/10	07/01/10		
Contingency (CD)						
RSD=12/31/2016	115*	165	165	165		
RSD=02/28/2018	539	589	589	589		

*Estimated by PMOC based on schedule Update #45, provided by MTACC

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

Concerns and Recommendations:

As previously discussed in Section 4 of this report, the only active construction contract currently on the project critical path is Contract C5A, which is the smallest of all SAS construction packages. The majority of the critical path is based on preliminary schedules developed during the design phase of the project. As such, the critical path and consequential forecasts of the Revenue Service Date do not change significantly between updates.

The IPS is being dynamically updated and the situation described above could change. Based on the current prominence of the preliminary schedules in the IPS, the PMOC recommends a comprehensive review of these schedules in an effort to enhance their reliability.

7.0 LIST OF ISSUES AND RECOMMENDATIONS

Priority in Criticality column

1 – Critical

2 – Near Critical

Number with Date Initiated	Section	Issue/Recommendation	Criticality
SAS-07-Jan10	2.1.2 Procurement	<p>The PMOC is concerned about the utilization of the IFB process for Contract 4B because of its estimated value. The scope of the contract might limit the number of responsive and responsible bidders, which would extend the procurement process. This contract is on the near critical path and any slippage could have a major impact on the project.</p> <p><u>Update:</u> <i>Three bids were received. This item will be closed.</i></p>	2
SAS-08-Jan10	2.2 Third Party Agreements	<p>The PMOC is concerned that in several cases agreed upon design and scope of work has been revised when later reviewed by other personnel within the agencies.</p> <p><u>Update:</u> MTACC has stated that no design packages would be considered 100% complete unless formal agreements with utilities had been executed.</p> <p><u>Update:</u> <i>MTACC has been unable to immediately achieve this goal, but is making efforts to obtain agreements in a timely manner.</i></p>	2

Number with Date Initiated	Section	Issue/Recommendation	Criticality
SAS-09-Jan10	3.1 PMP	<p>The PMP and its sub-plans must be updated to reflect the new management processes and strategies of the ELPEP.</p> <p><u>PMOC Recommendation:</u> Update the PMP and its sub-plans within the timeframes established in the ELPEP.</p> <p><u>Update:</u> <i>This effort is underway. MTACC has initiated new management processes in the areas of schedule, cost and risk management in advance of the formal completion of new plans or procedures.</i></p>	2
SAS-10-Jan10	3.2 PMP Sub-Plans	<p>MTACC is required to develop and finalize a Cost and Schedule Management Plan, and a Cost and Schedule Contingency Management Plan for the SAS in conformance with ELPEP requirements within 60 days of January 15, 2010. The PMOC is concerned that the 60 day requirement may not be met.</p> <p><u>Update:</u> <i>This process is ongoing. Schedule Management Plan is essentially complete; Cost Management Plan is in progress.</i></p>	2
SAS-11-Jan10	3.3 Procedures	<p>The PMOC is concerned whether the new procedures will actually be utilized by the different operating agencies within the MTACC, given that NYCT will implement SAS, and the procedures of the SAS PMP reflect the NYCT quality management system.</p> <p><u>PMOC Recommendation:</u> The PMOC recommends that the MTACC develop a process to assure itself that all of these procedures are in use on all of its projects. An example of such a process would be a new procedure distribution system that would require the recipients (the individual Project Managers) to acknowledge receipt of each new procedure as it is released for implementation. This system could be monitored by the parent MTACC to assure implementation across all its organizations and provide it with the opportunity to correct any non-conformances as they develop.</p>	2

Number with Date Initiated	Section	Issue/Recommendation	Criticality
SAS-13- Jan10	4.2 Schedule Performance Analysis	<p>There is a contractual milestone for the turnover of work from Contract 1 to the 86th Street mining Contract 5B. This relationship is likely to be critical or near critical. Currently, delays in achieving this milestone are of no consequence to Contract 1. Significant logic and activity durations changes are being implemented to Contract 1 as a result of ongoing delay in mitigation efforts.</p> <p><u>Update:</u> Contractual milestones are incorporated in contract schedules and are managed in accordance with the terms and conditions of the construction contract. Contract milestones are not constrained in the IPS schedule. The interpretation and validity of this approach is still being reviewed with MTACC.</p> <p><u>Update:</u> <i>Contractual milestones are now represented in the IPS. This item will be closed.</i></p>	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>	2	7/30/10
SAS-A18-Aug08	ELPEP Updates	<p>The change in the Contingency Drawdown Curve, particularly the latent contingency, needs to be clarified.</p> <p>Update: At the quarterly meeting, a new contingency drawdown curve was presented. Management of the contingency is being addressed in</p>	2	6/30/10

Number with Date Initiated	Section	Grantee Actions	Criticality	Projected Resolution
		<p>the newly required Cost Contingency Management Plan.</p> <p><u>Update:</u> <i>The latest submission of the Cost Contingency Management Plan is under review. MTACC has initiated contingency management and reporting which generally conforms to the requirements of the ELPEP.</i></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	<i>Candidate Revision</i>
DHA	DMJM+Harris and ARUP
DOB	New York City Department of Buildings
EAC	Estimate at Completion
ELPEP	Enterprise Level Project Execution Plan
FD	Final Design
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
HLRP	Housing of Last Resort Plan
IFP	Invitation for Proposal
IPS	Integrated Project Schedule
MEP	Mechanical, Electrical, Plumbing
MTACC	Metropolitan Transportation Authority – Capital Construction
N/A	Not Applicable
NTP	Notice to Proceed
NYCDEP	New York City Department of Environmental Protection
NYCT	New York City Transit
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PQM	Project Quality Manual
RAMP	Real Estate Acquisition Management Plan
RFMP	Rail Fleet Management Plan
RFP	Request for Proposal
ROD	Record of Decision
ROD	Revenue Operations Date
RSD	Revenue Service Date
S3	Skanska, Schiavone and Shea
SAS	Second Avenue Subway
SCC	Standard Cost Categories
SSMP	Safety and Security Management Plan

SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability Plan
TIA	Time Impact Analyses