

PMOC MONTHLY REPORT
East Side Access (MTACC-ESA) Project
Metropolitan Transportation Authority
New York, New York

Report Period January 1 – January 31, 2019

PMOC Contract No. DTFT60D1400017

Project No. DC-27-5287, Task Order No. 0002, Work Order No. 08

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PMOC Lead: **b(6)**

Length of time on project: Thirteen years on Project for Urban Engineers

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Third Party Disclaimer

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For projects funded through the FTA Full Funding Grant Agreements (FFGA) 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.

EXECUTIVE SUMMARY

This summary highlights key events and important issues for the current month.

Overall Program Status: The Overall Program is 75.5% actual versus 75.4% as-planned (based on invoice cost and April 2018 EAC forecast).

Construction Status: The Construction Status is 78.5% actual versus 78.9% as-planned (based on invoice cost and April 2018 EAC forecast).

Contracts

Awarded/Completed: None.

Construction Progress Issues: CM014B, CS084, VS086, CS179.

Program Funding: Total program funding is \$10,335 million, which is sufficient for the MTACC forecasts through December 2020.

Program Cost and Budget: b(4)

Integrated Project Schedule: The target RSD forecast is February 14, 2022. The ESA program critical path is controlled by Manhattan/Systems work.

Risk Management: 12 major risks remain.

Harold Interlocking: #5165 crossover installed in "Tunnel B/C Prep" Quadrant.

Key Stakeholder Issues: LIRR – Late resolution of CS179, CS084, and VS086 issues.
Amtrak – Continuing Force Account availability issues; Electric Traction improved availability.
MTACC - Change Order processing issues, GEC CPS support for Contractor Submittals, Redesigns, RFIs, and Field Conditions.

Construction Safety: 0.00 – Lost Time and 0.0 – Recordable BLS Injury ratios during December 2018; both decreases from November 2018.

ELPEP Compliance: MTACC reported Schedule Contingency is only 27 CDs above ELPEP minimum; Cost is \$484 million above ELPEP min.

Project Management Plan: MTACC to update PMP/Sub-plans to reflect major management, organizational, and process changes (in progress).

Buy America: One CS179 Issue – Small Split HVAC units (waiver requested).

All Project Sponsor cost and schedule data included in this report is based on the MTACC East Side Access Monthly Progress Report for November 2018 and referenced in this report as the ESA November 2018 MPR, which has a Cost and Schedule data date of December 1, 2018. Unless otherwise noted, all progress percentages in this report are based on invoiced costs, not actual construction.

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60D1400017, Task Order No. 0002. Its purpose is to provide information and data to assist the FTA as it continually monitors the Project Sponsor's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project and quality management activities on the East Side Access (ESA) Mega-Project managed by MTA Capital Construction (MTACC) with MTA as the Sponsor and financed by the FTA FFGA.

MONITORING REPORT

1.0 PROJECT STATUS

a. Engineering Design and Construction Phase Services

In the ESA November 2018 MPR, the PMT reported the overall engineering effort at 85.2% complete compared to planned completion of 85.4%. Since the ESA July 2018 MPR, the PMT calculates summary Engineering progress as a percentage of the \$871.8 million April 2018 EAC forecast of engineering costs. The ESA September 2018 Total Cost Report shows that 99.7% of the overall EIS and Engineering awards, including 99.9% of the design awards, have been invoiced.

Status of Construction Packages Advertised

CH063 Electric Traction Catenary Work: RFQ advertised online on January 4, 2019; documents were made available on January 14, 2019.

Status of Construction Packages Not Awarded

CM015 – 48th Street Entrance: Design work remained suspended through January 2019. MTA has notified the building owner that construction of the 48th St. Entrance has been deferred. Based on code compliance requirements, an emergency exit to street level will need to be provided in the interim. The GEC is developing the design for this feature.

FQA33A, Mid-Day Storage Yard Facility – Amtrak F/A, includes provision for west end yard access to the Amtrak mainline through a connection from Sub 4 to Line 2. All yard exit options have been considered by ESA, Amtrak, and LIRR. The design package has been completed with incorporated LIRR review comments. Based on Amtrak's proposal for an elevated turnout, MTACC and the GEC have developed alternatives to the plan and have identified two options. The two options are currently on hold pending MTACC decision on a LIRR request for an alternative yard exit route, Option E. The CQ033 Construction Manager completed his evaluation of Option E November 7, 2018, and MTACC forwarded the design to LIRR for review. Comments had been expected in January 2019, but LIRR did not provide its response as planned. Upon LIRR approval, Option E will be submitted to Amtrak for review. This will be the only exit route from the MDSY that will be provided under the ESA Program.

FQA33B, Mid-Day Storage Yard Facility – Amtrak F/A, includes provision for a second west end yard access to the Amtrak mainline through a connection from Sub 3 to Line 4. The FQA33B 100% design package remains temporarily on hold pending finalization and approval of the Sub 4 to Line 2 connection Option E, the primary exit, to be built under FQA33A (see above). Although this second exit route was earlier planned to be constructed by Amtrak after Contract CQ033 completes the MDSY and upon arranging the funding source from LIRR, LIRR might decide that this is not required based on the operational advantages offered by Option E under FQA33A. MTACC is awaiting response from Amtrak regarding Option E as presented/discussed at the meeting at Amtrak headquarters on January 29, 2019.

CH063 Electric Traction Catenary Work, 3rd Party, will be a negotiated RFP procurement. The contract includes design-build ET catenary relocation work for the Mid-Day Storage Yard and completion of all the remaining catenary work required for operational readiness in Harold Interlocking. The contractor qualification process commenced on January 4, 2019.

Status of Positive Train Control Design

Positive Train Control: The MOU between MTACC and LIRR for the implementation of Positive Train Control (PTC) on ESA was executed and the Technical Concurrence Document has been agreed upon by MTACC and LIRR. MTACC will be installing, testing, and commissioning PTC for all track and signal systems built under the ESA Program.

- LIRR had been expected to complete the PTC design by March 31, 2018, but this was not achieved. MTACC earlier reported that LIRR had been expected to complete the PTC design in January 2019, but this has been delayed due to resolving GEC/LIRR comments on the GCT3 and GCT4 application logic submittals.
- The GEC has prepared initial scope design modifications to Contracts CS179, VS086, and CS086, which will provide for the LIRR designed PTC overlay onto the ESA systems. The GEC has provided LIRR with the proposed changes for PTC on these contracts to insure coordination with the LIRR PTC requirements. The PMOC notes that these changes cannot be finalized until LIRR completes the PTC design. MTACC has already acknowledged that the contract modification for incorporation of PTC requirements will impact the substantial completion date for Contract VS086.
- In early October 2017, LIRR formally requested that FRA waive the requirement to have PTC operational in the Harold Interlocking by December 31, 2018, based on the interlocking being an active construction area. LIRR subsequently revised its waiver request in late December 2017 and received the FRA's response on May 2, 2018. As a result, LIRR was required to submit to the FRA, within 90 days from the date of the FRA's letter, August 9, 2018, the revised PTC Implementation Plan with LIRR's proposed alternate schedule. LIRR submitted its proposed revised PTC implementation schedule to the FRA on November 29, 2018.

Status of MTACC and LIRR Review and Approval of Systems Contractors' Final Designs

CS179, Systems Facilities Package No.1: The backlog of overdue submittals and RFI reviews noted in earlier reports continues to be a significant unresolved issue for the CS179 project team. The contractor continues to assert that overdue responses on design submittals and RFI, unresolved NOC, and numerous SWOs are impacting the completion of design work and delaying the contract schedule. The contractor continues to note that there are still 26 NOCs contributing to its inability to finalize designs; 19 of which MTACC was to issue CPRs and 7 more that exceed the 30-day turnaround time duration provision in the contract. The completion of FD for all 10 Control Systems, which was scheduled for completion 33 months ago, has not occurred yet and the completion of FD for all 19 Non-Control Systems is also delayed. The full impact of the Control and Non-Control System FD delays on contract progress remains undetermined at this time. One Buy/Ship America issue (previously noted) that could impact design and construction also remains unresolved.

CS084, Traction Power Systems Package 4: Although the contractor continues to contend that unresolved design issues, differing site conditions, and coordination issues are causing delays to this contract, progress continues to be made on the fabrication and delivery of equipment. Final approval of the SCADA software design by LIRR remains as an open issue. Some design issues related to water remediation methodologies in spaces designated for CS084 equipment and other identified field construction issues also remain open.

VS086, Systems Package 3 – Signal Equipment Procurement: The contractor continues to assert that the lack of timely responses on design submittals and inquiries caused delays in the progression of the work. Work on the design to incorporate Positive Train Control (PTC) requires a contract modification that must still be developed and negotiated. Further discussions between the contractor and the MTA are required to resolve a design issue regarding “light-out” protection that was identified in January 2019.

b. Procurement

The ESA November 2018 MPR shows that total procurement for the ESA Program is 84.3% complete, with total awards at \$9,382 million. Since the ESA July 2018 MPR, the PMT calculates summary procurement progress as a percentage of the \$11,133 million April 2018 EAC forecast of all ESA program costs. Active procurements include:

- CH063 Electric Traction Catenary Work, 3rd Party: This will be a negotiated procurement using the RFP process. The contract includes design-build ET catenary relocation work for Mid-Day Storage Yard and completion of all the remaining catenary work required for operational readiness in Harold Interlocking. The RFQ notice was advertised online on January 4, 2019, and the contract documents were made available on January 14, 2019. Forecast Procurement Milestones: RFQ responses due February 8, 2019; issue RFP March 6, 2019; RFP responses due April 10, 2019; BAFO completion on June 14, 2019; contract award and NTP by July 30, 2019.

Contract CM015, 48th Street Entrance, is on hold pending an agreement between MTA and the owner of 415 Madison Avenue.

c. Construction

In the ESA November 2018 MPR, MTACC reported that total construction progress reached 78.5% complete compared with planned progress of 78.9%. Since the ESA July 2018 MPR, the PMT calculates summary construction progress as a percentage of the \$8,014 million April 2018 EAC forecast of construction costs. The percentage of work complete, as shown throughout this report, is calculated using invoiced costs to represent construction progress. The current contract and force account budgets equal the amounts that are allocated in the MTA Impact accounting system and are used for percentage calculations for individual contracts.

Manhattan Contracts

Costs and substantial completion dates are tabulated below for active Manhattan contracts.

	Current Budget	Appr'd Contract	Rem Budget	Invoice Cost	EAC	Planned Comp	Invoice Comp	Current BL SC	Forecast SC	Notes
CM006	361.6	350.2	11.4	346.0	356.0	100.0%	98.8%	6/3/17	1/31/19	1
	nc	nc	nc	nc	nc	nc	nc	+2cd	+31cd	
	361.6	350.2	11.4	346.0	356.0	100.0%	98.8%	6/1/17	12/31/18	
CM007	712.3	663.7	49.7	394.8	723.7	57.5%	59.5%	1/28/20	3/23/20	
	nc	+1.1	nc	+9.0	(-1.3)	nc	+1.3%	nc	+11cd	
	712.3	662.6	49.7	385.8	725.0	57.5%	58.2%	1/28/20	3/12/20	
CM014B	484.7	466.0	18.7	308.1	531.7	95.1%	66.1%	8/18/18	9/30/20	
	nc	+3.3	(-3.4)	+5.4	nc	nc	+0.7%	nc	+65cd	
	484.7	462.7	22.1	302.7	531.7	95.1%	65.4%	8/18/18	7/27/20	
VM014	46.9	34.9	12.0	26.1	47.8	NA	74.8%	10/25/19	3/23/20	
	nc	nc	nc	nc	nc	NA	nc	nc	nc	
	46.9	34.9	12.0	26.1	47.8	NA	74.8%	10/25/19	3/23/20	

Notes: Costs in millions; line 1 = current value; line 2 = period change, nc = no change; and, line 3 = prior value.

Please refer to the contract narratives for additional information.

1. Substantial completion not declared.

CM006 – Manhattan North Structures:

Schedule: The ESA November 2018 MPR projects Milestone MS#3, Substantial Completion (SC), by January 31, 2019, and MS#4, Final Completion, by May 1, 2019.

Construction Progress: The CM006 contractor continued the following activities in January 2019: minor base contract work, and open NCR work. Sixteen NCRs remain open. Remediation of remaining leaks will be transferred to another contract. SC was not achieved in January 2019.

CM007 – GCT Station Caverns and Track:

Schedule: The ESA November 2018 MPR projects Milestone #4 (Track & 3rd Rail Work Complete) by November 21, 2019 (-106 CDs; the TIA/recovery schedule is still under review); Milestone #5 (Substations US1 and US2 Complete) by December 21, 2018 (-177 CDs; not complete and ESA currently reports a push to February 1, 2019, by contract modification, likely to change again); Milestone #5A (Caverns Ready for Integrated Systems Testing) by November 7, 2019 (-92 CDs); Milestone #6 (All Caverns and Tunnel Work Complete) by March 12, 2020 (-87 CDs); and, Milestone #6A (Substantial Completion) by March 23, 2020 (-55 CDs).

Construction Progress: North and South Back of House, East and West: Continued electrical installation at mezzanine and lower levels and continued MEP work upper and lower levels, and FM-200 fire protection (E).

Cross Passages #3, 4, and 5: Continued construction.

East and West Caverns: Continued track curb construction and continued lower level platform topping slab installation. Continued electrical, sprinkler piping and upper level MEP installations. Continued escalator 51 and 55 and elevator 6 and 18 installations in the East Cavern and escalator 59, 60, and 63 elevator 19 installations in the West Cavern.

Track: Continued trackwork construction in the Caverns and in the Tunnel Track areas. Continued third rail installation. Continued turnout installation. Continued qualification testing of Special Trackwork DFF assemblies.

CM014B – Concourse and Facilities Fit-Out:

Schedule: The ESA November 2018 MPR reports that this contract is 66.1% complete vs. 99.1% planned. Milestone #5 (44th St. Vent Building) June 4, 2017, then December 29, 2017; then March 2018; then June 2018; now January 28, 2019: CS179 continues joint occupancy. Milestone #7 (50th St. Ventilation Facility) January 27, 2018; then March 1, 2019; now projected for December 3, 2019. The parallel switchgear installation is ongoing.

Through January 14, 2019, the structural steel erection was 74% complete by piece and 69% by weight. As previously reported, this work is proceeding very slowly and is impacting the schedule and the CS179 contract. Cumulative metal ceiling deck progress remained at 23% complete.

Construction Progress: Electricians continued with installation of overhead racks/conduit and light fixtures in various zones and work in the Chiller Plant Room. Plumbers continued testing domestic water and installing plumbing fixtures throughout the Concourse. Installation of seismic angles continues. Mechanical work continued with the installation of branch piping and ductwork. Painting of block walls and columns continued throughout Zones 1-4. Painting of Fire Stand Pipe continued throughout the Concourse. Installation of the marble stone wall finish continued in public areas from south to north. Installation of the suspended ceiling system continued throughout the Concourse. The CCM reports that, through January 15, 2019, the CMU work was approximately 76.16% complete.

Biltmore Connection: This work continues on the tertiary critical path for the contract.

Wellways: In the Wellways, escalator maintenance is ongoing one day every 2 months. In Wellway #1, the glass tile installation is continuing. Sprinkler installation nears completion. In Wellway #2, the glass curtainwall construction continues and CS179 is installing light fixtures and the PA system. In Wellway #3, rigging was removed from the Upper Landing. The Lower Decking was installed. In Wellway #4, Lower Deck skirt brushes were installed. The contractor continued installing conduit and preparing for speaker installation by CS179. Escalator Machine Room work continues.

47th Street Cross Passage: The expanded 47th St. Entrance temporarily replaces the delayed 48th St. Entrance (CM015) and becomes the only entrance at the northern end of the Concourse. The changes include increasing the number of stairs from 2 to 3 and widening the Central Stair. The stairs enter the Cross Passage at the western end with direct access to two existing stairs and 3 existing escalators to Madison Avenue. Through January 2019, construction of the stairs is underway in the Concourse.

50th St. Vent Facility: Work includes installation of parallel switchgear and associated conduit and wiring.

VM014 – Vertical Circulation Elements (Escalators and Elevators):

Schedule: In the ESA November 2018 MPR, it was reported that, through November 30, 2018, 74.8% of this contract had been invoiced and 74.5% paid. Although this contract includes milestones covering fabrication and delivery of escalators and elevators, the actual schedule for those areas is driven by the respective schedules and access dates provided by the CM014B and CM007 contractors.

Construction Progress: CM014B: All 22 escalators have been fabricated and delivered. All elevator fabrication and delivery have been completed, with the exception of EL 10 (50th St. Vent Building) and EL 22 (Biltmore Connection). Installation of Elevators #1 and #2 continues. Biltmore Room: The new start date for Escalators #1 and #2 installation remains May 2019.

CM007: Through January 2019, all 6 of the 6 elevators and 7 of the 16 escalators for installation on the train platforms were delivered.

Queens Contracts

Costs and substantial completion dates are tabulated below for active Queens Contracts.

	Current Budget	Appr'd Contract	Rem Budget	Invoice Cost	EAC	Planned Comp	Invoice Comp	Current BL SC	Forecast SC	Notes
CQ032	265.4	262.2	3.2	261.5	263.7	100.0%	99.8%	9/6/16	3/31/19	1
	nc	nc	nc	nc	nc	nc	nc	nc	+90cd	
	265.4	262.2	3.2	261.5	263.7	100.0%	99.8%	9/6/16	12/31/18	
CQ033	325.0	308.0	17.0	154.7	345.5	52.3%	49.9%	8/10/20	11/2/20	
	nc	+0.2	(-0.1)	+9.6	nc	+11.4%	+1.3%	nc	+8cd	
	325.0	307.8	17.1	145.1	345.5	40.9%	48.6%	8/10/20	10/25/20	

Notes: Costs in millions; line 1 = current value; line 2 = period change, nc = no change; and, line 3 = prior value.

Please refer to the contract narratives for additional information.

1. Substantial completion not declared.

CQ032 – Plaza Substation and Queens Structures:

Schedule: MTACC’s November 2018 Monthly Progress Report projects Milestone MS#6, Substantial Completion (SC), by March 31, 2019, and forecasts Milestone MS#7, Final Completion, by June 30, 2019.

Construction Progress: The CQ032 contractor continued the following activities to progress work in January 2019: work regarding closure of NCRs, work to eliminate water infiltration conditions, documentation, and other commercial items. Ten NCRs remain open. Of concern are seven NCRs related to tunnel duct bench as-built clearance deviations, which may require reconstruction to meet LIRR operational requirements. SC was not achieved in January 2019.

CQ033 – Mid-Day Storage Yard Facility:

Schedule: Milestones MS#1, MS#2, MS#3, and MS#4 have been achieved. Milestones MS#4A (Start Integrated Testing), MS#5 (YS Track Completion), and MS#6 (Substantial Completion) are impacted by the delay of Access Restraints AR#1 and AR#2. AR#1 requires Amtrak to remove rail located at the west end of the Mid-Day Storage Yard (MDSY). AR#2 requires the installation of new catenary poles and Amtrak wire transfers, and pole locations are obstructed by an Amtrak signal trough. The contractor requires both AR#1 and #2 to install underground duct banks to complete the YS Track, followed by Integrated Testing. The ESA November 2018 MPR projects Milestone MS#6 Substantial Completion (SC) for November 2, 2020, -84 days.

Construction Progress: The CQ033 contractor continued the following construction activities in January 2019: fire line, water main and storm pipe installation, and duct bank construction. Other activities: Car Appearance Maintenance (CAM) platform work, foundation construction for Storage and Toilet Service Buildings, Building #8/8A asbestos abatement was completed and the building was demolished, ballast retainer work continued; Yard Lighting pole construction, catenary structure work, and traction power cable pulls continued. All carloads of rail have been delivered to the site. Turnouts are in production. The installation of all structure, spans, and stairs of the Pedestrian Access Bridge was completed on January 31, 2019. Preparation work for Signal CIL building installations continued.

Systems Contracts

Costs and substantial completion dates are tabulated below for active Systems contracts.

	Current Budget	Appr'd Contract	Rem Budget	Invoice Cost	EAC	Planned Comp	Invoice Comp	Current BL SC	Forecast SC	Notes
CS179	606.9	582.3	24.6	462.8	646.7	85.6%	80.8%	7/1/20	11/25/21	1
	nc	+9.8	(-9.9)	+12.6	nc	+4.1%	+2.8%	nc	nc	
	606.9	572.5	34.5	450.2	646.7	81.5%	78.0%	7/1/20	11/25/21	
CS084	79.7	73.5	6.3	21.8	83.2	90.3%	29.6%	12/2/19	4/23/21	1
	nc	nc	nc	+1.0	nc	+5.2%	+1.3%	nc	nc	
	79.7	73.5	6.3	20.8	83.2	85.1%	28.3%	12/2/19	4/23/21	
CS086	60.9	53.0	7.9	--	60.9	nc	nc	2/21/21	2/21/21	2
	nc	nc	nc	nc	nc	nc	nc	nc	nc	
	60.9	53.0	7.9	--	60.9	nc	nc	2/21/21	2/21/21	
VS086	21.8	19.9	1.9	13.5	22.1	NA	67.7%	10/14/19	11/19/19	1
	nc	nc	nc	+1.7	nc	NA	+8.7%	nc	+19cd	
	21.8	19.9	1.9	11.8	22.1	NA	59.0%	10/14/19	10/31/19	
VH051	30.2	29.7	0.5	29.5	30.2	NA	99.6%	4/30/15	12/31/19	
	nc	nc	nc	nc	nc	NA	nc	nc	nc	
	30.2	29.7	0.5	29.5	30.2	NA	99.6%	4/30/15	12/31/19	

Notes: Costs in millions; line 1 = current value; line 2 = period change, nc = no change; and, line 3 = prior value
Please refer to the contract narratives for additional information.

1. Forecast SC is based on the approved schedule that does not account for open unresolved issues.
2. Baseline Scheduled not yet submitted.

CS179 – Systems Package 1 – Facilities Systems:

Schedule: There are three different SC dates identified for this contract. In its January 21, 2019, Weekly Status Report, MTACC reports that the SC date for this contract is July 1, 2020; in its ESA November 2018 MPR, MTACC is carrying a November 25, 2021, SC date; and at the most recent Monthly Progress meeting, the contractor identified the SC date as being in July 2021. The PMOC continues to question the validity of achieving substantial completion by any of these dates, because the schedule:

1. Is based on the premise that all submitted designs are final (which is not the case);
2. Considers that all field work is ready-to-go as currently understood (which is not the case);
3. Does not take into consideration any impact from the open NOCs;
4. Does not address any impacts to the contract work from SWOs that remain in effect past the data date of the schedules; and
5. Does not yet include the required Integrated System Test Plan (ISTP) and test schedule that incorporates MTACC's incremental approach.

Last month, the PMOC reported that ESA had concluded negotiations with the contractor regarding the Incremental IST schedule; however, the identification of tests to be performed, the details of the testing procedures to be used, and the scheduling of the tests remained as items of discussion in January 2109.

Design Progress: The final approval of all 10 control system Final Designs (FDs), a critical activity, is now 33 months late. MTACC Senior Management indicates that the LIRR has formally approved 8 out of the 10 Control System FDs. The contractor is also responsible to design, install,

and test 19 Non-Control systems; several of which, according to the contractor, continue to have FD progress falling behind schedule. The contractor contends that the lack of resolution on open items (e.g., the open NOCs) is the primary cause for these delays; and, that any continued progress on system designs and equipment testing is being severely hampered by unanswered RFIs and unissued CPRs that have the potential to alter existing designs. Despite not having the information it says it needs, the contractor continues to move forward with the development of test plans and equipment fabrication. Further, factory testing of equipment for 4 of the 10 Control Systems and 3 of the 19 Non-Control Systems is on hold pending the resolution of contract interface coordination issues, Stop Work Orders, and resolution of RFIs and NOCs.

Construction Progress: In January 2019, the CS179 contractor continued to actively progress installation of conduit, cable, fire stopping, fire standpipe, lighting, vent fans, etc. in the tunnels and at the various substation facilities where access was available and conditions warranted. Coordination issues with other contractors, unexpected field conditions, unresolved design issues, water infiltration remediation efforts, open NOCs/CPRs, and numerous Stop Work Orders continue to impact further progress. Furthermore, the previously noted concern related to environmental conditions regarding water and moisture in the various equipment rooms and the “open” type equipment racks remains an item of discussion between MTACC, LIRR, and the contractor.

CS084 – Tunnel Systems Package 4 – Traction Power Systems:

Schedule: The information for CS084 is supplemented by discussions at an early-January 2019 Progress Meeting that reviewed contract progress up to January 9, 2019. The contractor continued to indicate that all of the contract milestones are delayed as a result of delays associated with the approval of substation designs, unresolved issues, and obstructions in CS084 work areas from other ESA contractors, SWOs, and site access restraints. The timely development and issuance of necessary contract modifications on this contract and other contracts for which work is required to progress the CS084 work continues to be an issue requiring further focus.

Design Progress: The design focus continues to be on developing solutions to issues identified during site surveys and construction activities. As these issues are identified, the GEC is being tasked to develop design solutions. There remains, however, one original design effort, LIRR’s approval of SCADA software, that needs to be accomplished to progress the work.

Construction Progress: A considerable amount of equipment for the substations has been fabricated and delivered to storage, where it will remain until the TPSS rooms for those substations are ready for their installation of the substation equipment. The contractor continues to cite coordination issues, design approval delays, access restraints, stop work orders, and differing site conditions as its reasons why work at the various locations cannot progress. Progress on addressing the issues continues to be exceedingly slow, as a significant number of the cited issues involve coordination with other contracts and require the development and issuance of contract modifications to various contracts.

MTA has the contractual obligation to provide 26 Inductive Reactors to the contractor for installation at various locations. The contractor initially refused to accept these reactors based on concerns about apparent damage to some units and notified MTACC of this problem. Considerable discussions regarding the condition and utilization of the reactors ensued and continue; and, as of early-January 2019, only one of the reactors had been installed.

The PMOC previously reported significant quality issues related to the 2 of the 18 required substation transformers while undergoing hi-pot testing. Repairs were made to one transformer, a

re-test was performed, and another failure occurred due to foreign debris in the transformer coil. After significant discussions regarding the viability of the transformer that failed the two tests, the transformer manufacturer agreed to replace all the high-voltage coils in the transformer before repeating the required hi-pot testing.

The previously identified issue regarding specification non-conformance issues with track monuments (conduit turn ups at track level for routing of traction power cables) continues to be an item of investigation and discussion. There are approximately 453 track monument locations throughout the ESA territory. As of early-January 2019, MTACC and contractor personnel inspected 63 of the 453 locations and found that 87% of the inspected monuments were not in conformance with LIRR specifications.

The PMOC remains concerned about many issues, including:

1. TPSS equipment delivery methodology (means and methods);
2. Installation of the C08 traction power cables due to missing conduit and manholes;
3. Transformer hi-pot testing failures;
4. Verification of existing conduit and manholes in several substations;
5. Coordination with other contractors;
6. Possible damage to the MTA-provided inductive reactors due to improper storage and handling by MTA;
7. Extent of non-conformance of track monuments; and
8. Water infiltration issues in the facilities

VS086 – Systems Package 3, Signal Equipment Procurement:

Schedule: The milestones for this contract must be modified to accurately evaluate progress. It remains unclear when this schedule update will take place. MTACC has already indicated that the contract modification for incorporation of PTC requirements will impact the contract substantial completion date. MTACC further notes that any impact on overall design completion, equipment procurement, and schedule can only be determined when design issues are resolved and contract modifications are approved.

Design Progress: The contractor continued to assert that the lack of timely responses on design submittals and inquiries caused previous delays in the progression of the work. There are two contract modifications required for incorporation of PTC into the signal design – one for the GEC and the other for the VS086 contractor to incorporate the circuitry into the VS086 signal design.

The previously noted issue of Electro-Magnetic Interference (EMI) with ESA signal and communications equipment remains as an unresolved open issue and the contractor will re-submit a waiver request to delete this contract requirement.

While not causing any current delays to this contract, mainly because the contractor has proceeded with its interpretation of design requirements, the “light-out” protection methodology is now a serious issue under discussion. The LIRR has indicated that the current proposed methodology to provide this protection is not what was expected. Any decision by the MTA that would require modification of the current methodology to provide this protection will have a significant impact on the overall signal design completion.

Equipment Fabrication and Delivery Progress: The Plaza Interlocking equipment FAT issues were resolved and the Plaza Interlocking equipment was delivered to the CS086 storage facility for turnover. An inspection of the delivered equipment found that, due to improper packaging, significant damage to the equipment occurred in transit from the factory to the contractor’s storage

facility. The CS086 contractor refused to accept the equipment. The VS086 contractor will arrange for repair or replacement of the damaged equipment.

A Factory Integrated Acceptance Testing (FIAT), which must be performed after the FAT, tests the interlocking designs and equipment as a composite systems package. Design data from the CS179 contractor is required to perform the FIAT, and MTACC continues to indicate that this design data is still under development by the CS179 contractor. Therefore, the forecasted date for the FIAT, which will be conducted at the ESA site, is undetermined at this time.

CS086 – Tunnel Systems Package 2 – Signal Installation

Schedule: As of the end of January 2019, the contractor’s baseline schedule remains unapproved; so, integration efforts with the VS086, CS179, and CM007 contracts remain to be identified and evaluated.

Design/Construction Progress:

- The contractor continued to advise that the Plaza Interlocking equipment room has a major water infiltration issue that needs to be addressed.
- In January 2019, the contractor began performing surveys of equipment locations to identify any issues (e.g., water infiltration, obstructions, etc.) at those sites. The contractor will submit its lists of issues to MTACC as the individual surveys are completed.
- The contractor continued to advise that Room 4G36 is too small to fit all the proposed equipment. If it is ultimately determined that the equipment will not fit in the existing room, a re-design of equipment layouts and cable routing and lengths could be required. The contractor indicates that a determination of whether the proposed equipment will fit in the room must be expedited, as no cable for the contract will be ordered until all cable lengths required for the contract are finalized.

MTACC continues to indicate that it will send a significant amount of revised/additional contract drawings and specifications to the contractor for pricing and inclusion in the contract schedule. As of the end of January 2019, this action remained as an open item.

Harold Interlocking Contracts

Costs and substantial completion dates are tabulated below for active Harold contracts.

	Current Budget	Appr'd Contract	Rem Budget	Invoice Cost	EAC	Planned Comp	Invoice Comp	Current BL SC	Forecast SC	Notes
CH057D	29.6	22.4	7.2	13.5	16.9	83.2%	60.4%	5/30/19	5/30/19	1
	nc	nc	nc	+2.0	(-13.4)	+68.7%	+9.1%	+119cd	nc	
	29.6	22.4	7.2	11.5	30.3	14.5%	51.3%	1/31/19	5/30/19	

Notes: Costs in millions; line 1 = current value; line 2 = period change, nc = no change; and, line 3 = prior value
Please refer to the contract narratives for additional information.

1. The forecast EAC decreased because it does not include Regional Investment.

CH057D – Harold Trackwork Part 3:

Schedule: The CH057D contractor did not complete any specific schedule milestones during January 2019.

Construction Progress: During January 2019, the contractor completed installation of the #5165 crossover in the “Tunnel B/C Prep” Quadrant and rebuilt LIRR Port Washington #2 (PW2) and Main Line #2 (ML2) Tracks through the construction area.

CH058A – Harold Structures – B/C Approach

Schedule: The CH058A contractor did not complete any specific schedule milestones during January 2019.

Construction Progress: During January 2019, the contractor continued mobilization activities.

Railroad Force Account Contracts

Costs and substantial completion dates are tabulated below for active Force Account packages. Railroad Force Account agreements do not contain schedule requirements, so the PMOC will not report on schedules in this section.

	Current Budget	Appr'd Contract	Rem Budget	Invoice Cost	EAC	Planned Comp	Invoice Comp	Current BL SC	Forecast SC	Notes
FHA02	60.9	60.8	0.1	60.8	60.5	100.0%	99.8%	8/15/17	1/31/20	1
	nc	nc	nc	+0.5	nc	nc	+0.8%	nc	+6cd	
	60.9	60.8	0.1	60.3	60.5	100.0%	99.0%	8/15/17	1/25/20	
FHL01	29.1	29.0	0.1	27.5	34.9	100.0%	94.5%	4/9/15	3/13/19	1
	nc	nc	(-0.1)	+0.2	nc	nc	+0.9%	nc	nc	
	29.1	29.0	0.2	27.3	34.9	100.0%	93.6%	4/9/15	3/13/19	
FHL02	114.8	113.2	1.7	113.1	124.4	100.0%	98.6%	11/25/16	8/30/21	1
	nc	nc	nc	(-0.1)	nc	nc	nc	nc	nc	
	114.8	113.2	1.7	113.2	124.4	100.0%	98.6%	11/25/16	8/30/21	

Notes: Costs in millions; line 1 = current value; line 2 = period change, nc = no change; and, line 3 = prior value
Please refer to the contract narratives for additional information

1. Invoice percent complete is calculated using the current approved budget.

FHA02 – Harold Stage 2 Amtrak:

During January 2019, Amtrak ET personnel installed catenary wires over the new #5165 crossover and C&S personnel continued to install snow melting equipment in Point Interlocking.

FHL01 – Harold Stage 1 LIRR:

During January 2019, the new G02 Substation continued its 60-day “burn-in” period after LIRR ET personnel cut it over in December 2018. Through January 31, 2019, no negative incidents had occurred. The “burn-in” period is scheduled to be complete on the weekend of February 15-17, 2019.

FHL02 – Harold Stage 2 LIRR:

During January 2019, LIRR Signal personnel installed signal equipment and LIRR Third Rail personnel installed traction power equipment on the #5165 crossover in the “Tunnel B/C Prep” Quadrant. Additionally, Third Rail personnel installed traction power bonding on the reconstructed LIRR PW2 and ML2 Tracks.

d. Quality Assurance and Quality Control

The PMOC reports Quality Assurance/Control issues in its quarterly comprehensive reports. MTACC did not report any significant issues regarding Quality Assurance or Quality Control in its ESA November 2018 MPR. The PMOC continues to monitor developments regarding the following concerns:

1. The Contract CS084 transformer test failures that occurred in 2017 and 2018 as well as the concerns about the condition of the 26 inductive reactors provided by MTACC to the CS084 Contractor.
2. Potential out of tolerance as-built bench wall clearance for railcars in ESA tunnels.

- 3. Potential out of tolerance as-built conditions for the new track monuments that house the conduits for the traction power cables at the track connection locations.

2.0 SCHEDULE DATA

Status and Schedule Contingency

The schedule information in this report is based on IPS 112 (data date December 1, 2018) and IPS Progress Report. The forecast for the Target Revenue Service Date (RSD) remained February 14, 2022, and the Public RSD remained December 13, 2022. The IPS schedule was prepared using the MTACC alternative IPS procedure.

b(4)

In IPS 112, the Manhattan/Systems work path has no float and it remains the most critical path of the ESA program. As shown in Appendix F, ESA Critical Path Chart, the float on the paths through the three main ESA program work areas are: 1) Manhattan/Systems (no float); 2) Harold Interlocking (b(4)); and, 3) Queens (b(4)).

Table 2.1 shows dates, remaining durations, and contingencies for the Target, Public, and FFGA Revenue Service Dates.

b(4)

b(4)				

Program Primary Critical Path – Manhattan/Systems

The ESA program primary critical path in IPS 112 remains through Manhattan/Systems work and ends on November 24, 2021. Table 2.2 shows the contracts and work that comprise the

Manhattan/Systems path as reported in this update. There were no significant changes to the scope that comprises the Manhattan/Systems path in IPS 112, and its end date one day earlier than in IPS 111.

The IPS schedule is based on MTACC’s plan for Incremental IST that remains as a proposal, which has not yet received final acceptance by either the LIRR or the contracts that could potentially be impacted (CM007, CM014B, CS179, VS/CS084). The IST dates and durations in IPS 112 are subject to the execution of contract modifications so that 1) incremental testing can begin as early as practical, 2) activities have sufficient durations, and 3) resources are leveled. The ESA program schedule contingency could be impacted if the Incremental IST schedule is not incorporated in the program schedule and Phase 3 testing is not started in the forecasted timeframe, currently July 2020.

Table 2.2: Primary Critical Path – IPS 112, December 1, 2018

Activity Name	Duration	Start	Finish
CM014B GCT Concourse & Facilities Fit-Out			
GCT Concourse structural, finishes, ceilings and soffits	831	21-Jul-17A	29-Oct-19
CS179 System Package 1 – Facilities Systems			
GCT Concourse install comms devices, conduit and wire	560	12-Oct-18	23-Apr-20
Communications rack terminations and local testing	112	23-Apr-20	12-Aug-20
IST Phase 3 in Zone 1 for BCS	76	12-Aug-20	26-Oct-20
Fire Alarm Phase 3 - complete IST	114	26-Oct-20	16-Feb-21
b(4)			
Program Activities			
LIRR Final Testing and Previews †	82	25-Nov-21	13-Feb-22
Target Revenue Service Date			14-Feb-22
b(4)			
Public Revenue Service Date			13-Dec-22

Notes: † Successor to Manhattan/Systems, Queens, and Harold Interlocking paths.

Discussion of Progress along the Critical Path

The Manhattan/Systems critical path completion date in IPS 112 is November 24, 2021, one day earlier than in IPS 111. The path is generally the same as it was in IPS 111; however, the path now begins with the completion of MEP and finishes in the GCT concourse and the 45th Street Entrance is no longer included on the path. The path continues with CS179 Zone 1 conduit, wire and device installation and local testing for systems including: fire alarm, security/CCTV, PA/VMS, telephone, field network devices, BMS, and radio. From this point, IST testing is performed and completed for all Zone 1 systems to achieve completion of Phase 3 IST. A CS179 Issue Contingency comprises the final nine months of the Manhattan/Systems path, ending in November 2021. At this point, the path runs through LIRR final testing and previews and concludes with the Target RSD on February 14, 2022.

The Manhattan/Systems work path is subject to change due to several open/unresolved issues. The schedule includes the MTACC proposal for Incremental IST, which needs to be finalized, negotiated, and accepted by the LIRR; executed in a contract modification for CS179; and, then subsequently incorporated in contract modifications for the interfacing contracts, as may be necessary. The IPS contains coordination point activities to manage contracts interfaces, such as needed for IST. IPS 112 contains 20 coordination points related to systems work in GCT that were

scheduled for November 2018 but were not completed. b(4)

Although not on the critical path, CS084 work is only two weeks behind the Manhattan/Systems critical path.

90-Day Look-Ahead of Program Critical Activities/Milestones

Appendix B, Table 6, shows the ESA Program activities on the primary critical Manhattan/Systems work path that are planned for the next 90 days as forecast in IPS 112.

Sub Program Longest Path – Harold Interlocking

Harold Interlocking work continues to have the second longest of the three ESA program areas in IPS 112. The Harold path concludes on July 13, 2021, approximately 7 weeks later than the date shown in IPS 111, thereby also reducing the float on this path by 7 weeks.

The Harold Interlocking path begins with the Notice to Proceed for CH058A, B/C approach structures work. After release of Access Restraint 1 in April 2019 and work in the area approximately three weeks later than in IPS 111, the path runs through 39th Street underpinning, completion of the approach structure and backfilling, and completion of civil and track work for the open portion of the B/C approach. The path continues through CH063 and Access Restraint 2 to perform critical catenary work at the Amtrak 2 to Westward LIRR Passenger track connection (W crossover) above the B/C approach structure. The Harold path then shifts to FHL04 LIRR Force Account to cut over the W crossover and B/C approach track, third rail and signals. From the end of the Harold construction, there are 136 CDs of float (48 CDs less than the 184 CDs in IPS 111) to the LIRR final testing activity on the ESA program critical path (Manhattan/Systems work).

Sub Program Longest Path – Queens

The Queens (Mid-Day Storage Yard) work path is the shortest of the three ESA program areas in IPS 112. The Queens path remained the same during the update period, and ends on November 2, 2020. The float on the Queens longest path is 259 CDs.

Progress along the beginning of the Queens path is constrained by the CQ033 work necessary to resolve a conflict between an existing Amtrak signal trough and a proposed catenary pole at the beginning of April 2019. The contractor has performed work out of sequence to mitigate field issues that prohibit the installation of the AC/YS track to the Arch Street Shop without necessary modifications. The Queens path then runs through CQ033 signals and power systems; trackwork; signal installation; commissioning the MID-8 CIL and battery hut; and, ends in November 2020 at the conclusion of Mid-day Storage Yard integrated systems testing. From the end of the Queens path, there are 259 CDs of float to the LIRR FRA testing activity, and then followed by the LIRR final testing activity on the ESA program critical path (Manhattan/Systems work).

Upcoming Contract Procurements

Table 2.4 shows the status of current and upcoming contract procurements as reported in IPS 112 (December 1, 2018).

Table 2.4: Procurement Schedule

Contract Description	Advertise Date	Bid Date	NTP	Project Length	Substantial Completion
CH058A: Harold Structures - Part 3A B/C Approach Structures	5/4/18A	8/9/18A	12/7/18	27 mos.	3/1/21
CH063: ET Catenary Work 3rd Party	12/7/18	4/30/19	7/31/19	25 mos.	9/1/21

CH058A, B/C Tunnel: Awarded on October 25, 2018, with NTP anticipated December 7, 2018. The PMOC notes that this contract was awarded on December 7, 2018 as forecast.

CH063 Electric Traction Catenary Work, 3rd Party: MTA issued an Expression of Interest (EOI) notice on November 9, 2018, for the design-build contract. The receipt of bids and Notice to Proceed are forecasted as April 30, 2019, and July 31, 2019, respectively. The RFP was advertised on January 4, 2019, documents were made available on January 14, 2019, and award is forecast for July 2019.

PMOC Concerns

The PMOC has the following observations and concerns about the ESA schedule:

Concerns continue about the Manhattan/Systems work path. b(4)

2. The PMOC has ongoing concerns about the significant schedule changes that resulted in shifts in scope on the Manhattan/Systems schedule path, which drives the ESA Program Critical Path. The fundamental issue is that the MTACC does not have a final agreement among the contractors and LIRR for the Incremental IST schedule, which will exert a significant influence on the critical path. Until this schedule is locked down, the ability of the ESA programs to achieve the planned RSD is uncertain at best. The MTACC and CS179 contractor have reached preliminary agreement on a syndicated IST schedule, which will be incorporated in the IPS after a contract modification is executed.
3. The ESA program schedule contingency is 302 CDs, which is only 27 CDs above the minimum required FTA ELPEP schedule contingency. The ability of the MTACC to maintain the FTA minimum until the next ELPEP hold point (95% constructed; 4Q2020) is at risk due to the uncertainties about the Manhattan/Systems schedule, the greatest of which is finalization of the plan for the Incremental IST.
4. Progress on CS084, Tunnel Systems Package 4 – Traction Power, is slow and is currently reported as 29.6% complete compared with as-planned progress of 90.3%. The PMOC observes that much of the work has had day-for-day delays in each IPS update period. The PMT is working with the contractor to develop a realistic schedule; however, the PMOC believes that a revised schedule will incorporate delays in the delivery of equipment that will push out milestone dates. The PMOC recommends that ESA continue to analyze options to recover the schedule with a focus on major electrical equipment submittals and layouts, identifying major issues, and, determining corrective measures.
5. The PMOC is concerned about the lack of progress indicated by coordination point activities not achieving scheduled completion dates to advance IST. This indicates the evolving nature of the schedule, which needs to be finalized so that it can be a reliable

management tool. If not addressed and corrected, the lack of progress will result in the need to perform more work concurrently leading up to and during IST than had been planned, which will further complicate and impede progress.

3.0 COST DATA

Budget/Cost

In the ESA November 2018 MPR, the PMT reported that the total project progress is 75.5% complete compared to as-planned progress of 75.4% of the \$11,133 million April 2018 EAC forecast. The report also shows that construction progress reached 78.5% compared with planned progress of 78.9% of the \$8,014 million April 2018 EAC forecast, based on invoiced construction costs. Contract percentage calculations use the amount that has been allocated to each contract in the MTA Impact accounting system for the budget.

b(4)

[Redacted]

[Redacted]

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b(4)

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
b(4)					
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
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Change Orders/Budget Adjustments

The ESA November 2018 MPR lists 7 change orders with magnitudes greater than \$100,000 that were executed in November 2018. The net value of these change orders was \$7.7 million. No budgets were adjusted in November 2018.

Table 3.2: Executed Change Order Log (magnitude > \$100,000)

Contract	Description / Mod No.	Amount
CM014B	Add Stairway at the 47 th Street Node - Package 2 (CPR-097; mod. 185)	3,329,168
CQ033	G02 Substation Negative Return to Substation 44 (mod. 28)	180,000
CS179	LIRR Fiber Optic Network (mod. 119)	2,317,800
CS179	Change in IP Addresses (mod. 132)	2,560,000
CS179	Plaza Ceiling Opening in MCC Room (mod. 133)	204,500
CS179	Increase in Bid Item 9 - Cleaning and Finishing (mod. 145)	250,000
CH057	Scope Deletion (mod. 35)	(1,149,700)

Funding

Budget Amendment 3 to the 2015–2019 Capital Plan has been incorporated into the ESA program budget. This action added \$157 million (local funds) and increased the overall ESA program budget from \$10,178 million to a new value of \$10,335 million.

Federal Funding: The total Federal funding commitment to the ESA project is \$2,698.8 million, of which all of the funds have been effectively drawn down as of December 1, 2018.

Local Funding: The budget for Local Funding is \$7,636.4 million, of which \$5,706.1 million has been expended through December 1, 2018. Financing costs are funded separately from other local sources.

PMOC Concerns and Recommendations

1. The PMOC is concerned that MTACC’s strategy of holding funding as contingencies rather than funding contract budgets to their projected value results in an overstatement of both the contract completion percentages and the total value of unallocated contingencies. While this strategy retains maximum flexibility for the MTACC, it differs from the generally accepted practice of committing to budgets for known program costs and tends to artificially inflate the program contingency and reduces the accuracy of contract completion percentages. The PMOC anticipates that the budgets will be updated after major contract modifications are executed and when the 2020–2024 Capital Plan is adopted.
2. The MTACC needs to prepare its 2020–2024 Capital Plan, which is anticipated to include approximately \$956 million to complete the ESA program and to restore \$157 million to the Regional Investment program. The MTACC cost plan forecasts drawing contingencies down to approximately \$117 million at the end of December 2020, at which time the ESA program budgets and contingencies would be replenished with funds from the 2020-2024 Capital Plan. The forecast \$117 million contingency balance is below the ELPEP minimum, which would be addressed in the MTACC recovery plan that is anticipated in the first quarter of 2019. This future potential funding constraint could be a major risk.
3. The PMOC recommends that MTACC accelerate and conclude discussions and negotiations with the CS179, CS084, VS/CS086, CM007, CM014B, and CQ033 contractors to resolve the major open cost and schedule issues and to incorporate the Incremental IST so that the associated budgets can be determined. Additionally, ongoing and possible future delays may result in increasing costs for the following contracts:
 - CS179 – the late completion of systems designs and extended schedule for Incremental Integrated Systems Testing.

- CS084 – the late completion of final design has delayed the completion of fabrication of some traction power equipment; transformer test failures and resolution of potential damage to some of the 26 inductive reactors provided by MTACC.
- VS086 and CS086 – incorporation of Positive Train Control into the ESA signal system and technology issues.

4.0 RISK MANAGEMENT

The PMOC focuses here on discussion of the most critical risks.

Harold Interlocking – ESA Risk

Harold Re-Sequencing Plan (“ESA First”) Risk

Through January 2019, MTACC continued to adjust the “ESA First” Harold Re-Sequencing plan to accommodate railroad force account constraints. As a result, the impacts caused by insufficient Amtrak support were reduced during this period, but not totally eliminated. This situation continues to be a challenge for MTACC, although noticeable improvements have been reported to continue through January 2019 for LIRR direct Force Account work and Amtrak ET support.

Amtrak Preparation for Extended East River Tunnel Outages Risk

The PMOC has continuing concerns regarding the impact to the ESA Harold work due to the Amtrak program to harden East River Tunnel (ERT) Lines 1 and 4 in preparation for extended outages for ERT Lines 1 and 2 to complete Hurricane Sandy damage-related reconstruction work, originally planned for 2019 and now deferred until 2025, starting with Line 2. The risk remains that tunnel systems reliability or safety issues might require Amtrak to make emergency repairs on either Line 1, 2, or 4 at any time between now and the RSD of December 2022. Should this occur, the remaining ESA construction work in Harold Interlocking, as well as the systems testing, start-up, and commissioning for Tracks A, B/C, and D, could be delayed and potentially impact the MTACC RSD of December 2022. There is less likelihood, however, that this could impact the FFGA RSD of December 2023.

LIRR Positive Train Control (PTC) Risk

This risk has three distinct elements, as discussed here.

- a.) A potential risk that may be realized in the near future is the impact that LIRR installation of PTC in Harold Interlocking may have on the Harold Critical Path work, especially the successor activities to the CIL cutovers completed in July 2018. Although LIRR originally submitted a waiver request to the FRA in early October 2017 to have the December 31, 2018 deadline extended and subsequently submitted a revised request in late December 2017, the possibility exists that FRA might not grant the waiver. If the waiver is denied, PTC installation may take precedence over the ESA work in Harold. In its letter of May 2, 2018, FRA requested that LIRR resubmit an alternate PTC implementation plan and revised schedule by August 2, 2018. LIRR submitted its proposed revised PTC implementation schedule on November 29, 2018.
- b.) LIRR may divert some force account resources away from support for the ESA work to provide support for LIRR’s system-wide, i.e., non-ESA, PTC work currently underway.
- c.) LIRR did not complete PTC design in either 1Q2018, as earlier projected, or January 2019, as more recently projected, due to resolution of GEC/LIRR comments on the GCT3 and GCT4 application logic submittals. The GEC acknowledges that the required associated design changes for ESA Contracts VS086, CS086, and CS179 cannot be completed until the PTC is finalized. The PMOC continues to monitor this situation to determine if it presents any schedule risk to the three cited ESA contracts and also with regard to

finalization of the CS179 Integrated System Testing Plan and Schedule. MTACC has acknowledged that the contract modification for incorporation of PTC requirements will impact the substantial completion date for Contract VS086.

Capital Funding Risk

MTACC has forecasted a need for approximately \$956 million in the 2020–2024 Capital Plan. The PMOC remains concerned that – until the 2020-2024 Capital Plan is approved – this potential future funding constraint may significantly impact the program budget and schedule as well as the start of Revenue Service.

ESA Vehicle Risk

The PMOC remains concerned about the schedule slippage of the LIRR federal vehicle procurement program for the M-9A vehicles because it has the potential to significantly impact delivery of the vehicles and, hence, MTACC’s Revenue Service Date. On January 24, 2019, LIRR issued the second step Phase II, “Cost/Technical,” portion of the two-step RFP to vendors that submitted successful proposals for the Phase I, “Qualifications”, initial step of the RFP. LIRR intends to issue the award for this RFP in June 2019, which the PMOC considers to be overly optimistic based on previous LIRR vehicle procurements.

Manhattan/Systems Performance Risk

The Manhattan/Systems path is at risk for future open/unresolved issues. The schedule includes the MTACC proposal for an Incremental IST, which needs to be accepted by the LIRR; executed in a contract modification for CS179; and then subsequently incorporated in contract modifications for interfacing contracts, as necessary. The process to incorporate the Incremental IST is progressing, but is taking longer than earlier anticipated. [REDACTED] b(4)

[REDACTED] Without better definitions of the scopes of work, schedule impacts cannot be accurately forecast. Finally, Contract CS084 TPSS C08 is near critical with only 15 CDs of float.

[REDACTED]

b(4)

[REDACTED]

5.0 ELPEP COMPLIANCE SUMMARY

The current status of each of the remaining main Enterprise Level Project Execution Plan (ELPEP) components is summarized as follows:

- **Technical Capacity and Capability:** MTACC indicated that it will review the Technical Capacity and Capability (TCC) Plan and propose revisions, if required, to reflect the current status of the program. MTACC updated the TCC Plan in 3Q2017. In April 2018, FTA advised MTACC to incorporate its current updates and commence with a subsequent revision that addresses management changes resulting from the MTACC Six-Point Plan for ESA. All aforementioned updates will be consolidated in a draft that was anticipated, but not met, in December 2018. The draft TCC Plan update is now expected during 1Q2019.

- **Continuing ELPEP Compliance:** The ESA project should continue to make additional improvements in the following areas: Management Decision; Design Development; Change Control Committee (CCC) Process and Results; Stakeholder Management; Procurement; and Risk-Informed Decision Making. The PMOC continues to note progress in two previously identified areas – Issues Management and Timely Decision Making, particularly when responding to new issues arising from the railroads’ Force Account resource availability, track outages, and other issues regarding the remaining work in Harold Interlocking.
- **Project Management Plan:** MTACC is using the current version of the PMP, Rev. 10, that the PMOC reviewed and the FTA accepted in 2017.

b(4)

The PMOC notes that, with completion and approval of the most recent Schedule Management Plan and Cost Management Plan updates, as well as the FFGA amendment, the ESA project is better able to generally remain compliant with ELPEP.

- **Schedule Management Plan:** The ESA project should continue to make additional improvements to the Schedule Management Plan (SMP) in the following areas: Alternative Integrated Project Schedule (IPS) Updating, Forecasting, and Schedule Contingency Management against a current baseline schedule. MTACC is using Rev. 2 of the SMP, dated September 2016. An updated draft was issued in December 2018.
- **Cost Management Plan:** The ESA project should continue to make additional improvements to the Cost Management Plan (CMP) in the following areas: Project Level EAC Forecasting, Project Level EAC Forecast Validation, and MTACC Cost Contingency Management and Secondary Mitigation. MTACC is using Rev. 2 of the CMP, dated October 2016. An updated draft was issued in December 2018.
- **Risk Management Plan:** ESA submitted the updated Risk Management Plan in 4Q2017. In April 2018, the FTA advised MTACC to incorporate its current updates and then commence with a subsequent revision that addresses any changes resulting from the MTACC Six-Point Plan for ESA. An updated draft was issued in December 2018.
- **Project Quality Manual:** ESA submitted the updated Project Quality Manual in February 2018. In April 2018, FTA advised MTACC to incorporate its current updates and then commence with a subsequent revision that addresses any changes resulting from the MTACC Six-Point Plan for ESA.

The ESA PMT is preparing draft updates of the Project, Cost, Schedule, Risk Management, Contract Packaging, and Technical Capacity and Capability Plans. These will document the changes called for by the incorporation of the MTACC Six-Point Plan for ESA to reduce future programmatic risks. MTACC issued updated drafts for the CMP, SMP, and RMP in December 2018 as well as the CPP in January 2019. Updates for the PMP and TCC will follow in 1Q2019.

Revisions to the ELPEP Document: MTACC submitted an updated ELPEP with suggested revisions in 3Q2017. In April 2018, FTA advised MTACC to re-evaluate its proposed updates in consideration of the revised EAC, budget, and IPS, as well as organizational, management, and

process changes resulting from implementation of the MTACC Six-Point Plan to reduce risk on the ESA project.

6.0 SAFETY AND SECURITY

Based on safety information supplied by MTA, the PMOC-calculated ESA Injury Ratios for December 2018 were 0.00 for Lost Time Injuries (LTI) and 0.00 for Recordable Injuries (RI). Both were below the 2018 Bureau of Labor Statistics (BLS) Safety Guidelines of 1.7 for LTI and 2.8 for RI. Additionally, MTACC did not report any significant security issues in the ESA November 2018 MPR.

7.0 ISSUES AND RECOMMENDATIONS

Design: The PMT design management team needs to focus on the timely achievement of time-critical intermediate milestones and work closely with the GEC to provide the required Construction Phase Services for schedule critical construction/procurement efforts as determined by the PMO Analytics Group. Also, the PMOC has observed the following:

- Approvals from the railroads, both LIRR and Amtrak, and other outside stakeholders, are requiring considerably more time than planned; and,
- LIRR is making changes that alter the design basis and result in time-consuming and costly re-design work by the GEC.

The ESA PMT needs to continue to monitor and improve coordinating the interface of design reviews and equipment approvals between the GEC and LIRR for the CS084, CS179, and VS086 contracts. These shortcomings indicate possible technical capacity and capability issues in the particular design support areas.

Procurement: The PMOC had previously recommended that the ESA PMT update the current version of the CPP, Rev. 12.0, and minimize shifting scope for the remainder of the project. This update needs to account for the remaining third-party contracts and railroad force account packages, along with all additional scope/scope transfers and a procurement timeline. In January 2019, ESA issued the draft Rev.13.0 to the CPP.

Water Infiltration Concerns Regarding Contracts CS179, CS084, VS086, and CQ032:

The PMOC remains concerned about the numerous water infiltration issues in the electrical and electronic equipment rooms either constructed by, or provided for, these contracts. The PMOC notes that, while a number of the water remediation efforts employed have been successful, others have not; and this has caused delays to construction work. Further, the CS179 and CS084 contractors continue to advise MTACC of more water infiltration issues in areas where work access is now available and the CS086 contractor recently re-stated its concern over identified a water issues in the Plaza Interlocking facility rooms. Discussions continue regarding VS086 equipment rack configurations and a potential water infiltration/moisture issue. Water conditions remain in three main areas under CQ032: the former Launch Block area, the Stair #2 area, and the former Early Access Chamber area. MTACC indicates that a separate contract will be issued to engage a contractor to evaluate and remediate any current or future water infiltration issues.

Contract CQ032: The PMOC remains concerned about the resolution of seven NCRs regarding tunnel ductbench deviation from plan that remain pending MTACC analysis and resolution. GEC is preparing repair details and limits where encroachment is greater than 5” for LIRR review. These deviations have the potential to impact continuing trackwork construction. As-built field survey work continued through January 2019.

Contract CS179: The PMOC recommends that the ESA PMT continue making improvements regarding the PMOC’s following concerns for CS179:

- Timely delivery and discussion about the contractors’s monthly schedule submissions;
- Resolution and implementation of coordination issues;
- ESA PMT responses to contractor NOCs and issuance of CPRs; and,
- Timely design review and approvals to the contractor’s design submittals and Requests for Information.

Contract CS084: MTACC should prioritize the execution of contract modifications to preclude any further impact to substation design and fabrication. Additionally, the PMOC remains concerned about the following issues:

1. Equipment delivery methodology (means and methods);
2. Installation of the C08 traction power cables due to missing conduit and manholes;
3. Transformer hi-pot testing failures;
4. Verification of existing conduit and manholes in several substations;
5. Coordination with other contractors;
6. Possible damage to the MTA-provided inductive reactors due to improper storage and handling by MTA;
7. Extent of non-conformance of track monuments; and,
8. Water infiltration issues in the facilities.

Contract VS086: The PMOC remains concerned that there is no accurate and comprehensive schedule in place that would allow MTACC to effectively manage this contract and encourages MTACC to quickly complete discussions regarding the development of such a schedule that addresses all the issues currently identified on this contract. The PMOC is concerned that design decisions are not being made in a timely manner. Issues regarding the acceptability of “open-type” racks and PTC design incorporation need to be expeditiously resolved.

Contract CS086: MTACC and the contractor need to address the noted water infiltration issues and expeditiously conduct inspections of other work sites to determine if water issues, or any other issues, will preclude the expedient progress of the contract work. The contractor needs to prepare and submit its baseline schedule so that MTACC can evaluate it and the coordination issues that will be necessary with other ESA contractors.

Project Funding: The project is at risk due to the anticipated need for approximately \$956 million to address additional costs that were forecast by the PMT in the April 2018 program reassessment. Interim funding needs through December 2020 have been addressed. The PMOC is concerned about future potential impacts on the program budget and schedule if there are delays in funding the ESA program in the 2020–2024 Capital Plan.

Project Budget: The PMOC is concerned about MTACC’s unconventional strategy of holding significant contingencies that would only be released to specific projects on an as-needed basis commensurate with construction progress and based on future contract modifications. While MTACC’s strategy retains maximum flexibility, it differs from the generally accepted practice of committing funds to budgets for known program costs. The PMOC is concerned that the strategy results in an overstatement of both the contract completion percentages and the total value of unallocated contingencies at any point in time.

Project Schedule: The PMOC remains concerned about the remaining program schedule contingency of 302 calendar days that is only 27 calendar days above the ELPEP minimum. IPS 112 shows that Manhattan/Systems work is the primary critical path for the ESA program, which

has unresolved issues for Incremental IST, b(4) [REDACTED]. Additionally, Manhattan/Systems contracts that are not on the critical path include CS084, CM007, and CS086, each of which has its own schedule challenges that may not be readily apparent due to the linear nature of critical path reporting.

Risk Management: The segmentation of construction packages has created multiple inter-contract interfaces and milestones. In the PMOC's opinion, managing inter-contract handoffs and interfaces has been, and will continue to be, very challenging and represents a significant MTACC-retained risk. The PMOC believes that any meaningful schedule recovery, especially for Contracts CM014B, CS179, and VS084, will be difficult at best. The PMOC considers the major remaining risks for the East Side Access Program to be:

1. Program Funding – update of the program budgets and inclusion in the MTA Capital Plan (long term risk realized in 2Q 2018);
2. Recovery of lost time due to significant schedule delays on CM014B and CS084;
3. Successful execution of multiple hand-off interfaces across several contracts;
4. Contractor access and work area coordination in Manhattan;
5. Duration of integrated systems testing and effectiveness of Incremental IST;
6. Continued availability of adequate Amtrak and LIRR force account resources;
7. Continued availability of required track outages in Harold Interlocking;
8. Maintaining adequate schedule performance of the remaining work in Harold Interlocking (Improved performance noted through 2018);
9. Remaining schedule path float will be used in the near future and Manhattan/Systems path will become critical (risk realized in April 2018);
10. Coordination risk retained by MTACC in Manhattan and the ESA tunnels with regard to construction and testing interface management for the systems work;
11. CS084 equipment issues involving transformers, 3 hi-pot test failures, and final resolution of concerns about MTACC provided inductive reactor equipment;

b(4)
[REDACTED]

Specific remaining risks for the Harold Interlocking work, previously identified by MTACC, include the following:

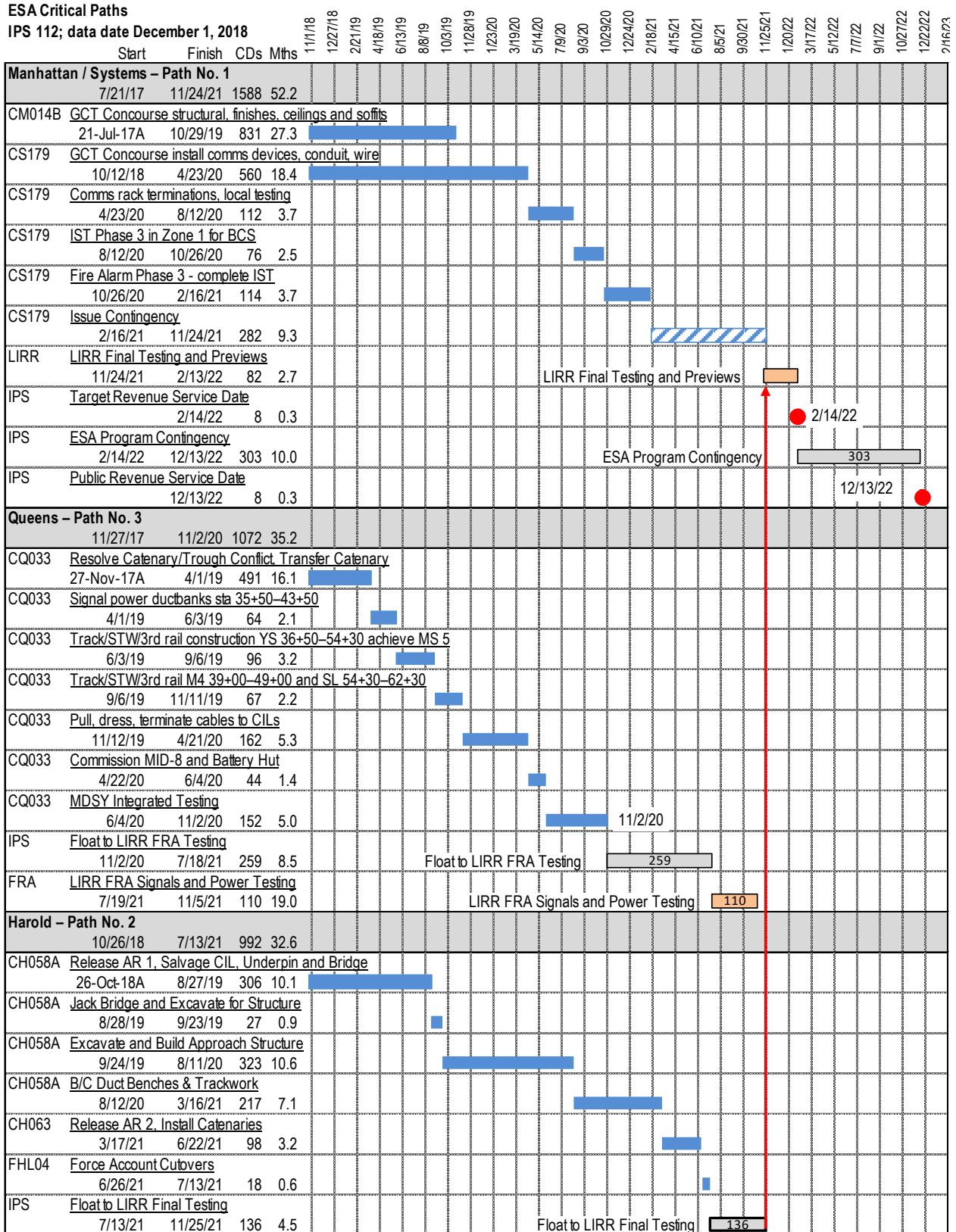
1. Positive Train Control in Harold: LIRR submitted a formal waiver request to FRA; LIRR was required to resubmit its revised PTC Implementation Plan/Schedule by August 2, 2018, LIRR submitted the revised PTC schedule on November 29, 2018.
2. LIRR Force Account Performance: Ability of LIRR force account resources to provide both a very high level of support for third-party contractor access and protection and adequate productivity for significantly increased direct labor work involving track, 3rd rail, and signals, in accordance with the current ESA schedule. [Risk now lower]
3. Northeast Quadrant Rail Work: [No longer a risk as of September 30, 2018]
4. LIRR CIL Cutovers: [No longer a risk as of July 31, 2018]
5. CH058A Preparation Work: Ability of Amtrak and LIRR force account resources to complete, in accordance with the current ESA schedule plan, all track, catenary, and third-rail work required prior to NTP for CH058A. [No longer a risk as of January 31, 2019]
6. Funding: Funding constraints (risk realized in 2Q2017; long-term risk remains).
7. Amtrak Support: Ongoing/future Regional Projects requiring extensive Amtrak support.
8. Reconstruction of Existing Amtrak ERT Lines 1 and 2: Deferred until after the ESA program. The risk now is from the impact of unplanned emergency tunnel repairs.

APPENDIX A – ACRONYMS

AFI	Allowance for Indeterminates	IPS	Integrated Project Schedule
ARRA	American Recovery and Reinvestment Act	IST	Integrated System Test
AWO	Additional Work Order	LIRR	Long Island Rail Road
BIM	Building Information Model	LSZH	Low Smoke Zero Halogen
BLS	Bureau of Labor Statistics	MNR	Metro-North Railroad
BSA	Buy/Ship America	MOD	Contract Modification
C&S	Communication and Signals	MPR	Monthly Progress Report
CBB	Current Baseline Budget	MTA	Metropolitan Transportation Authority
CCC	Change Control Committee	MTACC	Metropolitan Transportation Authority Capital Construction
CCM	Consultant Construction Manager	NCR	Nonconformance Report
CCTV	Closed Circuit Television	NOC	Notice of Change
CD	Calendar Day	NTP	Notice to Proceed
CIL	Central Instrument Location	NYCT	New York City Transit
CIR	Central Instrument Room	OCIP	Owner Controlled Insurance Program
CM	ESA Construction Manager assigned to each contract	PAC	Pneumatically Applied Concrete
CMP	Cost Management Plan	PCO	Proposed Change Order
CMU	Concrete Masonry Unit	PLC	Program Logic Control
ConEd	Consolidate Edison Company	PMOC	Project Management Oversight Contractor (Urban Engineers)
CPOC	Capital Program Oversight Committee	PMP	Project Management Plan
CPP	Contract Packaging Plan	PMT	ESA Project Management Team
CPR	Contractor Proposal Request	QA	Quality Assurance
DC	Direct Current	QPR	Quarterly Progress Report
DCB	Detail Cost Breakdown	RFI	Request for Information
DFF	Direct Fixation Fastener	RFP	Request for Proposal
EAC	Estimate at Completion	RMP	Risk Management Plan
ELPEP	Enterprise Level Project Execution Plan	ROD	Revenue Operations Date
ERT	East River Tunnel	ROW	Right of Way
ESA	East Side Access	RPR	Relocated Primary Route
ET	Electric Traction	RSD	Revenue Service Date
F/A	Force Account	RTB	Resilient Tie Block
FAT	Factory Acceptance Testing	SC	Substantial Completion
FD	Final Design	SCADA	Supervisory Control and Data Acquisition
FFGA	Full Funding Grant Agreement	SDR	Second Design Review
FIAT	Factory Integrated Acceptance Testing	SLCS	Signal Local Control System
FRA	Federal Railroad Administration	SMP	Schedule Management Plan
FTA	Federal Transit Administration	SMS	Security Management System
GCT	Grand Central Terminal	SWO	Stop Work Order
GEC	General Engineering Consultant	TCC	Technical Capacity and Capability
HVAC	Heat, Ventilation and Air Conditioning	TPSS	Traction Power Substation
		TSR	Track and Signal Route
		WBY	Westbound Bypass Tunnel

APPENDIX B – CHARTS AND TABLES

Chart 1: ESA Critical Paths – IPS 112, December 1, 2018



APPENDIX B – TABLES

Table 1: Summary of Critical Dates

Program Milestone	FFGA	Forecast (F) Date, Actual (A) Date		Amended FFGA ***
		Project Sponsor*	PMOC**	
Begin Construction	Sept. 2001	Sept. 2001 (A)	Sept. 2001 (A)	Sept. 2001
Construction Complete	Dec. 2013	Dec. 2022 (F)	Sept. 2023 (F)**	Dec. 2023
Revenue Service	Dec. 2013	Dec. 2022 (F)	Sept. 2023 (F)	Dec. 2023

Notes: * Project Sponsor forecast Revenue Operations Date per presentation the MTA CPOC in June 2014.
 ** Source –Based on PMOC 2014 schedule trending analysis representing a medium degree of mitigation.
 *** Source – Amended FFGA, August 2016

Table 2: Project Budget/Cost Table
 (Cost shown in millions)

	FFGA			MTA Current Baseline Budget (CBB)			Expenditures Dec. 1, 2018	
	Original FFGA	Amended FFGA	Pct. of FFGA	Obligated	CBB	Pct. of Total CBB	Expenditures	Pct. of CBB
Grand Total	7,386.0	12,038.5	100.0%	9,923.4	11,451.5	100.0%	8,840.3	77.20%
Financing Cost	1,036.0		14.0%	617.6	1,116.5	9.7%	617.6	55.34%
		1,116.5	9.3%					
Total Project Cost	6,350.0		86.0%	9,305.8	10,335.1	90.3%	8,222.7	79.56%
		10,922.0	90.7%					
Federal Share	2,683.0		36.3%	2,698.8	2,698.8	23.6%	2,698.8	99.9%
		2,698.8	22.4%					
5309 New Starts share	2,632.0		35.6%	2,436.7	2,436.7	21.3%	2,436.7	99.9%
		2,436.7	20.2%					
Non New Starts share	51.0		0.7%	66.6	66.6	0.6%	66.7	99.9%
		66.6	0.6%					
ARRA	0.0	195.4	1.6%	195.4	195.4	1.7%	195.4	99.9%
Local Share	3,667.0		49.6%	6,607.0	7,636.2	66.7%	5,523.9	72.34%
		8,223.2	68.3%					

Table 3: Project Budget and Invoices
(Cost shown in millions)

Elements	Baseline Budget June 2014	April 2018 EAC Forecast	December 1, 2018			
			Current Budget (interim)	Actual Awards	Invoiced Costs	Inv. Pct. of Budget
Construction Subtotal	7,379.3	8,014.1	7,536.6	7,232.5	6,291.6	83.5%
Soft Costs Subtotal	2,359.5	2,852.2	2,247.3	2,149.1	2,113.2	94.0%
Engineering	720.6	871.8	770.2	738.4	742.8	96.4%
OCIP	282.6	457.4	379.2	379.2	371.9	98.1%
Project Mgmt.	972.2	1,117.3	965.4	909.6	880.5	91.2%
Real Estate	182.1	203.7	124.9	119.2	117.9	94.3%
Rolling Stock	202.0	202.0	7.5	2.7	0.2	2.7%
██████████ b(4)	██████	██████	██████	█	█	█
Total w/o Financing	10,177.8	11,133.3	10,335.1	9,381.6	8,404.9	81.3%

Note: ESA carries the Rolling Stock Reserve as an off-line cost, outside the program budget.

Table 4: Comparison of Standard Cost Categories: FFGA vs. CBB
(Cost shown in millions)

Standard Cost Category	FFGA	June 2014 Project Budget	Amended FFGA	Sep 2018 CBB	Oct 2018 CBB	Nov 2018 CBB	CBB / FFGA Var.	CBB / Amend FFGA Var.
10 - Guideway & Track Elements	1,988.7	3,405.5	3,353.4	3,403.3	3,403.1	3,403.1	71.1%	1.5%
20 - Stations, Stops, Terminals, Intermodal	1,168.7	2,238.2	2,326.8	2,290.9	2,290.9	2,290.9	96.0%	-1.5%
30 - Support Facilities (Yards, Shops, Admin)	356.3	474.2	450.8	558.6	558.6	558.6	56.8%	23.9%
40 - Site Work and Special Conditions	205.1	610.6	562.5	525.7	525.6	525.6	156.3%	-6.5%
50 - Systems	619.3	605.6	627.7	713.2	713.1	713.1	15.1%	13.6%
60 - ROW, Land, Existing Improvements	165.3	219.4	192.2	162.3	162.3	162.3	-1.8%	-15.6%
70 - Vehicles	494.0	209.9	879.5	15.4	15.4	15.4	-96.9%	-98.2%
80 - Professional Services	1,184.0	1,975.4	1,809.0	2,114.8	2,114.8	2,114.8	78.6%	16.9%
b(4)								
Subtotal	6,349.9	10,177.8	10,922.0	10,335.1	10,335.1	10,335.1	62.8%	-5.4%
100 - Finance Cost	1,036.1	1,036.1	1,116.5	1,116.5	1,116.5	1,116.5	7.8%	0.0%
Total	7,386.0	11,213.9	12,038.5	11,451.6	11,451.6	11,451.6	55.0%	-4.9%

Table 5: Summary by FTA Standard Cost Categories
(Costs shown in millions)

Standard Cost Category	FFGA	June 2014		October 1, 2018		
		Project Budget	Amended FFGA	Current Budget	Awarded Value	Paid to Date
10 - Guideway & Track Elements	1,988.7	3,405.5	3,353.4	3,403.1	3,288.6	2,977.8
20 - Stations, Stops, Terminals, Intermodal	1,168.7	2,238.2	2,326.8	2,290.9	2,212.0	1,789.6
30 - Support Facilities (Yards, Shops, Admin)	356.3	474.2	450.8	558.6	540.2	358.3
40 - Site Work and Special Conditions	205.1	610.6	562.5	525.6	492.3	504.5
50 - Systems	619.3	605.6	627.7	713.1	654.3	451.7
60 - ROW, Land, Existing Improvements	165.3	219.4	192.2	162.3	156.5	155.2
70 - Vehicles	494.0	209.9	879.5	15.4	10.6	5.7
80 - Professional Services	1,184.0	1,975.4	1,809.0	2,114.8	2,027.2	1,979.8
b(4)						
Subtotal	6,349.9	10,177.8	10,922.0	10,335.1	9,381.6	8,222.7
100 - Finance Cost	1,036.1	1,036.1	1,116.5	1,116.5		
Total	7,386.0	11,213.9	12,038.5	11,451.6		

Table 6: Program Critical Dates 90 Day Look-Ahead – IPS 112 – December 1, 2018

Act. Id.	Name	Start	Finish	Float
CM014B Concourse and Facilities Fit-Out				
NOC-0279-001	MTA Reply to NOC / Issue RFI-1158 Structural Steel Clashes in Tile 3122 NOC-NOD (RFI-1096 FU) GCT-	21-Jul-17A	28-Feb-19	5
15250D	Rig & Set Columns, Beams & Joists (Not Supported by CMU) -(Tile -3122)	04-Apr-18A	11-Mar-19	3
15252D	Plumb & Bolt Columns, Beams & Joists (Not Supported by CMU) - (Tile - 3122)	16-Apr-18A	18-Mar-19	3
16502	Plumb & Bolt Columns & Beams (Not Supported by CMU) -(Tile -3126)	20-Feb-18A	26-Mar-19	3
CQ033 Mid-Day Storage Yard Facility				
CPR-025-10	CPR-025: Catenary B-918 1/2N and B-914W Guy Anchor + Amtrak Signal Trough Resolution	27-Nov-17A	7-Jan-19	199
CPR-025-20	CPR-025: Construction of Runaround Duct Banks	8-Jan-19	25-Jan-19	199
CPR-025-30	CPR-025: Termination of Signal & Removal of Existing Utilities Interfere with the Foundation (by Amtrak)	28-Jan-19	8-Feb-19	199
CPR-025-40	CPR-025: B-918 1/2N Foundation & Erect Pole + B-914W Guy Anchor	11-Feb-19	19-Feb-19	199
CPR-025-50	CPR-025: Amtrak Wire Transfers	19-Feb-19	1-Apr-19	280
CH058A Harold Structures – B/C Approach				
CH058A-0160	Issue Notice to Proceed -CH058A	26-Oct-18A	6-Dec-18	21
CH058A0000	NTP CH058A Contract	7-Dec-18		21
CH058A0040	Release Access Restraint #1 (138CD from NTP)	7-Dec-18	24-Apr-19	29

Table 7: ESA Core Accountability Items

Project Status		Original at FFGA	Amended FFGA	Current	ELPEP **
Cost	Cost Estimate	\$7,386 M	\$10,922 M	\$10,335 M*	\$8,119 M
b(4)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Schedule	RSD	Dec. 31, 2013	Dec. 31, 2023	Dec. 2022	April 30, 2018
Total Project Percent Complete		Based on Invoiced Amount	75.5% actual vs. 75.4% planned (ESA calc.†)		
Project Performance Rate Since 2014 ESA Re-Plan		Based on Earned Value	81.8% (PMOC calculation of construction spending at 3Q2018 planned vs. actual since re-baselining)		
Contracts	Total contracts awarded to date		\$9,381 M	84.3% (PMOC calculation†)	
	Total construction contracts awarded to date		\$7,233 M	90.2% (PMOC calculation†)	
Major Issue	Status		Comments		
Project Funding and Budget	The total program budget is \$10,335.1 million, b(4)		The MTACC needs an additional approximately \$956 million in the 2020-2024 Capital Plan to complete the ESA program. b(4)		
Project Cost	The ESA PMT updated the ESA program budgets based on the approval of Budget Amendment 3 for the 2015-2019 Capital Plan. The April 2018 EAC is \$11,133 million. The Amended FFGA Baseline Cost Estimate is \$10,922 million.		If the 2020-2024 Capital Plan is not approved for the required ESA funds, then there may be significant impacts to the completion of current contracts, award of remaining contracts, and/or completion of railroad force account work. Concerns remain about the time elapsed in resolving the open Cost and Schedule issues and, ultimately, their cost impacts.		
Project Schedule	The primary critical and near-critical paths to target RSD, including float, are: <ul style="list-style-type: none"> ▪ Manhattan/Systems – no float (critical path) ▪ Harold Interlocking – b(4) ▪ Mid-day Storage Yard (Queens) b(4) The target RSD forecast remains on February 14, 2022. The public RSD remains December 13, 2022. The Amended FFGA Revenue Operations Date is December 2023.		There remain 39 months to the target RSD, which is b(4)		
Manhattan/Systems Schedule Path	IPS 112 shows that the ESA Program Critical Path runs through the Manhattan/Systems contracts. This work path has several major open/unresolved issues having potentially significant schedule impacts: incremental IST; and b(4)		Concerns continue for the ESA program Manhattan/Systems critical path. The Manhattan/-Systems path completion date is November 24, 2021, in IPS 112. This schedule has significant unresolved issues. Acceptable work progress along this schedule path relies heavily on the effectiveness of MTACC/ESA coordination efforts across the seven area contracts.		

Notes: * The cost estimate total budget was established in the May 2018 current baseline budget.
 ** 2010 Enterprise Level Project Execution Plan (ELPEP) reflecting medium level of risk mitigation, excluding financing cost of \$1,116 million.
 † ESA April 2018 EAC forecast: Construction \$8,014.1 million; Engineering \$871.8 million; Soft Cost \$1,980.4 million; Contingency \$267.0 million; and, Total \$11,133 million