

PMOC MONTHLY REPORT

**East Side Access (MTACC-ESA) Project
Metropolitan Transportation Authority
New York, New York**

Report Period January 1 to January 31, 2012



PMOC Contract No. DTFT60-09-D-00007

Task Order No. 2, Project No. DC-27-5115, Work Order No. 03

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Length of time on project: Five years on project for Urban Engineers

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THIRD PARTY DISCLAIMER

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

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

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60-09-D-00007, Task Order No. 002. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

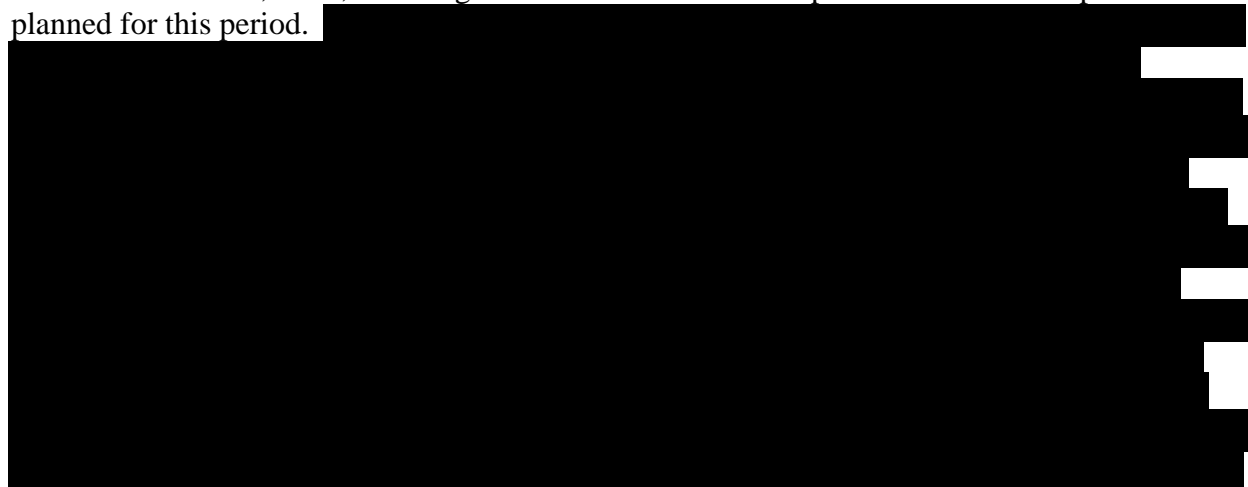
This report covers the project management activities on the East Side Access (ESA) Mega-Project managed by MTA Capital Construction (MTACC) with MTA as the grantee and financed by the FTA FFGA.

MONITORING REPORT

1.0 PROJECT STATUS

a. Design

As of December 31, 2011, the design activities are 95.7% completed vs. 100% completion planned for this period.



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For the CH057 Contract (Harold Structures 3A) all design efforts except the catenary are completed. The catenary design cannot be completed and incorporated into the final design package until Amtrak approval is obtained. It is important to note that the catenary installation is on the critical path for the Harold work, and is on the near critical path for the project schedule.

Preliminary design efforts for the 48th Street entrance to GCT (CM015) continued in January 2012.

The ESA PMT issued a Notice-to-Proceed (NTP) to the GEC to begin development of the bid documents for CM014B (GCT Concourse/Cavern Finishes) in January 2012. The NTP includes pending scope revisions to access at 44th and 50th streets; [REDACTED]; and other miscellaneous revisions.

b. Procurement

As of December 31, 2011 the total procurement activity on the project was reported to be 59.9% complete, with \$4.663B in contracts awarded out of the \$7.791B budget. Only the first two years of the 2010 – 2014 MTA Capital Program have been funded by the NYS Capital Program Review Board (CPRB). The CPRB was to approve additional funding by December 31, 2011, however this has not happened. The MTA will not be able to award the ESA contracts CM014B – GCT Concourse/Cavern Finishes; CS179 – Systems Package 1 (Facilities); and CS084 – Systems Package 2 (Tunnels) if this funding is not in place. In the PMOC’s opinion, if the CPRB does not act in a timely manner to approve additional funding, the project will suffer unrecoverable delays. The extent of the delays will be determined by the level of funding approved for the next phase of the Capital Program, and the length of time it will take for the funding to be authorized.

The procurement process for CS179, CM012 and CM014B contract packages, which are high-dollar value contracts with long durations, is trending significantly behind schedule, due in large part to continuing scope shifts and addenda needed to address them.

[REDACTED]

The CM012 solicitation was cancelled in November 2011 after MTACC was informed by several potential bidders that it would be difficult, if not impossible, to submit a reasonable bid given the requirements in the bid package. [REDACTED]

[REDACTED]

[REDACTED]

Procurement of the 55th Street Vent Plant (CM013A) continues to trend behind schedule. The Contract scope of work has been re-defined due to access constraints and includes a reduction in the excavation effort and the addition of tunnel lining. This scope change is being incorporated into the contract by addenda. The bid date of November 17, 2011 had been extended to the end February 2012 to allow time for the scope adjustments.

c. Construction

The average monthly construction progress rate has increased from 0.16% per month through 2009 to 1.0% in the last 12 months. MTACC reported in its December 2011 Monthly Progress Report that the actual project construction progress reached 43.2% completion, which falls short of the planned 62.4% construction progress planned for this period (on a cost expenditure basis in accordance with MTACC's re-baselined budget of September 2009).

[REDACTED]

Manhattan: CM009/CM019 Contracts – Manhattan Tunnels Excavation/Structures Part

1: As of December 31, 2011, the total amount invoiced on CM009 was \$373,785,000, which represents 83.4% of the Current Contract Value of \$448,421,000. Thirty-four contract modifications for a total of \$20,467,318 have been executed. Actual work performed is 83.3% versus 90.9% planned. As of December 31, 2011, the total amount invoiced on CM019 was \$540,987,000, which represents 71.9% of the Current Contract Value of \$752,347,000. Forty-eight contract modifications for a total of \$18,347,328 have been executed. Actual work performed is 71.8% versus 87.3% planned.

The progress of both Contracts slipped considerably during the last 3 quarters of 2011 and into January 2012. As a result, the MTACC had shown its forecast for Substantial Completion, Milestone 6A, as "Under Review" for the last 5 months of 2011. As of January 31, 2012, however, its schedule re-baseline effort, not yet approved by the MTACC board, now forecasts Substantial Completion for August 31, 2013. Concurrent with the re-baseline effort, the MTACC and its contractors continued to develop "optimal" work plans which would allow follow-on contracts such as CM012 to gain access to work sites common with CM009/CM019.

As of January 31, 2012, the contractor completed: shotcrete application on the archway and invert of Escalator Way #4 and temporary connections between the east and west caverns. The contractor continued: archway concrete application on the Eastbound Cavern (10 of 23 pours complete to date), excavation of the Westbound Cavern bench, excavation in GCT3 West Wye,

excavation of Escalator Way #1, archway shotcrete application in Escalator Way #3, and archway rebar installation in Escalator Way #2. Although this work represents significant recent progress, the PMOC remains concerned that the CM009/CM019 contracts are still behind schedule and will continue to be on the critical path.

The contractor and the MTACC continue to jointly develop optimal work plans that will allow site access to follow-on contracts in an effort to regain some overall project schedule. The MTACC believes that it will be able to regain a limited amount of overall project schedule through specific phased turnovers for follow-on contractors rather than wait for CM009/CM019 to achieve full Substantial Completion. The enactment of such a plan would enable the other contractors to begin work sooner than originally anticipated.

MTACC finalized a settlement with the CM009/019 contractor during the month of January 2012. The settlement essentially entails a shifting of scope out of the CM009/019 contracts. New milestone dates have been established and substantial completion is now forecast for August 2013. The liquidated damages cap on the contracts has been increased from approximately \$15 million to approximately \$50 million. In addition, incentive payments for meeting key milestone dates have been added. MTACC realized a net credit of approximately \$17 million dollars as a result of the agreement.

CM004 – 44th Street Demolition and Fan Plant Structure: ESA's latest forecast for Substantial Completion of excavation in vertical Shaft #1 by CM004 is February 2012, an additional one month over the previous month's forecast of January 2012. As a result, CM004 is now approximately 8 months behind its baseline schedule. The additional delay is due primarily to excessive equipment breakdowns and extensive architectural changes. At the request of ESA, the contractor has submitted a cost proposal to continue the excavation of Shaft #1 to its final invert elevation in the caverns, or approximately 47 additional feet. The added schedule time as a result of this proposed change cannot be determined at this time.

As of December 31, 2011, the total amount invoiced was \$26,968,000, which represents 64.0% of the Current Contract Value. Thirty nine contract modifications have been executed for a total of \$1,152,000. Actual work performed is 60.8% versus 99.51% planned.

CM013 – 50th Street Vent Facility: Construction of the 50th Street ventilation plant continues to be approximately 3 months behind its original baseline schedule, mainly due to problems encountered during excavation of the site. The MTACC and the contractor have agreed to add a new Milestone #5, which will allow interfacing contractors' access to the site and is intended to lessen the schedule impact to the project due to the delayed work. The current proposed milestone date in the December 2011 schedule update is August 27, 2012 (note: this date has to be approved). The MTACC now forecasts Substantial Completion of CM013 in December 2012.

CM014-A - Concourse and Facilities Fit-Out: The contract was awarded in November 2011 with a Notice-to- Proceed date of November 7, 2011. The contract Kick-Off Meeting was held on November 15, 2011. Substantial Completion is scheduled for April 2013.

Queens: CQ031 (Queens Bored Tunnels and Structures): As of December 31, 2011, the EAC remained at \$778.5 million. The forecast Substantial Completion date is at April 2013, a seven month delay to the original date. Based on the latest data available from the grantee, cumulative actual percent complete is 67.3% versus planned 80.6% on a cost expenditure basis, and 78% of

the contract time to Substantial Completion has elapsed. 49 contract modifications (change orders) totaling \$103.3 million have been approved and this represents 13.3% of the current EAC. From January 2010 through July 2011, the ESA-PMT has reported varying levels of float from 0 calendar days (on critical path) to 76 calendar days and most recently reported 76 days of float in the July 2011 IPS update (data date August 1, 2011). The PMOC notes that, due to the ongoing comprehensive schedule re-baselining, the IPS has not been updated since July 2011.

The contractor commenced TBM mining of the Yard Lead Tunnel on May 17, 2011 and has progressed excavation to 3,448 feet as of January 18, 2012. The TBM mining for the Track A Tunnel started on August 9, 2011 and was completed on December 22, 2011.

During January 2012, the contractor completed: installation of the new sewer along 43rd Street; installation of mini-piles at the 39th Street Bridge pier; underpinning of the GM Bridge and construction of the Amtrak Access Road. The contractor continues: excavation at the Yard Lead Emergency Exit; construction of final portions of the Yard Lead Approach Structure; construction of the C.O.8 Substation; disassembly of the Track A Tunnel TBM and transport back to the launch area; and preparation of the Tunnel B/C and Tunnel D TBM launch area. The contractor's supplier continues fabrication of the pre-cast concrete tunnel liner panels and is now over 98% complete.

CQ032 Contract – Plaza Substation and Queens Structures: As of December 31, 2011, the EAC remained the same at \$162.1 million and the forecast Substantial Completion date remained unchanged at August 2014. As of December 31, 2012, based on the latest data available from the Grantee, the cumulative actual percent complete was 2.2% versus 2.3% on a cost expenditure basis and 13% of the contract time to Substantial Completion has elapsed. The PMOC notes that the baseline progress curve shows only 14-15% progress during the first 12 months of the project. The contractor has mobilized at the existing Roosevelt Island and Vernon Boulevard ventilation facilities and commenced asbestos abatement, fencing installation and minor demolition work.

CQ039 Contract – Northern Boulevard Crossing: As of December 31, 2011, the EAC remained at \$101.0 million and the forecast Substantial Completion date slipped one month from November 2012 to December 2012, a 4-month delay to the revised Substantial Completion date of August 2012 and a 14-month delay to the original date of October 2011. As of December 31, 2012, based on the latest data available from the Grantee, the cumulative actual percent complete is 48.9% versus planned 63.4% on a cost expenditure basis, and 80% of the contract time to the current approved Substantial Completion date has elapsed. The contractor has completed construction of the Early Access Chamber down to the invert, installation of all freeze piping, thaw piping and monitoring pipe waterproofing of the Plaza Invert Slab, and commenced ground freezing on November 28, 2011. The contractor continued the ground freeze and construction of vertical support columns. The contractor started installation of the tunnel access ramp for the sequential excavation work.

Harold Interlocking: CH053 Contract – Harold Structures Part 1 and G02 Substation: As of December 31, 2011, the EAC increased \$3.7 million from \$200.2 million to \$203.9 million. The forecast Substantial Completion date slipped six months from August 2013 to February 2014, 25 months later than the current approved plan and 42 months later than the original plan. For this reporting period, based on the latest data available from the Grantee, cumulative actual percent complete is 62.3% versus planned 97.9% on a cost expenditure basis, and 100% of the

revised contract time to Substantial Completion has elapsed. For the October-December 2011 period, the actual percent complete was 2.1% versus planned 13.7%. The contractor completed pile load testing for the west abutment of the Westbound By-Pass bridge over 43rd Street. Construction work continued on the following: the civil portion of the 12kV duct bank and foundations for catenary poles and signal towers at various locations in Harold Interlocking; installation of piles for the Westbound Bypass bridge west abutment foundation; erection of catenary poles and signal towers; fabrication of catenary poles and internal wiring and equipment testing for the G.O.2 Substation. Completion of work on the Tunnel A Approach Structure has been delayed due to late approval of associated re-designs for adjacent existing catenary and signal power structures. There remain a few signal bridge structure designs requiring completion of “approved as noted” revisions.

CH054A Contract – Harold Structures Part 2A: The EAC increased \$200,000 from \$38.1 million to \$38.3 million. The forecast Substantial Completion date remains April 2013, 28 months later than both the original and current approved plan date of December 2010.

As of December 31, 2011, based on the latest data from the Grantee, the cumulative percent complete was only 52.8% versus planned 100% based on a cost expenditure basis. Substantial Completion was to have been achieved in December 2010. Recovery to the original schedule is no longer possible.

Railroad Force Account:



As of December 31, 2011, the total amount invoiced for FHA01 work was \$13,503,000, which represents 80.3% of the Current Agreement Value of \$16,825,000. Actual work performed was 69.3% versus 96.8% planned. Amtrak Force Account personnel completed: signal cable transfer and cutover from Substation 44 to Tower 25 and removal of existing wire and signal towers between tower 17 and tower 23. Continued work included support of contract installation of catenary poles and signal towers for Subsets A and C and the Main Line. Force Account also began the installation of signal power cable and ground wire between new towers 25 and 32.

As of December 31, 2011, the total amount invoiced for FHA02 work was \$11,878,000, which represents 122.4% of the Current Agreement Value of \$9,706,000. Percentage of work performed was not calculated because the work under construction has not been fully authorized. Amtrak Force Account completed: installation of trough and pull boxes between Line 3 and the Eastward LIRR Passenger Track. Force Account continued installation of signal cases for the “F2SM1” snow melter case and cross-track conduit installation between Lines 1 and 3 at the F2 CIH.

As of December 31, 2011, the total amount invoiced for FHL01 work was \$17,190,000, which represents 82.7% of the Current Agreement Value of \$20,782,000. Actual work performed was

72.0% versus 100.0% planned. LIRR Force Account personnel continued the relocation of 3rd rail power cables supporting the 12kV duct bank at Substation 44 during the month.

As of December 31, 2011, the total amount invoiced for FHL02 was \$10,369,000, which represents 141.1% of the Current Agreement Value of \$7,351,000. Percentage of work performed was not calculated because the work under construction has not been fully authorized. LIRR Force Account personnel completed reconstruction of Port Washington #2 Track in Harold Interlocking and continued installation of communications conduits and pull boxes for the new “Point” CIL and signal cable pulls and circuit revisions at new “Point” Interlocking.

d. Quality Assurance and Quality Control (QA/QC)

The PMOC attended the MTACC 4th Quarter Quarterly Quality Oversight (QO) for the CQ039, CH053, CH054A, CQ032, CM004 and CM013 contracts (note: QOs audit the management of a contractor’s quality system, as opposed to the Monthly Quality Management Meetings, which only focus on specific issues). The findings of these QOs are that all of the contractors for the above listed contracts are delinquent with submitting As-Built drawings in a timely fashion.

On three of the above contracts CH053, CH054A, and CQ032 (all with the same contractor), the QOs revealed that there was inadequate document and submittal control. Training, Nonconformance Report, Corrective Action Request, and Construction Work Plan logs were either not current or missing entirely. Monthly Certified Reports were issued late or not at all. Construction Work Plans dispositioned as Revise and Resubmit (R&R) by ESA months ago, have still not been re-submitted.

2.0 SCHEDULE DATA

The ESA-PMT is in the process of finalizing a revised baseline schedule to account for the project delays to date and the scope transfer among contracts. Consequently, the IPS update #32 (data date January 1, 2012) was not updated but was only stashed (i.e., some of the actual start and/or finish dates are updated, other activities are not).

The decision to revise the baseline schedule resulted from an acknowledgement by the MTACC that the current Revenue Service Date (RSD) of September 2016 is not achievable given the current status of the project progress and the Amtrak East River Tunnel project. A series of workshops for each of the major program areas (Manhattan, Queens, Harold Interlocking, and Systems) were held from October 2011 through December 2011. This activity was performed in parallel with the analysis of Amtrak’s East River Tunnel Project, a four-year major capital improvement program (results of which will be incorporated into the final re-baselined schedule). The PMOC notes that the workshops were originally planned to be completed in November 2011; however, reconciliation of the Harold schedule and the Operational Readiness workshop were delayed until December 2011. Project stakeholders participated in the workshops with a goal of developing realistic schedules and examining ways of improving schedule performance going forward. A draft of the revised baseline schedule (with a data date of January 1, 2012) was issued on January 13, 2012. The original goal was to have the new baseline finalized by the end of 2011 for presentation to the MTA Capital Program Oversight Committee (CPOC) in February 2012. MTACC informed the FTA Region II Office and the PMOC at the January 2012 FTA/MTACC Executive Meeting that it would not be ready to present the revised baseline project schedule to the CPOC in February 2012 as originally

planned. The current plan is for the ESA PMT to complete the schedule and cost rebaseline by the end of February 2012. MTACC also announced that a risk assessment on the revised baseline will be conducted during the month of March 2012. The results of the risk assessment will be finalized in April 2012, and will be incorporated into the revised baseline schedule to be presented to the CPOC in May 2012.

Project Critical Path: The PMOC observed in the new baseline schedule that the same two critical paths continue to drive the schedule. The critical path now runs through Harold. A second, near-critical path runs through Manhattan, Queens and Systems (note: this path is less than 25 days off the critical path). A significant driver of this second path is the work of the CM009/019 contracts. The finalized baseline schedule will reflect the settlement agreements between the MTACC and the CM009/019's contractor.

The summary of current project critical dates is shown in Table 2 in Appendix B of this report.

Schedule Contingency: Schedule contingency will be analyzed once the re-baselined schedule is finalized and issued.

3.0 COST DATA

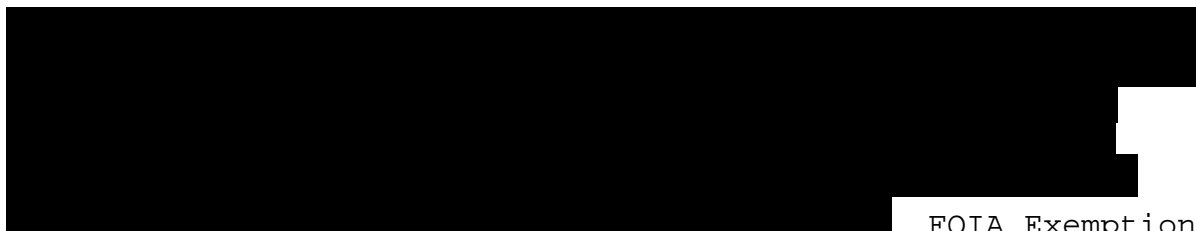
Funding: There is no change in project obligated funding from the previous report.

Budget/Cost: MTACC reported that, as of December 31, 2011, the overall project completion was 48.9%, representing a 0.9% progress increase since the November 2011 reporting period that is based on project expenditures only (not including the rolling stock reserve of \$463 million); however, the overall project completion significantly lags the planned progress of 64.5% for this period.

MTACC also reported that the project expenditures as of December 31, 2011 were \$3,396.0 million. This amount represents 43.6% of the Current Working Budget (CWB) of \$7,791 million, approved in September 2009 by the MTA Board (excluding financing costs). The reported invoiced amount as of December 31, 2011 was \$3,582.8 million.

As of December 31, 2011, the ESA-PMT reported that the project expenditures increased by \$80.1 million, representing a growth rate of 2.35% of total expenditures, as compared with November 2011 reporting period. If this rate continues, the PMOC estimates that the planned expenditure will only reach 76.0% by September 2016 (the currently MTA approved Revenue Service Date).

The ESA PMT has acknowledged that the RSD in 2016 will not be met, and are in the process of re-baselining its project schedule. To date, the ESA PMT has not reported the status of the cost re-baseline effort to accompany the on-going schedule re-baselining, though changes to schedule will need to be accommodated by adjustments to the project cost. The ESA PMT is forecasting completion of the cost portion of the re-baselining by the end of February 2012.



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552(b)(4)

The current Budget and Cost data is shown in Table 1 in Appendix B of this report. Table 3 in Appendix B of this report shows a comparison of the MTA's Current Working Budget (CWB) vs. the FFGA Baseline Budget in Standard Cost Categories (SCC).

Contingency: The contingency for the last 12 months averaged \$44.9 million above the Baseline Contingency of \$424.4 million established in September 2009. Project contingency increased from \$447.5 million in November 2011 to \$452.0 million in December 2011.

The increase in the project cost contingency for the current reporting period resulted from the following:

- Executed Contract Modifications: The total value for executed contract modifications for December 2011 falls within the allocated contingency for each of the active contracts. As stated above, the adjustment for the active executed contract modifications decreased the overall contingency by \$5.5 million.
- Budget Increase: Two (2) Budget Adjustments in the amount of \$8.8 million were executed to the GEC Contract for expected future expenditure. These adjustments decrease the construction contingency by \$0.5 million.
- Repackaging: One (1) Budget Adjustment was executed as a result of the reallocation of the Force Account (FA) for Systems Testing and Commissioning contract package into two new FA packages for a total transfer value of \$14.4 million. Funds for these FA contracts were shifted from existing Contract FSL00 (F/A System Testing and Commissioning) into new FHLTT (Test Trains) and FHLOR (Operational Readiness) contracts. The result of this repackaging increased the construction contingency by \$10.5 million.

The construction contingency increased by \$4.5 million during this reporting period.

Change Orders: In December 31, 2011, MTACC reported that there were 14 additional change orders executed valued at \$5.5 million, for a total of \$379.3 million in project change orders, representing 8.1% of the total of awarded contracts value (\$4,663.0 million).

4.0 RISK MANAGEMENT

Background Summary: An initial Risk Assessment was performed on the ESA project in 2004 in accordance with FTA Project Management Oversight Program Operating Guidance #22 (PG22). Prior to the signing of the FFGA in 2006, a more comprehensive Risk Assessment was performed in accordance with PG40, followed by an update in 2007/2008. In October 2008, the PMOC issued to the FTA the Technical Capacity and Capability analysis in accordance with PG31C. In early 2009, the ESA project team provided an updated project budget and schedule. The PMOC subsequently provided modified PG33 and PG34 reports with a focus on changes from FFGA to 2009 Budget and Schedule reports as well as assisting in the development of the Cost Risk Summary and PG47 support documents. From late 2009 through to the current period, MTACC and ESA-PMT, working with the FTA and PMOC, have concurrently progressed both the development and the implementation of the ELPEP. MTACC-ESA has also revised or rewritten most of the PMP sections/subplans/procedures associated with meeting the risk management requirements of the ELPEP.

2006 Risk Mitigation Commitments at FFGA: A detailed risk mitigation plan was developed in May 2008, based on the MTACC risk mitigation commitments made in 2006, just prior to the

FFGA. The PMOC observes that many of the forecast risks were realized and the project also encountered new risks such as contractor default (CQ028) and the need for extensive slurry wall repairs in the Queens Open-Cut Excavation Area. As a result, MTACC has missed all but one of the basic annual mitigation milestones from Q4-2006 through Q4-2010 for the following performance metrics: Design Completed; Contracts Awarded (based on current contract/package values); and Construction Completed (cost expenditure basis).

Current Risk Mitigation Commitments: The management baselines included in the ELPEP derive from the modified PG33 and PG34 reports, PG47 analysis and the Cost Risk Summary completed in 2009. Based on the ELPEP, MTACC-ESA has committed to the following: managing the project to the revised ESA cost and schedule baselines approved by the MTA Board in September 2009; establishment of risk baselines and a risk mitigation framework with milestones; adherence to minimum cost and schedule contingency requirements; development of cost and schedule risk mitigation capacity including secondary mitigation strategies required to offset reserved contingency drawdowns; and implementation of specific design development, geotechnical, real estate, utility and construction risk mitigation strategies. It is the PMOC's opinion that MTACC-ESA currently does not yet have a fully integrated approach, along with the required coordinated processes, to be fully compliant with the risk mitigation requirements in ELPEP.

Current Risk Mitigation Efforts: ESA-PMT has continued its efforts to identify and mitigate risks that may adversely affect the program's cost and schedule performance. Recent risk mitigation initiatives include the following:

- The ESA-PMT continued to work very closely with Amtrak and LIRR through January 2012 to evaluate impacts to the ESA project created by Amtrak's planned East River Tunnel capital improvements program. Amtrak's program requires a large number of track outages and is likely to require four years to complete. The ESA-PMT is working with the construction managers on the active Queens/Harold work to coordinate reviews with the contractors. ESA-PMT has also engaged a senior level independent team to complete an independent study of Harold Progress that included a review of the ESA Harold construction schedule and the development of independent schedule recommendations for completion of the Harold work. The results of this independent study were reconciled with the new baseline for the Harold work developed by the ESA PMT. The PMOC believes that this is a critical planning effort that needs to consider all potential cost and schedule risks. The PMOC recommends the ESA-PMT ensure that all affected stakeholders are fully involved in the review and decision-making process. Any additional costs would accrue to the \$120 million of Cost Risk identified for Construction Schedule Delays identified in the 2009 PG47 analysis.
- The ESA Systems Team had earlier arranged for an independent evaluator to review the specifications for correct functionality of systems included with Contract CS179 (Systems Package 1) and Contract CS284 (Tunnel Systems Package 2). The review has been completed and was focused on factory acceptance testing for selected critical systems. It is the PMOC's opinion that such an independent review can provide valuable input regarding coordination of systems' functionality.
- The ESA-PMT has started using a 4D model of the B10 Substation construction to better coordinate construction site activities between the CQ039 and CQ032 contractors. By

advancing construction of the B10 Substation, the project will be able to achieve an earlier systems installation to support the permanent power needed for integrated systems testing. It is the PMOC's opinion that while this approach offers an opportunity to mitigate some schedule risk, it does increase project coordination risk that will need to be closely monitored and managed.

- The ESA-PMT completed an initial presentation to the Change Control Committee (CCC) in the 4th quarter of 2011 regarding Manhattan scope transfers to re-configure and optimize site access for future contracts. The effort is based on transfer of considerable work scope from the CM019 contract to multiple future contracts at the Manhattan site. Subsequently, this transfer was finalized in January 2012 in a global settlement with the CM009/19 Contractor. It is the PMOC's opinion that while this approach offers an opportunity to mitigate some schedule risk, it does increase project coordination risk taken on by MTACC that will need to be closely monitored and managed. Any additional costs due to risk realized would accrue to the \$120 million of Cost Risk identified for Construction Schedule Delays identified in the 2009 PG47 analysis.

5.0 ELPEP

The current status of each of the main ELPEP components is summarized as follows:

- **Technical Capacity and Capability (TCC)** – The PMOC has completed its review of the Candidate Revisions for the ESA-PMP and will discuss them with the FTA Region 2 Office before discussing them with MTACC. Also related to TCC compliance are two outstanding issues requiring MTACC action: MTACC completion of the final sub-plan elements discussed above, and the need for MTACC to develop and implement the PMP training process.
- **Schedule Management Plan (SMP)** – On November 3, 2011, the FTA confirmed that MTACC has responded to the Candidate Revisions identified in FTA's conditional approval letter, dated October 26, 2010, and that the SMP is fully approved. The process of transferring the verification process to the respective project teams has been discussed in general terms at several recent ELPEP meetings (see Compliance Demonstration below).
- **Cost Management Plan (CMP)** – FTA conditional approval of the Cost Management Plan, including five (5) Candidate Revisions was provided on September 1, 2011.
- **Risk Mitigation Capacity Plan (RMCP)** – Drafts of the ESA and SAS Risk Management Plans were transmitted to FTA Region II during October 2011. MTA addressed all PMOC comments in its submittal of the RMCP on October 28, 2011. Resolution of any final comments to the RMCP coordinated and combined with a review of the ESA and SAS Project Risk Management Plans are in progress.
- **Compliance Demonstration** – At the November 3, 2011 ELPEP meeting, the previously submitted MTACC "white paper" was discussed. FTA provided input regarding ELPEP performance requirements, MTACC reporting and documentation, and FTA and PMOC validation. Significant discussion occurred regarding the intent and implementation of "Secondary Schedule Mitigation" as described in the ELPEP document. One area of concern is MTACC's ability to adequately develop, maintain and track specific risk

mitigation capacities and how this is actively integrated into the package level retained risks. A workshop session for early December 2011 was scheduled to work through unresolved issues. The compliance demonstration methodology, however, remains to be finalized.

6.0 SAFETY AND SECURITY

The contractor's safety performance statistics for the CM009/CM019 (Manhattan Tunnels Excavation/Structures Part 1) contracts continue to be poorer than the industry norm, despite senior management involvement from both the contractor and the MTACC. For December 2011 (the latest up-to-date report available), the injury ratio for CM009 was 3.26 lost time accidents, and for CM019 it was 2.85 lost time accidents per 200,000 hours worked. The Bureau of Labor Statistics national industry average is 2.20 lost time accidents (note: overall project rate is 2.83). As a result of a subcontractor employee fatality on November 17, 2011 on the CM019 Contract (when a section of shotcrete fell on him in the Eastbound GCT 1&2 Cavern) MTACC has taken a number of steps to enhance project safety including: review of daily accident statistics on each of the active construction contracts to identify trends and institute corrective actions where necessary; review and modify contractor Construction Work Plan (CWP) and Safety Work Plan (SWP) for the CM009/019 contract.

7.0 ISSUES AND RECOMMENDATIONS

Harold Electrical/Catenary Design:

Contracts CH053/054A have been significantly impacted by the failure to obtain timely approvals from Amtrak, and late completion of work by the CH053/054A contracts has also impacted the progress on the follow-on Contract CQ031, Queens Bored Tunnels and Structures. The 60% Catenary Design package for Harold Stage 2 work has been with Amtrak since November 16, 2011 and has not been approved as of the end of January 2012 (note: the latest incident where ESA was informed that the 30% ET design was never reviewed and approved by Amtrak is indicative of the stakeholder management issues to date).

The PMOC recommends that MTACC management focus on the resolution of catenary design package approvals through better communication and coordination among the GEC, Amtrak and the ESA construction manager.

Contracts CM009/019: The PMOC remains concerned that, although the contractor has made great progress in the past few months with the concrete placement on the cavern archways, excavation of the benches between the caverns, and finish work in the escalator-ways, nonetheless its progress with the finish work in the tail tracks and approach tunnels has not kept the same pace,

Contract CQ039: The PMOC remains concerned about the contractor's ability to maintain acceptable progress during the New Austrian Tunneling Method (NATM) excavation due to the particular characteristics of this Contract including: very limited site access; labor intensive excavation/construction work; NYCT oversight of the construction work; a high probability of encountering unforeseen field conditions during tunnel excavation that will result in re-design and a change in the construction means and methods. Some recent delays have occurred and continued schedule slippage may delay the start of Contract CQ032 (Plaza Substation and Queens Structures) work in the Early Access Chamber area. The PMOC recommends that the ESA-PMT work closely with the ESA-CMs to properly manage the CQ039 work to minimize any delays and to properly manage the Plaza Interlocking work zone area amongst the CQ031, CQ039 and CQ032 contracts.

Contract CQ031: The ESA-CM continues to closely manage the single remaining critical interface, Track B/C tunneling beneath the existing, in-service G.O.2 Substation (identified in Q3-2010), between Contracts CH053 and CQ031 in an effort to prevent delay to the progress of TBM mining under Contract CQ031.

The PMOC remains concerned about the costs of the additional CQ031 work required to mitigate the potential delays caused by both late completion of key work by the CH053 contractor at the single remaining critical construction interface noted above and the continuing appearance of new CQ031/CH053 interferences. The PMOC recommends that ESA-CM closely monitor the schedule performance of both the CQ031 and CH053 contractors to ensure adherence to current work schedule, thus minimizing additional costs exposure.

Contracts CH053/54A: Overall, the CH053 contractor failed to meet the rate of construction progress required to meet the goals of the Contract re-baselined schedule. Because of this, the PMOC remains concerned that the contractor may not be able to achieve and maintain the higher production rate called for in re-baselined schedule. Historical progress has averaged approximately 1.3% per month, yet the contractor will need to achieve 1.45% progress per month to meet the current forecast Substantial Completion date of February 2014. The current production rate is 12.6% from January through December 2011, an average of 1.05% per month.

The PMOC is very concerned about the continuing adverse impacts to the

CQ031 contract as well as the follow-on Harold Interlocking Contracts CH057 and CH058. The PMOC continues to recommend that ESA prioritize the GEC construction support to this Contract, expedite resolution of utility interferences, and prioritize contractor's requests for track outages and force account support.

[REDACTED]

The PMOC previously expressed concern about the delays to final Amtrak approval of the 12kV duct bank, signal tower package (MP3) and the catenary package (MP5). This situation arose primarily because of the lengthy time required to re-design the electric traction (catenary) and signal power elements of the CH053 and CH054A contracts. Re-design was required because the original GEC design did not provide the high level of construction staging details required by Amtrak. These delays have been a significant factor causing poor construction progress on Contract CH053. The contractor is also experiencing additional "residual delays" after the approval of the re-designs that include the time required to finalize their cost proposal for the change, negotiate a contract modification, execute the contract modification, order/fabricate materials, arrange for track outage and railroad force account support and reschedule the work. Although all of the re-design work mentioned above has received Amtrak approval, the PMOC continues to recommend that ESA-PMT and ESA-CM improve its procedures to provide better design support to avoid similar problems during the Harold Stages 2B through 4.

Although Contract CH054A work is not currently on the project critical path, the PMOC is concerned that construction progress continues to be very slow and late completion will put continued additional demands on both Amtrak and LIRR force account support services.

[REDACTED]

Procurement: Contract Packages CS179 (Systems Package 1), CQ032 (Plaza Substation and Queens Structures – awarded in August 2011), CM012 (Manhattan Structures 2) and CM014B (GCT finishes) are high dollar value contracts and have long durations.

In the PMOC's opinion, MTACC has not effectively managed the procurement process. The continued procurement delays consume valuable schedule time before contract award and deprive individual contract packages of needed schedule float during construction. The significant number of scope shifts referenced in Section 1-b above is a significant contributor to the delays in the procurement process for the above-referenced packages. Continuing procurement delays may have significant impacts on the entire ESA project schedule and need to be accurately reflected in the new project baseline schedule currently under development.

Project Funding: The PMOC remains concerned about the ability of the MTA and the State of New York to provide future local funding for the project. The MTA Five Year Capital Program is currently being funded in two year increments and it remains to be seen if the next two-year increment for the 2012-2014 period will be fully funded.

[REDACTED] In 2011, MTACC did propose a revised financial plan that identified

some additional funding streams that included, most notably, a Railroad Rehabilitation and Improvement Funding loan from the FRA for \$2.2 billion.

Project Schedule: The PMOC reviewed the revised baseline schedule (data date January 1, 2012) and briefed the FTA Region 2 Office on its findings on January 25, 2012; and then discussed its findings with the ESA PMT on January 31, 2012. The PMOC identified several general areas of concern during its review of the schedule as follows: access constraints and coordination issues with the Manhattan contracts; access constraints and F/A labor availability will impact the ability to do all of the concurrent work laid out in the Harold schedule (note: schedule for Harold work assumes all the necessary F/A labor will be available); access constraints on the Systems work; Integrated Systems Testing (IST) duration (to account for retesting and availability of systems for testing); and project contingency concurrent with operational readiness activities (i.e. there is no contingency for the operational readiness testing). The ESA PMT will revise its project schedule based on input from the stakeholders. The PMOC believes that performing the risk assessment on the entire project schedule is a critical activity that should be done before the finalized baseline is presented to the MTA Capital Program Oversight Committee (CPOC).

Property Acquisition and Real Estate: MTA Real Estate is still waiting for a more advanced design of the preferred 48th Street entrance before continuing appraisals. ESA is in the process of negotiating an easement agreement with the Rudins and refining the design of the preferred scheme. Tech Memo #6, which describes the updated 48th Street design, was approved by the FTA on November 23, 2011. The ESA PMT is managing the negotiations with the Rudins. MTA Real Estate is waiting for an updated construction schedule from ESA before choosing a suitable timeframe for the public hearing.

ESA has requested that MTA Real Estate obtain preliminary appraisals for budgetary purposes of the temporary and permanent easements at 335 Madison Avenue associated with the construction and operation of an employee elevator. This elevator will connect the ESA/LIRR Station Master's Office on the ESA concourse level to the GCT Terminal Management Center on the GCT concourse level and another in the Biltmore room. Elevator designs have been stalled because the property owner, the Milstein family, has not yet granted access. Since designs of these elevators are preliminary, the review of the draft appraisals is on hold

In terms of other real estate activities, there are the three Long Island City easements that are in the process of being extended: the Milstein garage coordination (48-39 Barnett Ave East, Block 119 Lot 150) , which is the easement that will be required at the former Gaseteria lot (37-31 48th Street (Block 119 Lot 158), the easement for the utility pole that will be displaced by a track in the pocket park, and the ongoing discussion with the Parks Department regarding the work at Queensbridge Park.

APPENDIX A -- ACRONYMS

ARRA	American Recovery and Reinvestment Act
BA	Budget Adjustment
CCC	Change Control Committee
CCM	Consultant Construction Manager
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CIL	Central Instrument Location
CPOC	Capital Program Oversight Committee
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
CWB	Current Working Budget
CWP	Construction Work Plan
ELPEP	Enterprise Level Project Execution Plan
ERT	East River Tunnel
ESA	East Side Access
E/T	Electric Traction
FA	Force Account
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
IPS	Integrated Project Schedule
LIRR	Long Island Rail Road
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority – Capital Construction
NATM	New Austrian Tunneling Method
NTP	Notice to Proceed
NYCT	New York City Transit
NYSPTSB	New York State Public Transportation Safety Board
PE	Preliminary Engineering

PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	ESA's Project Management Team
QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
RMCP	Risk Mitigation Capacity Plan
ROD	Revenue Operations Date
RSD	Revenue Service Date
SCC	Standard Cost Category
SMP	Schedule Management Plan
SSMP	Safety and Security Management Plan
SSPP	System Safety Program Plan
SWP	Safety Work Plan
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability
VE	Value Engineering
WBS	Work Breakdown Structure

APPENDIX B – TABLES

Table 1 – Project Budget/Cost Table 

	FFGA (as of December 18, 2006)			Proposed FFGA Amendments (\$ Millions)	MTA's Current Working Budget (CWB)		Expenditures as of December 31, 2011	
	(\$ Millions)	(% of Grand Total Cost)	Obligated (Millions)		(\$ Millions)	(% of Grand Total Cost)	(\$ Millions)	(% of CWB)
Grand Total Cost	\$7,386	100		\$8,119*	\$8,827	100	\$3,396.0	38.5
Financing Cost	\$1,036	14.0		TBD	\$1,036 (FFGA est.)	11.7		
Total Project Cost	\$6,350	86.0	\$4,107	\$8,119*	\$7,791**	88.3	\$3,396.0	43.6
Federal Share	\$2,683	36.3	\$1,148	\$2,699	\$2,699	30.6	\$1,618.0	20.8
5309 New Starts share	\$2,632	35.6	\$1,098	\$2,436.6	\$2,436.6	27.6	\$1,372.2	17.6
Non New Starts grants	\$51	0.7	\$50	\$67	\$67	0.8	\$50.4	0.6
ARRA	0	0	0	\$195.4	\$195.4	2.2	195.4	2.5
Local Share	\$3,667	49.6	\$2,959	\$5,420	\$5,092	57.7	\$1,778.0	22.8

* The ELPEP Estimated Total Project Cost (ETPC) is \$8.119 billion (exclusive of financing cost), reflecting the medium level of risk mitigation.

** CWB represents MTA Board approved \$7,328 million and additional \$463 million reserve for a total of \$7,791 million budget exclusive of financing cost (September 2009).


Table 2 – Summary of Critical Dates

	FFGA	Forecast (F) Completion, Actual Start (A)	
		Grantee*	PMO**
Begin Construction	September 2001	September 2001 (A)	September 2001 (A)
Construction Complete	December 2013	September 2016 (F)	April 2018 (F)
Revenue Service	December 2013	September 2016 (F)	April 2018 (F)

* Source – Grantee forecast Revenue Operations Date per updated MTA approved schedule information in September 2009 and July 2011 IPS update (the most recent complete IPS update).

**Source –ELPEP baseline.

Table 3 – Comparison of Standard Cost Categories: FFGA vs. CWB

Standard Cost Category (SCC) No.	Description	FFGA baseline (\$)	MTA's Previous Reporting Period CWB (\$) – (November 30, 2011)	MTA's CWB (\$) (December 31, 2011)	% Change from FFGA to CWB
10	Guideway & Track Elements	1,988,741	2,690,961	2,691,399	35.2
20	Stations, Stops, Terminals, Intermodal	1,168,655	1,433,452	1,434,850	22.9
30	Support Facilities: Yards, Shops	356,264	352,271	352,271	[1.7]
40	Site Work & Special Conditions	205,105	367,214	367,214	78.0
50	Systems	619,343	632,769	632,769	2.6
60	ROW, Land, Existing Improvements	165,280	203,639	203,639	23.2
70	Vehicles	493,982	674,372*	674,372*	36.5
80	Professional Services	1,184,000	1,436,322	1,434,485	21.3
90	Unallocated Contingency	168,529	0	0	0
Subtotal		6,349,899	7,791,000	7,791,000	
100	Finance Charges	1,036,104	1,036,100**	1,036,100**	0
Total Project Cost (10 – 100)		7,386,003	8,827,100	8,827,100***	8,827,100***

- Rolling Stock (“Vehicles”) includes passenger revenue vehicles, construction locomotives, and construction flat cars.

** Current Budget Finance Charges are estimated at the same value as the FFGA.

**Table 4– January 2012
ESA: Catenary Review Schedule**

Catenary Package	30% Submittal HNTB/Amtrak Review		60% Submittal HNTB/Amtrak Review		90% Submittal HNTB/Amtrak Review		100% Submittal HNTB/Amtrak Review	
	Submit	Return	Submit	Return	Submit	Return	Submit	Return
STAGE 1							8/8/11	8/26/11 10/06/11 (A)
STAGE 2			9/7/11 11/16/11	9/21/11 Pending	10/28/11 Pending	12/1/11	1/6/12	2/6/12
STAGE 3	10/14/11	11/18/11	12/23/11	1/30/12	3/9/12	4/15/12	5/18/12	6/18/12
FQA65	9/29/11	10/21/11	11/25/11	1/06/12	2/10/12	3/20/12	4/20/12	5/26/12

Note: yellow highlights denote missed target dates.

Core Accountability Items				
Project Status:		Original at FFGA	Current: *	ELPEP **
Cost	Cost Estimate	\$7.386B	\$7.791B	\$8.119B
Contingency	Unallocated Contingency	\$168.5M	\$0	\$260M
	Total Contingency (Allocated plus Unallocated)	\$855M	\$124.4M	\$722M
Schedule	Revenue Service Date	December 31, 2013	September 30, 2016	April 30, 2018
Total Project Percent Complete	Based on Expenditures	48.9%		
	Based on Earned Value	NA		
Major Issue		Status	Comments	
Availability of local funding		Unknown at this time	Further construction awards in 2012 may be delayed until NYS funding of the current Capital Plan is resolved.	
Re-baseline (cost and schedule)		Cost and schedule re-baseline to be finalized in February. Risk Assessment to be performed in March 2012, with presentation to MTA CPOC in May 2012.	MTA initially committed to having new baseline completed by the end of December 2011, and presented to the MTA CPOC in February 2012.	
Amtrak East River Tunnel Work		Amtrak original plan for two tunnel outages during 2012 has been changed to one tunnel.	ESA re-baseline is based on two tunnel outages. Impact (if any) on new baseline has to be evaluated	
Approval of E/T Design Work by Amtrak continues to lag		60% design submitted to Amtrak in November 2011, still not approved	Delay impacting completion of 100% Design Package for CH057.	
CM012 Cancelled Solicitation		Rebid now planned for March 2012. Still holding August 2012 for NTP.	Rebid was initially planned for the end of January 2011.	
Date of Next Quarterly Meeting:		TBD		

* MTA's Current Working Budget ** Enterprise Level Project Execution Plan (ELPEP), reflecting median level of risk mitigation.