



Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

October 2016

Committee Members

T. Prendergast, Chair

F. Ferrer

S. Metzger

J. Molloy

M. Pally

J. Samuelsen

L. Schwartz

P. Trottenberg

J. Vitiello

P. Ward

C. Wortendyke

N. Zuckerman

Capital Program Oversight Committee Meeting

**2 Broadway, 20th Floor Board Room
New York, NY 10004**

**Wednesday, 10/26/2016
1:15 - 2:15 PM ET**

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES September 26, 2016

- Minutes from September '16 - Page 3

3. COMMITTEE WORK PLAN

- 2016-2017 CPOC Committee Work Plan - Page 6

4. MTACC MONTHLY SECOND AVENUE SUBWAY (materials to be distributed at meeting)

5. LIRR CAPITAL PROGRAM UPDATE

- Capital Program Overview - Page 8*
- IEC Project Review on Jamaica Capacity Improvements - Phase I - Page 24*
- IEC Project Review on Main Line Double Track - Page 27*
- IEC Main Line Double Track Appendix - Page 32*

6. MNR CAPITAL PROGRAM UPDATE

- Capital Program Highlights - Page 33*
- IEC Project Review on Harmon Shop Replacement - Phase V, Stage I - Page 49*
- IEC Project Review on Hudson Line Sandy Restoration - Page 52*

7. LIRR AND MNR JOINT UPDATE ON ROLLING STOCK

- Progress Report on Rolling Stock - Page 56*
- IEC Project Review on M-9 Railcar Procurement - Page 76*

8. LIRR AND MNR UPDATE ON POSITIVE TRAIN CONTROL (PTC)

- Progress Report on Positive Train Control - Page 80*
- IEC Project Review on Positive Train Control - Page 93*

9. CAPITAL PROGRAM STATUS

- Commitments, Completions, and Funding Report - Page 99

10. UPDATE ON CAPITAL PROGRAM SECURITY PROJECTS (to be presented at the CPOC in Exec Session)

Date of next meeting: Monday, November 14, 2016 at 1:45 PM

MINUTES OF MEETING
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE
September 26, 2016
New York, New York
1:45 P.M.

MTA CPOC members present:

Hon. Thomas Prendergast
Hon. Fernando Ferrer
Hon. Susan Metzger
Hon. John Molloy
Hon. Mitchell Pally
Hon. Carl Wortendyke
Hon. Neal Zuckerman

MTA CPOC members not present:

Hon. John Samuelsen
Hon. Lawrence Schwartz
Hon. Polly Trottenberg
Hon. James Vitiello
Hon. Peter Ward

MTA Board members present:

Hon. Andrew Albert
Hon. Veronica Vanterpool

MTA Staff Present:

George Cleary
Naeem Din
Michael Garner
Amil Patel
Craig Stewart
Michael Wetherell

MTACC Staff Present:

Daniel Creighton
Bill Goodrich
Michael Horodniceanu
Anil Parikh

Independent Engineering Consultant Staff Present:

Joe DeVito
Nabil Ghaly
Kent Haggas
Dianne Rinaldi
Darlene Rivera
Thomas Schwind
Philip Stummvoll

* * *

Chairman Prendergast called the September 26, 2016 meeting of the Capital Program Oversight Committee to order at 1:45 P.M.

Public Comments Period

There was one public speaker in the public comments portion of the meeting: Leslie Ehrlich.

Meeting Minutes

Upon motion duly made and seconded, the CPOC members approved the minutes to the previous meeting held on July 25, 2016.

Committee Work Plan

Mr. Stewart announced that there were no changes to the CPOC Work Plan.

Update on Minority, Women and Disadvantaged Business Participation Programs and MTA Small Business Development Programs (SBDP)

Mr. Din provided a mid-year update on the MWDBE Participation Rates. For the period covering the January – June 2016 timeframe, the MTA anticipates achieving a 16% participation rate against its 17% Federal Goal, and against its 15% MBE and 15% WBE goals, anticipates achieving 12% and 13% participation rates, respectively. Mr. Patel then provided an overview of the first six years of the Small Business Mentoring Program (SBMP) Tier I, comprising 189 project awards to 131 firms for a total award amount of \$114M. In addition, he cited figures for the Tier II Program, which began in 2015 and which to date comprises 17 project awards to 15 firms for a total award amount of \$32M. Finally, Mr. Patel reported that in the first four years of the Small Business Federal Program 34 project awards to 19 firms for a total award amount of \$66M have been achieved. Mr. Cleary then provided highlights of the Outreach and Development efforts currently underway, including the following: there are a total of 132 prequalified firms in the SBMP Tier I; and within the full SBDP 79 loans, for a total loan amount of \$10.3M, have been approved since Program inception; and 318 firms have participated in the training program as of spring 2016. Mr. Garner then outlined the new Emerging Contractors Program, to be offered to all small businesses, with special attention to recruiting those businesses with Black, Hispanic, and Asian Pacific owners, which will provide intensive first-year monitoring of areas needing improvement related to program qualification. Further details of the presentation, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

MTACC Report on Second Avenue Subway

Mr. Parikh reported that the project is scheduled to meet the December 2016 Revenue Service Date and that the project is on budget; he then outlined project progress to date. In its Project Review, the IEC cited the following with respect to station completions: Lexington Avenue/63rd Street Station is expected to be ready for operation by the end of October 2016; 96th Street Station is tracking for completion by December 2016; progress on the 86th Street Station mechanical/electrical equipment and on elevators and escalators needs to improve to assure completion in December 2016; and at the 72nd Street Station the completion of elevators and escalators and their integration into the fire alarm system by the end of December 2016 remains a concern. With respect to systems testing the IEC cited the following: the test program is not meeting the completion rate required to finish the testing of all key systems needed to start revenue service in December 2016; and as of mid-September, key tests were being completed at a rate of 8-10 per week, whereas an average rate of 25 per week is needed to finish by mid-December 2016. Further details of the presentations, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

MTACC Report on East Side Access

Mr. Goodrich reported that the project is on schedule for a December 2022 Revenue Service Date and that the project remains within its \$10.178 billion budget. In its Project Review, the IEC confirmed MTACC's budget and schedule figures, but cited a number of risks to the cost contingency, as well as a risk to program schedule contingency stemming from Systems Contract CS179. Following a number of IEC Observations on the project, including Manhattan, Systems Contract CS179, Harold, and Schedule, the IEC then recommended that MTACC develop an

outline of an Integrated Systems Testing schedule to demonstrate that duration and installation and local testing activities will not further impact Systems Contract CS179 substantial completion and remaining program contingency. Further details of the presentations, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

MTACC Report on Cortland Street #1 Line

Mr. Creighton reported that project Substantial Completion is August 2018 and that the project budget remains \$158 million, excluding risk reserve. In its Project Review, the IEC concurred with the agency regarding the budget figure, as well as base contract Right-of-Way work being substantially complete. The IEC then cited the following concerns and issues: there continues to be no formal commitment from PANYNJ with regard to the next significant milestone, i.e., commencement of Vesey Street entrance construction; the current budgeted contingency and change order reserve may be inadequate to support the remaining construction budget and forthcoming change orders; and delays to incorporating significant change orders into the construction contract continue to pose a substantial risk to the project budget and revenue service date. Further details of the presentations, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

IEC Review of 34th Street-Hudson Yards Station

Mr. DeVito introduced the presentation on the IEC Review of the 34th Street-Hudson Yards Station, conducted at the Chairman's request, which included a review of the station waterproofing design, construction, and construction management process, and for which the IEC secured the services of Subject Matter Expert, Thomas Schwind. Ms. Rivera then provided background to the review, including conditions at the station following the September 2015 opening, the IEC's review of relevant documentation and the record regarding reporting of the issue. Mr. Schwind, as an independent 3rd party consultant, then provided his observations and findings stemming from a review of relevant contract design documents as well as site conditions, and he found that the waterproofing system at Hudson Yards appears to follow the required standards of waterproofing design to achieve a dry underground structure and no obvious shortcomings were detected during the review. He then said that quality control and assurance in the submittal review process, as well as non-conformance controls, may have contributed to a compromised waterproofing system. The IEC then recommended the following: waterproofing specifications be reinforced and ambiguous contract language be removed; acceptance procedures during the submittal process be improved, including non-conformance controls and contractor document control; and the reporting structure be strengthened to highlight high-risk concerns to the Board. Further details of the presentation, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

MTA Capital Program Commitments & Completions and Funding

Mr. Stewart brought the Committee's attention to the MTA Capital Program Commitments & Completions and Funding Report and the 2nd Quarter Traffic Light Reports and invited Committee Members' questions, of which there was none.

Adjournment

Upon motion duly made and seconded, Chairman Prendergast adjourned the September 26, 2016 meeting of the MTA Capital Program Oversight Committee at 2:45 PM.

Respectfully submitted,
Michael Jew-Geralds
Office of Construction Oversight

2016-2017 CPOC Committee Work Plan

I. Recurring Agenda Items

Approval of the Minutes
Committee Work Plan
Commitments/Completions and Funding Report

II. Specific Agenda Items

November 2016

NYCT Capital Program Update

- Stations Program Update
- Systems & Security Division Update

MTACC Monthly Second Avenue Subway Update

December 2016

Quarterly MTACC Capital Program Update

- Second Avenue Subway
- Cortlandt Street Station
- East Side Access

Quarterly Change Order Report
Quarterly Traffic Light Reports

January 2017

NYCT Capital Program Update

- Sandy Recovery and Resiliency Update
- Subway Car Program Update
- Bus Procurement Update

Update on Minority, Women and Disadvantaged Business Participation

February 2017

B&T Capital Program Update
LIRR and MNR Update on Positive Train Control (PTC)

March 2017

Quarterly MTACC Capital Program Update
Quarterly Change Order Report
Quarterly Traffic Light Reports

April 2017

NYCT Capital Program Update
Update on Capital Program Security Projects (in Exec Session)

May 2017

LIRR and MNR Capital Programs Update

June 2017

Quarterly MTACC Capital Program Update
LIRR and MNR Update on Positive Train Control (PTC)
Quarterly Change Order Report
Quarterly Traffic Light Reports

July 2017

NYCT Capital Program Update

September 2017

Quarterly MTACC Capital Program Update
Quarterly Change Order Report
Quarterly Traffic Light Reports

October 2017

LIRR Capital Program Update
MNR Capital Program Update
LIRR and MNR Update on Positive Train Control (PTC)

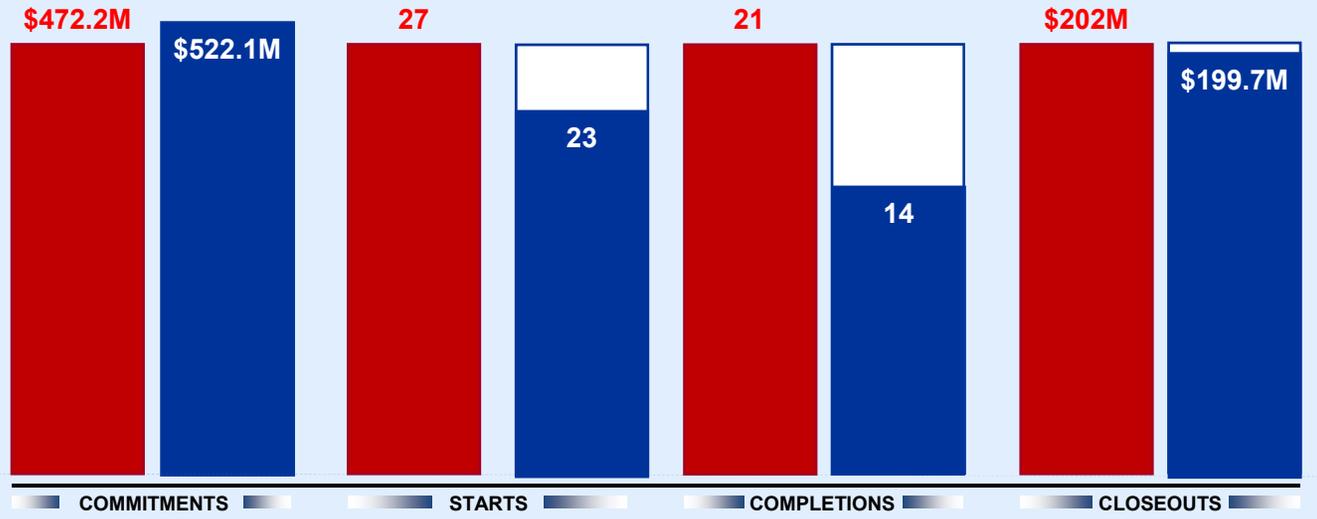
Capital Program Oversight Committee

Long Island Rail Road Capital Program Overview

October 2016



2016 LIRR Capital Program Goals



■ 2016 PLAN ■ ACTUAL as of September 30, 2016 FORECAST through December 31, 2016



2016 Major Starts and Completions

Updated from May 2016 CPOC

Major Starts:

Construction

- Post Avenue Bridge 12/16 F
- Wantagh Station √
- Flushing- Main Street Station √
- Hicksville Station √
- Jamaica Capacity Improvements (JCI) – Platform F √
- Nostrand Ave. Station 12/16 F
- Double Track – Phase 2 √
- 2016 Track Program √

Design

- Infrastructure Component Replacement Design √
- Station Enhancement Project √
- Substation Replacements 11/16 F

Major Completions:

Construction

- Ellison Ave. Bridge √
- Colonial Road Bridge √
- Main Line Double Track Phase 1- Civil and Site Work √
- JCI- Johnson Ave Yard Reconfiguration √

Design

- Buckram Rd Bridge √
- Post Avenue Bridge √
- Flushing Main Street Bridge Rehabilitation 12/16 F
- Mid-Suffolk Yard √
- Morris Park Locomotive Shop √

2016 Commitments:	Original Forecast	\$472,274,919
	Actual to Date	\$522,100,000
	Trending Towards	\$600,000,000 (25% Over Forecast)



A Few Active Construction Projects



Wantagh Station Platform Replacement



New Station Platform Replacement

Status/Schedule:

- Notice of Award March 2016 **A**
- Final Completion January 2018**F**

Budget: \$26.8M



Demolition of Existing Platform Canopy



Removal of Existing Platform

MTA Long Island Rail Road



Hicksville Station Improvements



Hicksville Station Improvements



Demolition of Platform is Underway



Construction of Mock-Up of New Platform

Status/Schedule

- Notice of Award July 2016^A
- Construction Completion 2nd Quarter 2018

Budget: \$70M

MTA Long Island Rail Road

ANNUAL TRACK PROGRAM

Cyclical Track Renewal

2015-2019 Capital Program



Budget: \$60M

ELEMENTS OF WORK	2016	
	Goal	Actual as of 9/30/16
Wood Ties (ea)	15,340	18,106
Concrete Ties (ea)	17,000	16,897
Grade Crossing Renewal (ea)	5	1
Switch Replacement (ea)	13	5
Continuous Welded Rail (CWR) (ft)	22,160	14,072
TLM – CWR (ft)	67,000	68,084
Surfacing (miles)	72	72
Field Welds (ea)	800	852
Surface Interlocking Switches	44	44



Jamaica Capacity Improvements and Main Line Double Track Project



Jamaica Capacity Improvements - Phase I

Status/Schedule

Johnson Yard Reconfiguration (Design-Build)

- Yard Reconfiguration - **COMPLETED** – April 2016^A

South Bypass Track

- LIRR Force Account Construction
South Bypass under Construction
Work Started – Feb 2016
Forecast Completion (including cutover) – Q4 2016^A

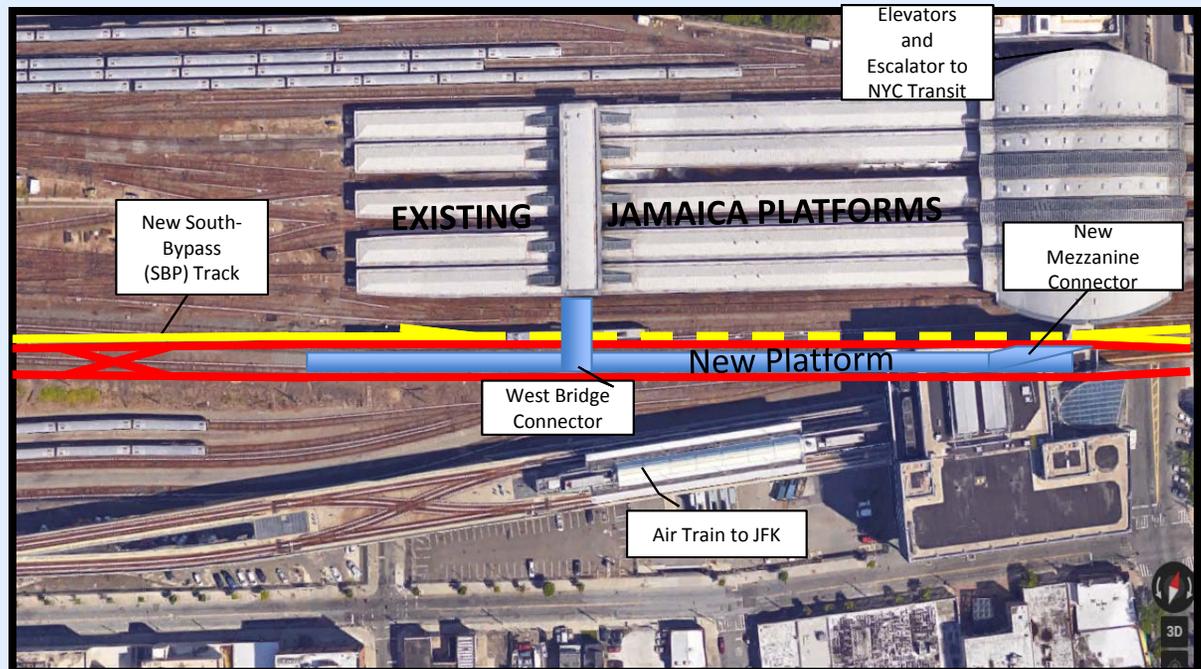
Platform F Construction

- Award Sep 2016^A
- Completion 3rd Quarter 2019

Universal Crossovers to facilitate Phase 2

- Union, Metropolitan, and Beaver Crossovers
- Completion 3rd Quarter 2020

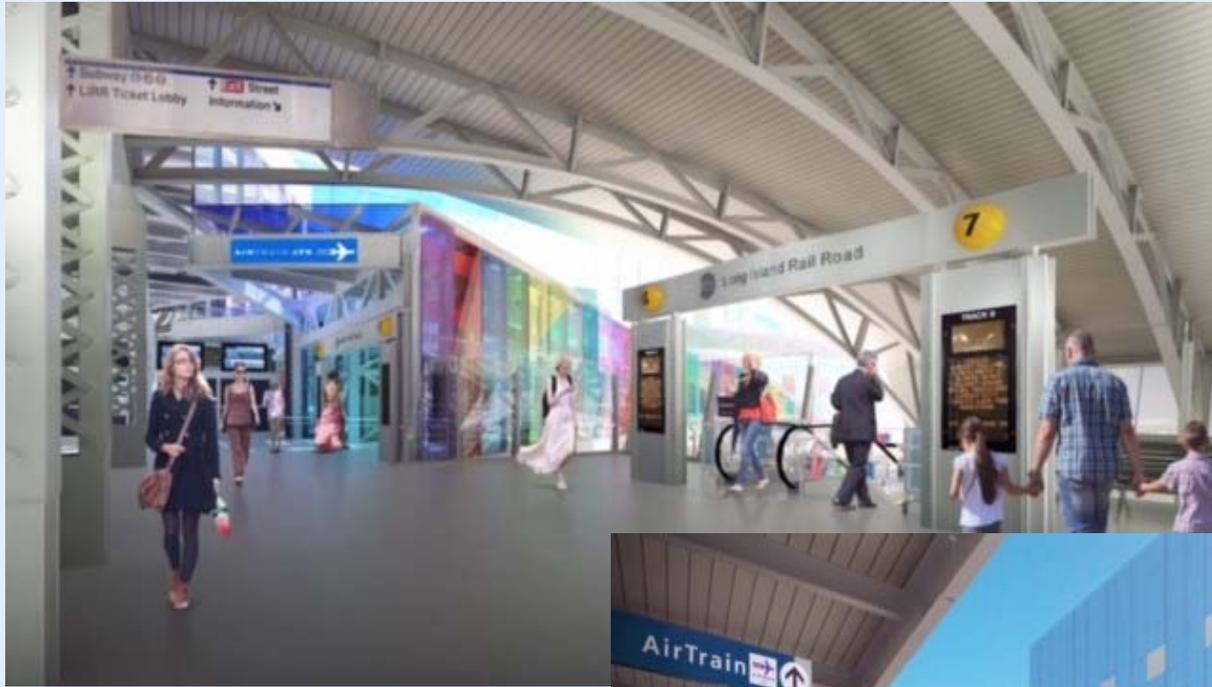
Phase I Budget: \$302M



MTA Long Island Rail Road



Additional Passenger Platform at Jamaica Station



The new platform will have full connectivity with the rest of Jamaica Station with new escalator and elevator access to existing portal mezzanine, the rest of Jamaica Station, NYC Transit, the Air Train to JFK Airport, and local bus service at street level.

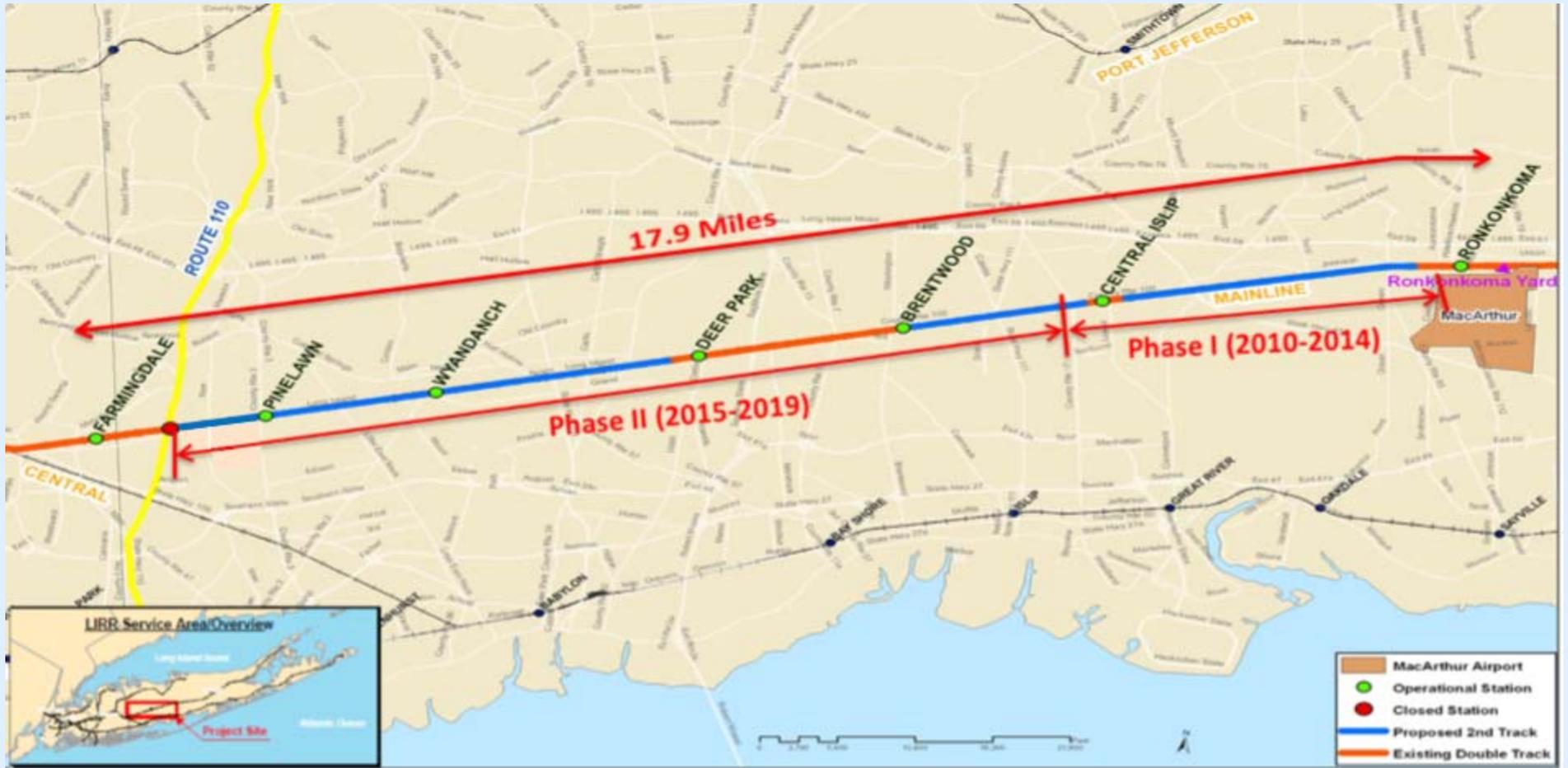


MTA Long Island Rail Road



Main Line Double Track Project

Farmingdale to Ronkonkoma



MTA Long Island Rail Road



Main Line Double Track Project

Phase I - West of Central Islip to Ronkonkoma



New Retaining Wall Construction



New Switch Installations

Status/Schedule

- Substantial Completion of Civil and Site Work
May 2016^A
- Track and Systems Installation
Aug 2015 (Actual) – Dec 2017

Budget: \$138M



New Mechanized Track Installation

Main Line Double Track - New Track Construction



Main Line Double Track Project

Signal and Communications Work



Signal Relocated Hut at Ocean Ave Crossing



Drilling for Utility Pole Installation



Signal Trough Installation



Utility Pole Installation

Main Line Double Track Project

Grade Crossing and Track Work



New Crossing Installation at Carleton Ave



Track Surfacing East of CI



New Crossing Installed at Ocean Ave.



Track Turnout Installation at Ocean Ave.

Double Track Project Phase II

2015-2019 Capital Program

Phase II - Farmingdale to West of Central Islip



Phase II Clearing and Grubbing

Status/Schedule

- Award of Phase 2 Civil and Site Work
June 2016^A
- Award of Phase 1 & 2 Signal
Equipment
July 2016^A
- Targeted Completion - October 2018

Budget: \$250M



Wyandanch (today)



Pinelawn (today)

MTA Long Island Rail Road

October 2016 CPOC IEC Project Review



Jamaica Capacity Improvements – Phase I

October 26, 2016



Schedule & Budget Review

Jamaica Capacity Improvements (JCI) – Phase I

- **Schedule:** The JCI – Phase I project is on schedule to be completed prior to the target date for ESA opening day service.
- **Budget:** The project is on budget at \$302M and the expenditures to date reflect the percent of project completion.
- The IEC concurs with the progress reported by the LIRR.



IEC Observations

To date, the IEC is satisfied with the agency's continuous risk mitigation efforts however, the following areas are of concern:

- **Force Account Labor Availability:** This risk could be realized as LIRR projects continue to compete for common services and have similar substantial completion dates.



October 2016 CPOC IEC Project Review



Main Line Double Track



October 26, 2016

Budget Review

- The project is on budget.
- The expenditures to date reflect the correct percentage of project completion.
- Appropriate contingency remains in the project budget

Schedule Review

- The project is on schedule.
- The revised schedule, overlapping phase 1 and phase 2 activities, is aggressive and has very little float.



Observations

- **Availability of Force Account crews:** In the opinion of the IEC, Force Account crew availability for signal, communication and third rail installation may be an issue into 2017 and 2018. During that time, the MLDT project will be competing with other projects for Force Account resources.



Observations (continued)

- **Potential Delay in Delivery of Signal Equipment:** The IEC had previously reported that the revised schedule shows aggressive signal delivery, and contains cost and schedule risks.

Some of the cost risks have been transferred to the signal equipment supplier, since a contract has been awarded consistent with the engineer's estimate. The signal equipment delivery remains on the project's critical path.



IEC Recommendations

Consistent with a previous IEC recommendation, the LIRR has incorporated several milestones in the revised project schedule.

This will allow the PM team to concentrate on monitoring the status of intermediate inspection and acceptance dates, to gauge Force Account performance and to mitigate project risks.



Recommendations Log

Recommendation (May 2014)	Agency Response/Action	Status
<p>The IEC conducted a comparative study between track installation using Automated Track Installation Machine vs. LIRR Force Account Panel Installation. The results showed substantial cost and schedule savings for rest of the project using Automated Track Installation Machine. These results were shared with the LIRR.</p> <p>The IEC Recommends that the LIRR requests a formal estimate from an automated track installation contractor to verify the IEC's results.</p>	<p>The LIRR reviewed cost and schedule benefits of automated track installation, and agreed with the IEC's recommendation to use automated track installation on longer continuous stretches of track.</p>	<p>Closed</p>
Recommendation (May 2016)	Agency Response/Action	Status
<p>The IEC recommends that the agency establishes interim contractual milestones for the remaining third party contracts, and concentrate on monitoring the status of intermediate inspection and acceptance dates to gauge Force Account performance and to mitigate project risks and issues.</p> <p>This would allow the PM team to sequence the project schedule and mitigate delays in a more efficient manner.</p>	<p>The LIRR has incorporated several milestones in the revised project schedule, which overlaps phase 1 and phase 2 activities.</p>	<p>Closed.</p>



Capital Program Oversight Committee

MTA Metro-North Railroad
Capital Program Highlights

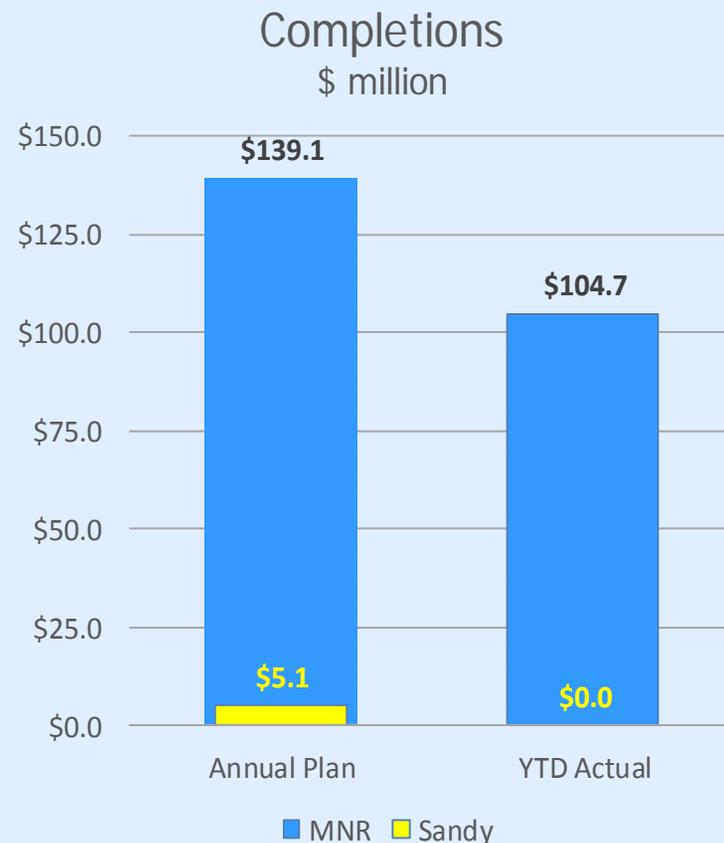
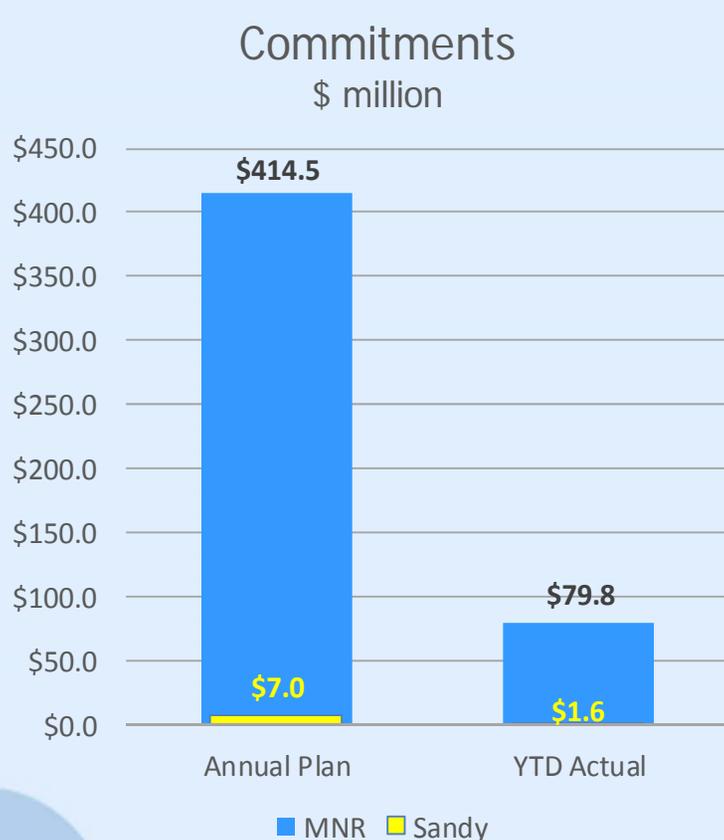
October 2016



MTA Metro-North Railroad

2016 Metro-North Capital Program Goals

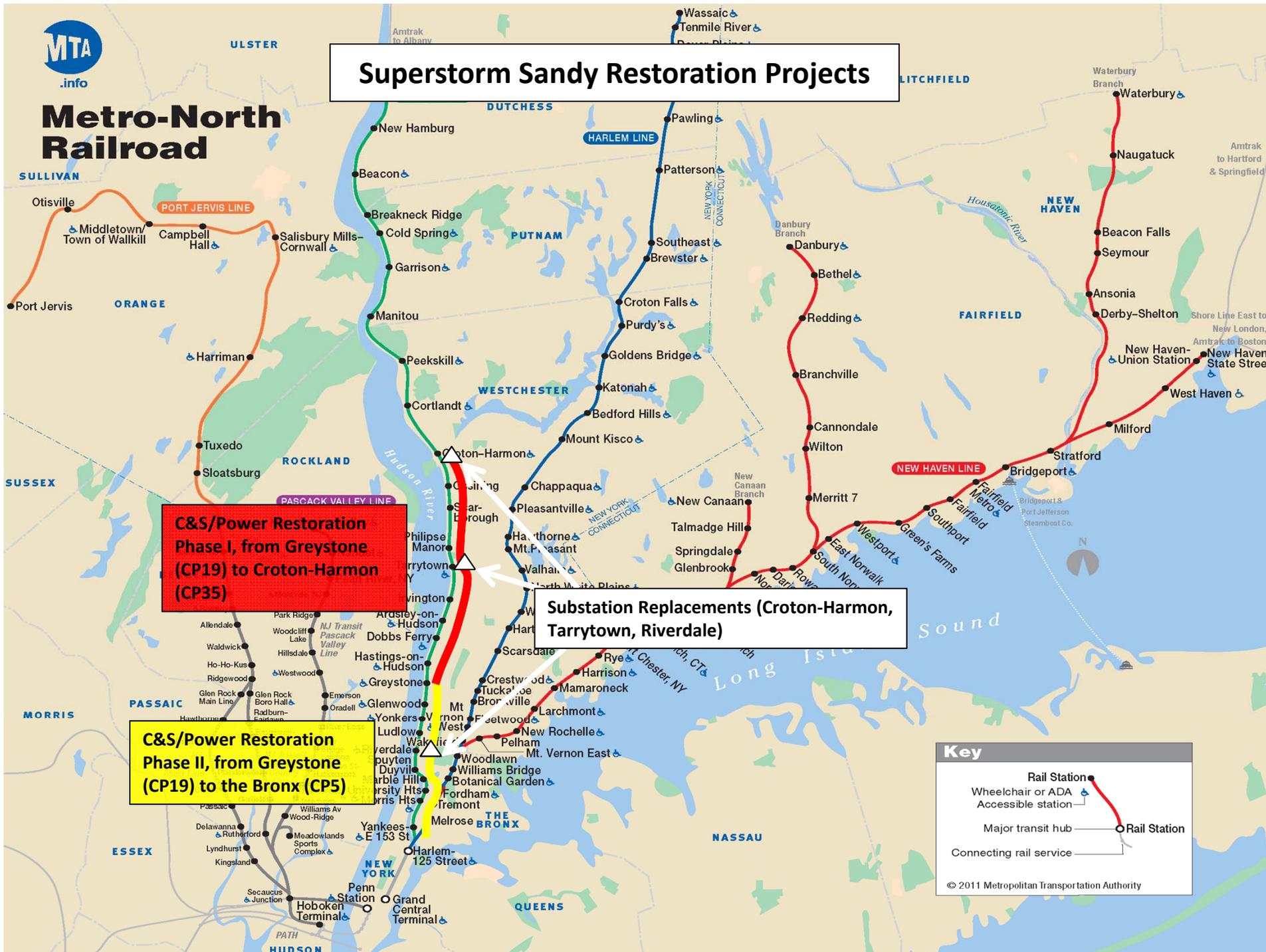
Actual Through September 30, 2016



Major Project

*Superstorm Sandy Restoration/Resiliency
Harmon Shop Replacement - Phase V*





Superstorm Sandy Restoration Projects



Metro-North Railroad

C&S/Power Restoration Phase I, from Greystone (CP19) to Croton-Harmon (CP35)

C&S/Power Restoration Phase II, from Greystone (CP19) to the Bronx (CP5)

Substation Replacements (Croton-Harmon, Tarrytown, Riverdale)

Key

- Rail Station
- Wheelchair or ADA Accessible station
- Major transit hub
- Connecting rail service

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Design-Build

30 Mile Hudson Line Power and Communication & Signal Infrastructure Restoration (Phase I + Phase II): \$301 M

Awarded Design-Build Phase I : 05/2015
Completion : 12/2017

Option : Design-Build Phase II – Anticipated to commence 1Q of 2018
Completion: 01/2020 (pending Risk Assessment results)

Status

Ongoing Work (Greystone – Croton-Harmon)

- Elevated raceways.
- 40" trough installation at interlocking locations and conduit at select location.
- Metro-North is finalizing the budget and schedule, which will recognize the challenges of project implementation in a constricted work environment adjacent to the active railway.
 - Current delay for Phase I work is estimated at six months.
- Metro-North is working with MTA to update the project Risk Assessment and mitigation related to the project implementation.

Design-Build

30 Mile Hudson Line Power and Communication & Signal Infrastructure Restoration (Phase I + Phase II): \$301 M

Awarded Design-Build Phase I : 05/2015
Completion : 12/2017

Option : Design-Build Phase II –Anticipated to commence 1Q of 2018
Completion: 01/2020 (pending Risk Assessment results)

Status

- Mitigation being discussed with contractor:
 - Metro-North will extend long-term outages post scheduled completion date where appropriate to complete stages efficiently.
 - Metro-North is going to increase flaggers from 12 to 16 (33%) to increase production rates going forward.
 - Metro-North will continue to identify means to enhance productivity by working with Joint Venture on design requirements where appropriate.

Sandy Hudson Line Restoration Design-Build



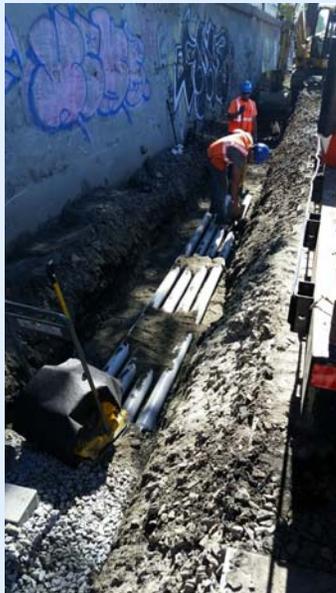
C & S Raceway



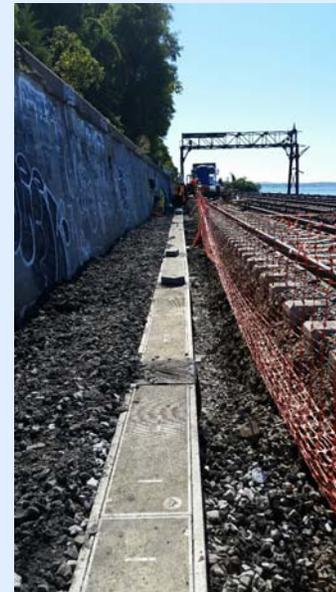
Equipment Elevated Platform at Ossining



*Equipment Elevated Platform
North of Ossining*



C&S Conduit installation



C&S Trough installation



Sandy Hudson Line Restoration: Replace 3 Hudson Line Substations: \$44 M Award: December 2014

Riverdale, Tarrytown, Croton-Harmon

- Substation elevated vault foundation and conduit installation are complete.
- Factory acceptance tests for the electrical equipment are underway with final testing anticipated in November 2016. (Riverdale and Tarrytown)
- Fabrication of the substation and its associated electrical equipment is underway. (Croton-Harmon)
- Delivery of the prefabricated substation and electrical equipment is anticipated in January 2017.

Final wiring, testing and commissioning for three substations to be completed by April 2017.

Status



Tarrytown Substation A-25



Elevated vault foundation for new A-25 Tarrytown substation



Pad-Mounted Electric Switch (PME) for new 13.2 KV utility service connection



Riverdale Substation A-13



*New 2.3MVA Rectifier , and 112.5 KVA
Auxiliary Cast-Coil Transformer*



Substation Foundation



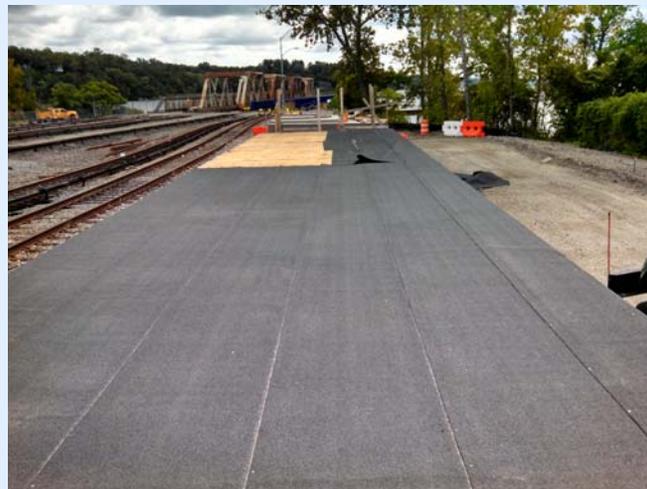
3rd Rail Sectionalizing Switch



Harmon Substation A-33



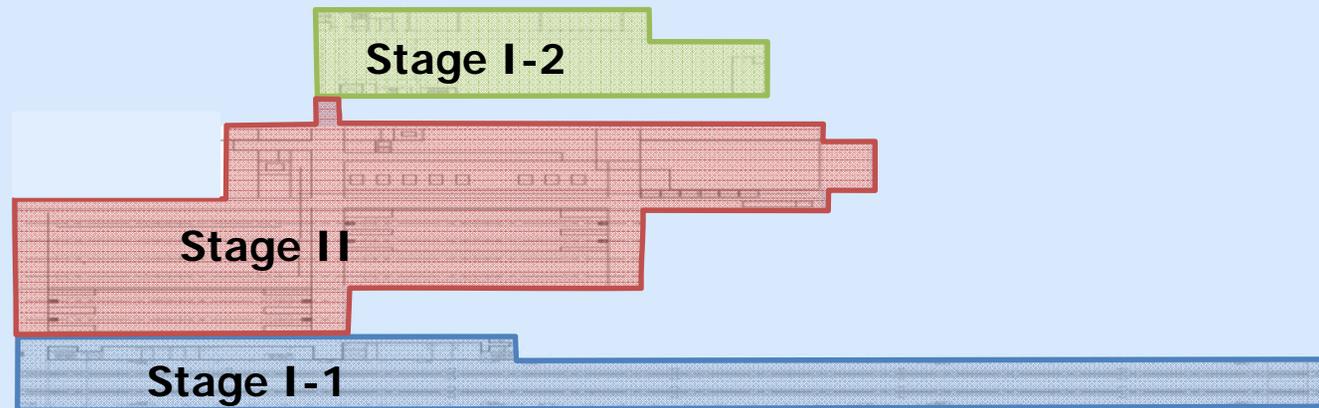
Elevated vault foundation for new A-33 Harmon Substation



Location for the new substation placement



Harmon Shop Replacement Design-Build Phase V - Stage I and Stage II Budgets and Schedules



Current Budget Stage I		
Total Project (including soft costs)		\$315,590,606
Current Schedule Stage I		
Milestone	Award	Complete
Design-Build Phase V, Stage I	12/30/14	01/31/18
Current Budget Stage II		
Total Project (including soft costs)		\$431,600,000
Mentoring Support Projects		\$10,000,000
Current Schedule Stage II		
Milestone	Award	Complete
Design-Build Phase V, Stage II	07/01/18	07/01/22

Croton-Harmon Phase V – Stage I

Status

- Foundations for Consist Shop Facility and EMU Annex are complete
- Structural steel installation for EMU Annex is complete
- Structural steel installation for Consist Shop Facility is ongoing anticipated completion by November 2016
- Provide a weather tight EMU Annex and a weather tight portion of the Consist Shop by December 2016 to support winter work.
- Project is on budget. The schedule for completion is re-forecasted to January 2018 from December 2017 based on the current construction schedule.



Phase V – Stage I Progress Photos



May 2016 - Consist Shop facility concrete floor slabs, excavations and installation of electrical duct banks, water and storm drains utilities.



October 2016 - Installation of Consist Shop facility structural steel, floor slabs, foundation walls, and track pits.



Phase V – Stage I Progress Photos



May 2016 – Installation of formwork, rebar and foundation at the EMU (Electric Multiple Unit) Annex.



October 2016 – Installation of Structural steel completed at the EMU Annex, in-slab utilities on 2nd floor on progress.



Design-Build Croton-Harmon Phase V – Stage II

Status

- The 15% preliminary design has been submitted and comments being incorporated into the next submittal
- The Risk Assessment for Stage II is scheduled for November 2016.
- The 30% preliminary design draft is scheduled for submission by the end of December 2016.
- The RFP for the Design-Build contract is currently scheduled for advertisement in March 2017.



October 2016 CPOC IEC Project Review



**Harmon Consist Shop Replacement
Phase V, Stage I**

October 26, 2016



Schedule & Budget Review

Harmon Consist Shop Replacement Phase V-Stage I

- **Schedule:** The IEC agrees with MNR's assessment of the schedule.
- All of the early interim contract milestones were achieved.
- **Budget:** The project is within budget. The expenditures to date reflect the actual percentage of project completion.
- In the opinion of the IEC, the remaining project contingency is sufficient to reach substantial completion.



IEC Findings

- **Budget Risks:** Many of the major budget risks have not been realized or the likelihood of their occurring has been significantly reduced.
- **Schedule Risks:**
 - **Testing and Commissioning** - The testing and commissioning plan has been submitted and approved. Commissioning activities will start in July 2017.
 - **Procurement of Equipment** - Bridge cranes, metal wall panels and AC switchboards are on the critical path.

There is presently sufficient time for testing and commissioning. The project team tracks the status of all of the procurements biweekly.



October 2016 CPOC IEC Project Review



Hudson Line Sandy Restoration/Resiliency

October 26, 2016



Schedule Review

- The IEC agrees with MNR that the schedule for both Phases of the project needs to be extended.
- The first continuous track outage (inbound local track) was completed in July 2016, approximately seven months late.
- To date the contractor has not achieved the production rates planned in the schedule.
- Recovery schedules are contingent upon the number of flaggers available.



Budget Review

- The existing budget is not sufficient to cover the expected costs of both phases. MNR recently requested additional federal funds.
 - The additional time results in additional monthly soft costs.
 - Additional contingency money was included to cover potential change orders.
- A Risk Assessment Update workshop was recently performed to identify threats to the schedule and budget and to develop mitigations.
 - Preliminary results indicate the potential for increases to schedule and budget.



Mitigations & Observations

Agency Mitigations

- The IEC agrees with MNR's efforts in mitigating the impacts to the schedule and budget.

IEC Observation

- Although MNR has taken steps to optimize the production rate, there are still risks to achieving the projected production rate including the availability of resources. Additional time will be required to evaluate their effect on actual rates achieved.



Capital Program Oversight Committee (CPOC)

Long Island Rail Road/ Metro-North Railroad

Rolling Stock Procurements

October 2016
Rev I



LIRR M-9 Mock Up



LIRR M-9 Mock Up



MTA Long Island Rail Road
MTA Metro-North Railroad



M-9/M-9A Car Procurement

LIRR: 416 M-9/M-9A Cars		
M-9 (Base)	92	M-3 Replacement: $92 + 88 = 180$
M-9 (1 st Option)	88	
M-9 (2 nd Option)	76	ESA Fleet Augmentation: $76 + 160 = 236$
M-9A*	160	

MNR M-9 Car Option for between 140-170 Cars

* Separate Procurement subject to Federal Provisions



M-9 Car Procurement

M-9 Current Contract Values (92 LIRR Base Order Cars):

- Initial Estimate at Completion: \$375.0M
- Current Estimate at Completion: \$382.4M*
- * Includes B-End Change Order and Technical Issues Resolution Agreement (TIRA)

M-9 Schedule

- Contract Award: September 2013
- Design Complete: 1st qtr 2017
- Pilot Car Testing: June to December 2017
- Car Deliveries: June 2018 to January 2019

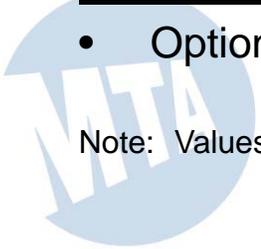
M-9 LIRR Options (164 Cars): \$500M (2015-2019 Capital Program)

- 1st and 2nd Options are required to be exercised in January 2017 and February 2019 respectively

M-9 MNR Options (140-170 Cars) \$532M (2015-2019 Capital Program)

- Option is required to be exercised in August 2017

Note: Values include cost of Carbuilder, 3rd party consultant, and F/A labor



LIRR/MNR M-9 Procurement Progress-to-Date

- Initial Design Reviews (IDR) Completed: December 2014
- 1st Stage Mock up review Held: April 2015
- Final Mock-up Review Held: July 2015
- Final Design Reviews (FDR) Commenced: September 2015
- Carbody Passed Structural Testing: October 2015
- First Article Inspections (FAI) Commenced: January 2016
- Qualification Testing (QT) Commenced: April 2016
- Preliminary Design Reviews (PDR) Completed: September 2016

Note: The M-9 Car is comprised of 22 separate major systems.

Each system has its own individual IDR/PDR/FDR/QT/FAI



LIRR M-9 Pilot Car Manufacture Kobe, Japan



MTA Long Island Rail Road
MTA Metro-North Railroad



LIRR/MNR M-9 Procurement Major Milestones Look-Ahead

- Final Design Reviews Completed: 4th qtr 2016
- System Qualification Tests Completed: 4th qtr 2016
- First Article Inspections Completed: 1st qtr 2017
- Car Level FAI: 2nd qtr 2017
- 8 Pilot Car testing in Pueblo: Jun to Aug 2017
- 14 Pilot Car testing at LIRR: Oct to Dec 2017
- Pilot Test Mod Program: Jan to May 2018
- 92 Base Car Deliveries: Jun 2018 to Jan 2019



M-9 Safety/Security Improvements

- Positive Train Control (PTC) Equipped
- CCTV - 1 forward facing, 1 in-cab camera and 8 passenger area cameras.
- Enhanced B-End carbody crashworthiness
- Additional speakers in vestibule for clearer public announcements
- Threshold illuminating lights at the side and end doors
- Additional emergency lighting if car batteries are exhausted
- Increased length and height of vestibule grab handles



Illuminated Thresholds



MTA Long Island Rail Road
MTA Metro-North Railroad



Illuminated Thresholds



MTA Long Island Rail Road
MTA Metro-North Railroad



M-9 Customer Amenity Enhancements

- Closed loop seat armrests (similar to M-8)
- Electrical outlets on both sides of car in each row of seats (same as M-8)
- Four 32" multimedia screens in each car
- 4-6 Additional seats per married pair (217 seats/pair)
- Powered B-End door
- Energy efficient LED lighting
- Front of car exterior destination signs (visible as train approaches station)
- Improved ride quality from M-7
- Text-to-Speech service updates
- Consist car number display ("Car 3 of 10")
- Suspension system flip seats (Prevents slamming)
- Quieter side doors which operate with less impact force and are easier to open manually in an emergency egress situation
- *Slightly increased width of seats*
- *Increased window tint (reduces sun glare)*
- *Improved toilet doors*
- *Additional coat hooks in toilet room*
- *Additional toilet room air quality treatment*
- *Toilet room design improves cleanliness and touch-less experience*
- *High Velocity "no touch" toilet room hand drier*
- *Scratch proof mirror*



M-9 Armrests



MTA Long Island Rail Road
MTA Metro-North Railroad



M-9 Electrical Outlets



MTA Long Island Rail Road
MTA Metro-North Railroad



M-9 Powered B-End Door



MTA Long Island Rail Road
MTA Metro-North Railroad



Crew Amenity Improvements From M-7

- Crew Key Switch Relocated to be more accessible
- Crew Locker Size increased and made more accessible A/C outlet has been added
- F End Door Less force required to open and crash worthiness has been increased
- Sliding Sash Force required to open/close has been decreased and an armrest added
- Emergency Equipment Locker/ADA Ramp Have been relocated to be more accessible and all emergency equipment is now co-located in the new locker located just inside the vestibule



Reduction of Sole Source Parts in the Aftermarket

- To reduce Sole Source Procurements in the aftermarket, KRC is required to make commercially reasonable efforts to design cars so that at least 40% of generally purchased parts are “Commercial-Off-the-Shelf” products or available from multiple sources
- With the assistance of a consultant, Kawasaki is currently at 36% COTS, against the goal of 40%.



LIRR/MNR M-9 Key Milestones

Date	Milestone
September 2013	Award Contract for 92 LIRR Base Cars (M-3 Replacement)
January 2017	LIRR Exercises 1 st Option for 88 Cars (M-3 Replacement)
1st Quarter 2017	Design/Testing Completed
June 2017 to December 2017	Pilot Car Testing (8 cars for 3 months in Pueblo, 14 Cars for 3 months at LIRR)
January 2018 to May 2018	Pilot Car Modification Program
June 2018 to January 2019	Delivery of 92 Base Order Cars (M-3 Replacement)
August 2017	MNR Exercises Option for 140 – 170 Cars
February 2019	LIRR Exercises 2 nd Option for 76 Cars (ESA Service)
February 2019 to August 2019	Delivery of 1 st Option for 88 LIRR Cars (M-3 Replacement Complete)
September 2019 to August 2020	Delivery of 140 to 170 MNR M-9 Cars
September 2020 to March 2021	Delivery of 2 nd Option for 76 LIRR M-9 Cars for ESA



MTA Long Island Rail Road
MTA Metro-North Railroad

LIRR M-9A Key Milestones

Date	Milestone
November 2016	Contract Documents Completed
November 2016	Pre RFP Interior/Exterior Design Review
November 2016	RFP (Phase 1 – Qualifications) Released
December 2016	Phase 1 Proposals Due
February 2017	RFP (Phase 2, Cost/Technical) Released
April 2017	Phase 2 Proposals Due
June 2017	Carbuilder Meetings
August 2017	BAFO Request
September 2017	BAFOs Due
October 2017	MTA Board Approval
November 2017	Contract Award
November 2021 to December 2022	Car Deliveries (160 Cars)

MTA Long Island Rail Road
MTA Metro-North Railroad



M-9A Customer Amenity Enhancements

- In addition to the M-9 customer amenity enhancements and improvements identified on the previous page, the M-9A specification will also include:
 - USB ports installed in each A/C electrical outlet
 - A powered bathroom door
 - Stainless Steel urinal located in the bath module
 - “Gorilla Glass” side windows (do not fade/haze/crystallize)



October 2016 CPOC IEC Project Review



M-9 Rail Car Procurement



October 26, 2016

Schedule Review

- The IEC concurs with LIRR's report on the status of the M-9 project.
- The schedule will be adjusted under the Technical Issues Resolution Agreement (TIRA) and realigns the project schedule going forward.
- The IEC notes that the critical path is being driven by final design and pilot car qualification testing. Barring further delay in the completion of final design and/or complications during the qualification test program, the current schedule for completion of production cars deliveries should be achievable.



Budget Review

- The EAC for the base order program has been increased by \$5.5M. The revised EAC is \$382.4M and includes \$8.2M in contingency.
- \$5.4M of the contingency will be applied towards the TIRA.
- The remaining contingency of \$2.8M should be adequate for the remainder of the project barring further design changes.



Observations

- Several risks were identified in the IEC November 2015 CPOC report. They include Car Weight, Schedule and CCTV. The IEC understands that these issues have been addressed in the TIRA and are no longer considered a risk to the project.
- Replacement Parts
The Carbuilder is making progress towards achieving the contractual goal of 40% for Commercial-Off-The-Shelf (COTS) components. The current COTS percentage is 36%. The Carbuilder is continuing its efforts to increase the COTS percentage.



October 2016 CPOC LIRR/MNR PTC Project Update

October 26, 2016



Budget / Schedule

Budget

- The Railroads' current estimated Project Cost remains \$968M.
- 29% or \$278M of the budget is expended to date.

Schedule

- The Railroads remain on schedule to meet December 2018 deadline.
- Final Design is still pending – Completion targeted by 2nd Qtr. 2017
- Designs, deliveries, installations and testing activities are moving ahead in parallel.
- Progress to date for each Railroad is approximately 30%



Update from June 2016 CPOC

Key Accomplishments

- LIRR/MNR acquired all radio spectrum for PTC
- LIRR/MNR approved the contractor's system design and all PTC hardware
 - Completed First Article Inspections of all hardware elements
 - Finalized system level interoperability agreements with Amtrak
- The Contractor started development of vehicle and office software
- LIRR completed all applications to FCC and Tribal Nations for antenna pole installations



Update from June 2016 CPOC

Other achievements

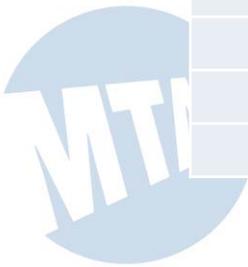
- MNR completed FCC surveys and applications for pilot lines
- LIRR/MNR collected test data from pilot testing to validate design
 - LIRR will need to add and re-position some transponders
- LIRR/MNR continued to install on-board, signal and communications equipment
- LIRR/MNR completed transponder installations and verified operation on the test track
- MNR started installation of office equipment at back up command center.
- LIRR/MNR continued training of railroad forces



120 Day Look Ahead

- LIRR/MNR will finalize subsystem designs and start Final Design Review (FDR).
- LIRR/MNR will continue pilot testing with interface to communications subsystem including the PTC radios.
- LIRR to receive FCC and Tribal Nations approvals for antenna pole installations. MNR to complete surveys and application process.
- LIRR/MNR will complete installation of PTC office equipment at back up locations.
- LIRR/MNR will continue training of Railroad Forces.
- LIRR /MNR will continue installation of wayside and vehicle components

	<u>LIRR</u>	<u>MNR</u>
Equipment	120 Day Target Quantity	120 Day Target Quantity
Transponders	600	500
Wayside Interface Units	24	15
Communication Cases	10	3
Antenna Poles	0	0
M7	61	36



Risks / Mitigation Strategies

- A Risk Assessment is in progress.
- The Railroads are reviewing new risks identified to formulate appropriate mitigation strategies.

1. Risk: Delays in design process (including software development) will impact timely completion

Mitigation:

- Proceeded with software and hardware designs in parallel
- Started installation of approved hardware before final design completion
- Conducting Pilot testing as design progresses
- Accepting interim software builds to start testing PTC functionality earlier
- Accepting risk of repeat work

2. Risk: Equipment manufacturing and deliveries impacted by late designs

Mitigation:

- Contractor acquiring additional suppliers and engineering support



Risks / Mitigation Strategies

3. Risk: Railroads forced to perform installations within shorter timeframe

Mitigation:

- MNR using a contractor to complete M7 installations
- LIRR accepting/installing partial equipment deliveries

4. Risk: Testing may strain current RR resources and track availability

Mitigations

- Implemented dedicated Test Tracks
- Developing detailed test plans and acquiring appropriate manpower
- Conducting testing in between service and nights
- Evaluating the possibility of taking tracks out of service to perform testing
- Giving PTC the highest priority



LIRR PTC Photos



DE/DM On-Board Computer



Transponders Installation
on Concrete Tie



MNR PTC Photos



Radio Case



Pole and Antenna installation



Appendix (as of 9/30/2016)

LIRR Wayside Equipment Installation Tracking

LIRR Pilot 1 (Babylon to Patchogue)				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	318	200	128	60%
Wayside Interface Unit (WIU) Locations	17	17	0	100%
Communication Cases	7	0	7	0%
Poles / Antennas	7	7	0	100%
LIRR Pilot 2 (Port Washington to Harold)				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	174	135	39	78%
Wayside Interface Units Locations	8	8	0	100%
Communication Cases	9	0	9	0%
Poles / Antennas	9	9	0	100%
LIRR System Total				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	3903	971	2932	25%
Wayside Interface Units Locations	155	46	109	30%
Communication Cases	108	0	108	0%
Poles / Antennas	108	16	92	15%

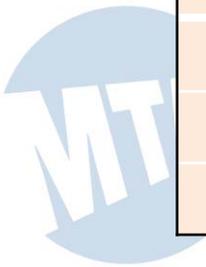
Appendix (as of 9/30/2016)

LIRR On-Board Equipment Installation Tracking

Car Type	Vehicles Total		Pilot 1 Babylon to Patchogue		Pilot 2 Port Washington to Harold	
	Planned	Actual	Planned	Actual	Planned	Actual
M7	418	15	NA	NA	4	4
DE/ DM	45	0	4	0	NA	NA
C3	23	0	4	0	NA	NA
E15	19	0	6	0	NA	NA
NYAR	8	0	4	0	NA	NA
TC-82	1	0	NA	NA	NA	NA
M9	66	0	NA	NA	NA	NA
Totals	580	15	18	0	4	4

M7 Train Partial Installation Tracking

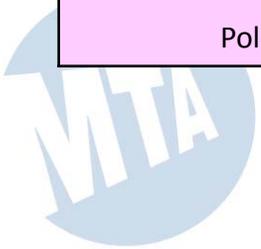
Train Type	Undercar Scanner Antenna	OBC/ Completion	Roof Antenna	MCP
M7	73	40	51	15
DE/DM	1	1	1	0



Appendix (as of 9/30/2016)

MNR Wayside Equipment Installation Tracking

MNR Pilot 1 (Bridgeport to New Haven)				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	403	397	6	99%
Wayside Interface Unit (WIU) Locations	10	10	0	100%
Communication Cases	10	0	10	0%
Poles / Antennas	10	8	2	80%
MNR Pilot 2 (Tarrytown – Croton Harmon)				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	208	208	0	100%
Wayside Interface Unit (WIU) Locations	2	2	0	100%
Communication Cases	6	0	6	0%
Poles / Antennas	5	3	2	60%
MNR System Total				
PTC Equipment	Target Quantity	Actuals to Date	Remaining	% Complete
Transponders	4593	1122	3471	24%
Wayside Interface Unit (WIU) Locations	104	13	91	13%
Communication Cases	104	0	104	0%
Poles / Antennas	104	11	94	11%



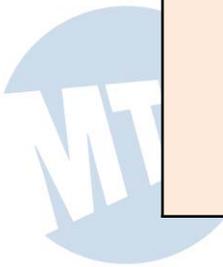
Appendix (as of 9/30/2016)

MNR On-Board Equipment Installation Tracking

Car Type	Vehicles Total		MNR Pilot 1 Location (Bridgeport to New Haven)		Pilot 2 Location (Tarrytown – Croton Harmon)	
	Planned	Actual	Planned	Actual	Planned	Actual
M7	168	2	NA	NA	4	2
Cab Car C34/38	36	2	1	1	1	1
Cab Car C12/19/21	19	0	1	0	1	0
M3	69	0	NA	NA	4	0
BL20	12	3	2	2	1	1
BL14	2	0	0	0	0	0
P32	33	4	2	2	2	2
GP35	7	0	1	0	1	0
M8 Car	215	0	4	0	NA	NA
Totals	561	11	11	5	14	4

Partial Installation Tracking

168 - M7	2 Complete (OBC/Undercar Antenna/MCP)
36 - Cab Car C34/38	23 Partials (OBC & Undercar Antenna)
33 -P32	26 Partials (OBC & Undercar Antenna)
12- BL20	11 Partials (OBC & Undercar Antenna)
7- GP 35	3 Partials (OBC & Undercar Antenna)
190 - M8	190 Partials (OBC & Undercar Antenna)



October 2016 CPOC IEC Project Review



Positive Train Control



October 26, 2016

Project Status Review

- BUDGET – The budget remains at \$968M as last reported in June 2016.
- SCHEDULE – The latest schedule update indicates the project remains on schedule. The system design review was completed in July 2016. Subsystem design reviews are in progress with the goal of completion in the first half of 2017.
- A Risk Assessment is currently in progress, and initial findings are being analyzed to develop appropriate mitigations.



Project Risks & Mitigations

- Software development is progressing concurrently with finalizing subsystem design. While this approach mitigates initial design delays, there is a risk of delays to overall system development. Also, there is a need to harmonize software development approach between multiple suppliers.
- The project team has developed a plan to accelerate equipment manufacturing and installation. The IEC is concerned that:
 - Progressing equipment manufacturing and installation prior to design completions increases the risk of rework especially for interfaces between various subsystems,
 - The SI has not demonstrated a manufacturing rate to complete their work in a reduced timeframe. This may put pressure on needed RR force account resources.
- The first step of operational pilot testing was successfully completed, and has validated some communications functions between on-board and wayside equipment.

Project Challenges & IEC Recommendations

- The pilot testing is on the critical path and is scheduled for completion in April 2018.
- The general test plan is based on a number of steps to incrementally validate functionalities and integration between various subsystems.
- The SI provided a detailed test plan for the 120 days Look-Ahead. The IEC is encouraged that this integration testing is progressing based on a structured approach, and recommends that the System Integrator expands the detailed test plan to cover the entire field integration testing.



Project Challenges & IEC Recommendations

- A critical phase of project implementation is to perform testing & commissioning of field locations and train sets of various car classes.
- Testing and commissioning activities will be constrained by availability of resources and track access time, which may put pressure on the project completion date.
- The IEC concurs with the project team's recommendation to give priority to the PTC project, and recommends the development of a detailed testing and commissioning plan based on available resources and operational constraints.



Project Challenges & IEC Recommendations

- There are a number of capital projects that will modify track configuration and will introduce uncertainty for PTC implementation.
- Some of these projects have completion dates that are close to the PTC project completion date of December 2018.
- The IEC recommends that the Commuter Railroads coordinate between various projects as to the PTC implementation plan for various affected sections



MTA Capital Program Commitments & Completions

through September 30, 2016

Capital Projects – Major Commitments – September 2016

Through September, 28 major commitments were planned and 16 have been committed: 7 were on time, three were late but have since been committed, and six were completed early; 12 remain delayed. All delayed projects are explained on the following pages.

Year to date, agencies have committed \$3.0 billion versus a \$4.3 billion goal. The shortfall versus goal is mainly due to the delayed commitments, which includes NYCT's CBTC Queens Boulevard West: Phase 2 and Bushwick Cut/Myrtle Bridge. By year-end, the MTA forecasts meeting 98% its \$6.6 billion goal.

Year-to-Date Major Commitments

	Count	Percent	Change from Prior Month
GREEN = Commitments made/forecast w within Goal	13	46%	↑ 1
YELLOW = Commitments delayed beyond Goal (already achieved)	3	11%	-
RED = Commitments delayed beyond Goal (not yet achieved)	12	43%	↑ 2
Total	28	100%	↑ 3

Budget Analysis

2016 Annual Goal	\$6,578	(\$ in millions)
2016 Forecast	98%	of Annual Goal
Forecast left to Commit	53%	(\$3,420)

Category	Amount (\$ in Millions)
Actual	\$3,044
Budget	\$3,055
2016 Goal	\$4,266

Year-to-Date Agency Breakdown

2016 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
5 GREEN, 1 YELLOW, 8 RED	---	---	+2 RED
Long Island Rail Road			
7 GREEN, 1 YELLOW	+1 GREEN	---	---
Metro-North Railroad			
1 RED	---	---	---
Bridges and Tunnels			
1 GREEN	---	---	---
Capital Construction Company			
1 GREEN, 3 RED	---	---	---
MTA Bus Company			
	---	---	---
MTA Police Department			
	---	---	---

Capital Projects – Major Commitments – September 2016 – Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
12 All-Agency Red Commitments (2 new this month)							
NYCT				NYCT			
<i>Miscellaneous/Emergency</i>				<i>Signals & Communications</i>			
Power Upgrade: RCC, PCC	Construction Award	Jul-16	Nov-16	CBTC Queens Boulevard West - 50 St to Union Tpke: Phase 2	Construction Award	Jun-16	Oct-16
		\$50.2M	\$50.2M			\$143.7M	\$333.7M
Project delayed to November due to late advertisement approval.				Project award delayed due to several bid opening postponements. Current estimate reflects the full cost of the project including support costs for the duration of the contract. The goal budget assumed only partial support costs due to limited funding availability prior to capital plan approval.			
<i>Line Structures & Track</i>				<i>Line Structures & Track</i>			
Bushwick Cut / MYR Bridge Over Atlantic (New Item)	Construction Award	Sep-16	Nov-16	Kings Hwy Interlocking / Culver	Construction Award	Jun-16	Oct-16
		\$70.9M	\$150.2M			\$150.0M	\$177.2M
The award was delayed due to redesign work for additional scope: new bridge seat, longer bridge, substructure replacement, track work, property acquisitions, and a temporary car inspection facility for shuttle operations.				Award delayed due to bid postponements from bidders' questions, budget modifications to address increased costs from an unfavorable bid and additional scope related to Church Ave Interlocking. The current estimate reflects the full cost, while the goal budget reflected limited funding availability prior to capital plan approval.			
<i>Stations</i>				<i>Stations</i>			
ADA: 68 St-Hunter College / Lexington (New Item)	Construction Award	Sep-16	Jan-17				
		\$66.8M	\$66.8M				
Most recent delay due to revisited constructability for possible reduction in duration. Previous project schedule delayed pending FTA Finding of No Significant Impact (FONSI) and resolution of property acquisition of the Imperial House property.							
<i>Sandy Recovery & Mitigation</i>				<i>MNR</i>			
Sandy Mitigation: 7 Stations (8 Stns M/Q/Bx Initiative)	Construction Award	May-16	Nov-16	<i>Track</i>			
		\$96.3M	\$51.7M	Cyclical Track Program	Construction Award	Aug-16	Dec-16
The mitigation solution for a staircase at 155 St on the Concourse Line had to be revised due to maintainability concerns.				Due to the reprioritization of track maintenance projects, some planned 2016 cyclical track work has been delayed until December 2016.			
Sandy Mitigation: 13 Fan Plants, Long-Term - 5 Locations	Construction Award	Jun-16	Nov-16				
		\$46.2M	\$41.6M				
Project award delayed due to extended advertisement period. Further delay due to postponements of the bid. Recent estimate is based on refined drawings and reflects reductions of bid and support costs.				<i>MTACC</i>			
Sandy Mitigation: 9 Stations (Brooklyn/Queens Initiative)	Construction Award	Jun-16	Nov-16	<i>East Side Access</i>			
		\$100.7M	\$56.2M	Harold Tunnel A Construction (CH061A)	Construction Award	Jul-16	Jan-17
Project delayed from design drawings approvals, specifications, and contracts. The estimate is based on refined drawings and reflects cost reductions of the bid and support costs.				Additional time required for extended review processes prior to advertisement and in procurement. Due to resource issues in the Harold Interlocking the award of this contract has been delayed.			
				<i>Second Avenue Subway Ph. 2</i>			
				Environmental Assessment	Construction Award	Jul-16	Oct-16
						\$10.0M	\$10.0M
				Pending identification of funding, outreach consultant, design and environmental issues resulted in a delay of the award. Design and environmental issues are on the October Board agenda.			

Capital Projects – Major Commitments – September 2016 – Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast												
<i>Second Avenue Subway Ph. 2</i>				3 All-Agency Yellow Commitments (0 new this month)															
PE Design Contract	Construction Award	Jul-16	Oct-16	NYCT															
		\$100.0M	\$100.0M	<i>Signals & Communications</i>															
Additional review, outreach consultant, design and environmental issues have resulted in a delay in the award. The design and environmental issues are on the October Board agenda.				<table border="1"> <tr> <td>Passenger Station LAN: 188 Stations</td> <td>Construction Award</td> <td>Feb-16</td> <td>Mar-16 (A)</td> </tr> <tr> <td></td> <td></td> <td>\$50.0M</td> <td>\$50.0M</td> </tr> <tr> <td colspan="4">Award was delayed because of additional time required to secure necessary approvals for budget changes and authorizations to approve the commitment.</td> </tr> </table>				Passenger Station LAN: 188 Stations	Construction Award	Feb-16	Mar-16 (A)			\$50.0M	\$50.0M	Award was delayed because of additional time required to secure necessary approvals for budget changes and authorizations to approve the commitment.			
Passenger Station LAN: 188 Stations	Construction Award	Feb-16	Mar-16 (A)																
		\$50.0M	\$50.0M																
Award was delayed because of additional time required to secure necessary approvals for budget changes and authorizations to approve the commitment.																			
				LIRR															
				<i>Track</i>															
				<table border="1"> <tr> <td>Amtrak Territory Projects</td> <td>Construction Award</td> <td>Jun-16</td> <td>Jul-16 (A)</td> </tr> <tr> <td></td> <td></td> <td>\$17.0M</td> <td>\$32.5M</td> </tr> <tr> <td colspan="4">Award delayed due to additional time required by the Procurement Department to perform audit of the bidders.</td> </tr> </table>				Amtrak Territory Projects	Construction Award	Jun-16	Jul-16 (A)			\$17.0M	\$32.5M	Award delayed due to additional time required by the Procurement Department to perform audit of the bidders.			
Amtrak Territory Projects	Construction Award	Jun-16	Jul-16 (A)																
		\$17.0M	\$32.5M																
Award delayed due to additional time required by the Procurement Department to perform audit of the bidders.																			
				MTACC															
				<i>East Side Access</i>															
				<table border="1"> <tr> <td>Grand Central Terminal Station Caverns & Track</td> <td>Construction Award</td> <td>Feb-16</td> <td>Apr-16 (A)</td> </tr> <tr> <td></td> <td></td> <td>\$777.4M</td> <td>\$712.0M</td> </tr> <tr> <td colspan="4">The delay was due to MTACC finalizing open issues prior to issuing a notice to proceed, which was issued in April. The award value reflects a favorable bid.</td> </tr> </table>				Grand Central Terminal Station Caverns & Track	Construction Award	Feb-16	Apr-16 (A)			\$777.4M	\$712.0M	The delay was due to MTACC finalizing open issues prior to issuing a notice to proceed, which was issued in April. The award value reflects a favorable bid.			
Grand Central Terminal Station Caverns & Track	Construction Award	Feb-16	Apr-16 (A)																
		\$777.4M	\$712.0M																
The delay was due to MTACC finalizing open issues prior to issuing a notice to proceed, which was issued in April. The award value reflects a favorable bid.																			

Capital Projects – Major Commitments – September 2016 – Budget Only* Variances

Actual Results Shaded

*for variances of more than \$5 million or 10%

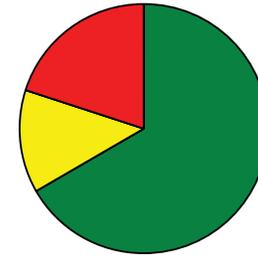
Project	Commitment	Goal	Forecast
4 All-Agency Budget Only Commitments (1 new this month)			
NYCT			
<i>Sandy Resiliency & Restoration</i>			
Sandy Mitigation: 17 Fan Plants & Adjacent Tunnels	Construction Award	Jul-16 \$45.7M	May-16 (A) \$39.2M
Awarded in May 2016.			
<i>Track</i>			
Mainline Track Replacement 2016 / 63rd St	Construction Award	Mar-16 \$40.0M	Feb-16 (A) \$29.2M
Awarded in February with savings reflecting a favorable bid.			
LIRR			
<i>Track</i>			
2016 Track Program	Construction Award	Mar-16 \$17.8M	Feb-16 (A) \$59.7M
Originally committed in February 2016. The actual value was increased in June following the approval of the 2015-19 Capital Plan.			
Jamaica Capacity Improvements Phase I (New Item)	Construction Award	Sep-16 \$82.1M	Sep-16 (A) \$68.3M
Savings reflect a good bid.			

Capital Projects – Major Completions – September 2016

Through September, 30 major completions were planned and 24 were achieved. 12 were on time, four were delayed but have since been completed, and eight were completed early; six remain delayed. All delayed projects are reported on the following pages.

To date, the MTA has completed \$2.0 billion of its \$2.5 billion year-to-date goal. The shortfall is due to the delayed completion of the East Side Access Manhattan South Structures contract and other delays which are expected to be achieved later in 2016. By year-end, the MTA forecasts meeting 93% its \$4.6 billion goal.

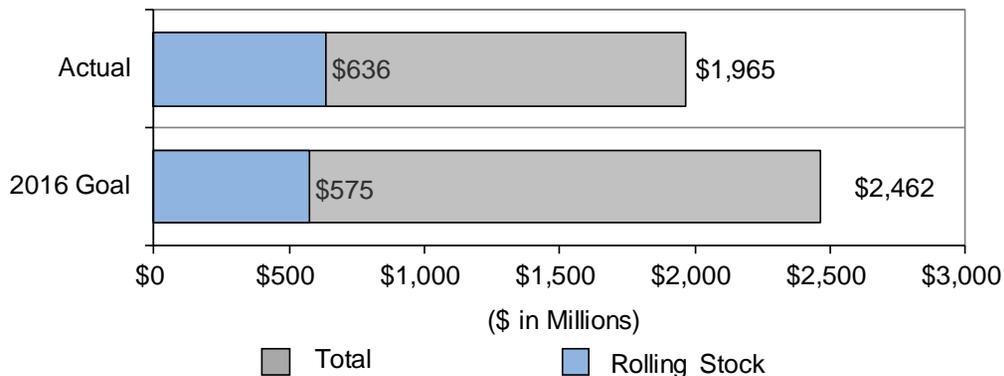
Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
GREEN = Completions made/forecast w within Goal	20	67%	↑ 2
YELLOW = Completions delayed beyond Goal (already achieved)	4	13%	↑ 1
RED = Completions delayed beyond Goal (not yet achieved)	6	20%	-
Total	30	100%	↑ 3

Budget Analysis

2016 Annual Goal	\$4,629	(\$ in millions)
2016 Forecast	93%	of Annual Goal
Forecast left to Complete	55%	(\$2,359)



Year-to-Date Agency Breakdown

2016 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
8	2	3	
	----	+1 YELLOW	-1 RED
Long Island Rail Road			
3	1		
	+1 GREEN	----	----
Metro-North Railroad			
3			
Bridges and Tunnels			
4	1		
	+1 GREEN	----	----
Capital Construction Company			
1	1		
	----	+1 YELLOW	----
MTA Bus Company			
2	1		
	----	----	+1 RED
MTA Police Department			
	----	----	----

Capital Projects – Major Completions – September 2016 – Schedule Variances
Actual Results Shaded

Project	Completion	Goal	Forecast
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6 All-Agency Red Completions (1 new this month)
NYCT
Stations

Replace 11 Hydraulic Elevators	Construction Completion	Aug-16 \$24.0M	Nov-16 \$24.1M
Project completion delayed by an additional month due to unforeseen field conditions.			

ADA & Station Renewal at Ozone Park-Lefferts Blvd / Liberty	Construction Completion	Aug-16 \$23.9M	Dec-16 \$23.9M
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Project completion re-scheduled to December due to substantial changes in communication work associated with the ADA elevators and the Help Point Infrastructure.

SIR: Station Construction: Arthur Kill	Construction Completion	Aug-16 \$23.2M	Jan-17 \$24.M
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Project completion delayed due to scope changes including the redesign of the electrical distribution room (EDR), exterior wall panel and various communications issues.

LIRR
Track

Main Line Track Farmingdale-Ronkonkoma Phase I	Construction Completion	Jul-16 \$36.3M	Oct-16 \$36.3M
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Delay relates to contract change work that includes wetland mitigation and an additional retaining wall on south side, which is expected to be completed in October (delayed from September due to weather conditions).

MTA Bus
Bus Company Projects

Security Upgrades - Far Rockaway & Baisley Park (New Item)	Construction Completion	Sep-16 \$9.9M	Dec-16 \$9.9M
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Project completion delayed as a result of the delay in preparing revised drawings and to correct errors in contract documents.

Project	Completion	Goal	Forecast
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MTACC
East Side Access

Plaza Substation & Structures (CQ032)	Construction Completion	Aug-16 \$250.2M	Feb-17 \$250.2M
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Substantial completion date was delayed as a result of additional work approved by the MTA Board in April 2016.

Capital Projects – Major Completions – September 2016 – Schedule Variances
Actual Results Shaded

Project	Completion	Goal	Forecast
---------	------------	------	----------

4 All-Agency Yellow Completions (1 new this month)
NYCT
Stations

Renew Five Liberty Line Stations	Construction Completion	Apr-16 \$74.7M	May-16 (A) \$77.8M
The project was completed in May. The contract was extended to May 2nd due to inclement weather and loss of two General Orders. Work was also halted for one week in February to repair recently discovered corroded steel at the 111th Street Station. Project cost increased due to additional TA Labor services required for additional steel work.			
Brick Arch Repair: 168 Street & 181 Street / Broadway-7th Av (New Item)	Construction Completion	Jul-16 \$64.8M	Sep-16 (A) \$67.7M
Additional AWOs and scope related to station medallions have resulted the original schedule delay and \$3M higher forecast. The recent delay is due to modifications related to Help Points at the 168th Street station.			

B&T
Marine Parkway Bridge

Rehabilitate Rockaway Point Blvd Overpass	Construction Completion	May-16 \$11.1M	Jun-16 (A) \$11.1M
The project was completed in June. Although the overpass was opened for traffic at the end of May, substantial completion was previously delayed by one month due to outstanding work items including installing a concrete median barrier, curbs, drainage, and striping.			

MTACC
East Side Access

Manhattan South Structures	Construction Completion	Feb-16 \$249.8M	Jun-16 (A) \$249.8M
The project was completed in June. Substantial completion was impacted by delays to underground tunnel work.			

Capital Projects – Major Completions – September 2016 – Budget* Variances
Actual Results Shaded
**for variances of more than \$5 million or 10%*

Project	Completion	Goal	Forecast
2 All-Agency Budget Only Completions (0 new this month)			
NYCT			
<i>Track</i>			
Mainline Track Replacement 2016 / 63rd St	Construction Completion	Jul-16 \$40.0M	Jul-16 (A) \$28.5M
Project cost decreased to reflect favorable bid.			
B&T			
<i>Signals & Communications</i>			
Miscellaneous Structural Rehabilitation	Construction Completion	May-16 \$22.0M	May-16 (A) \$19.1M
The project was completed in May 2016. Project cost decreased to reflect unused project contingency.			

MTA Capital Program Commitments & Completions Quarterly Report of Prior Years' Delays

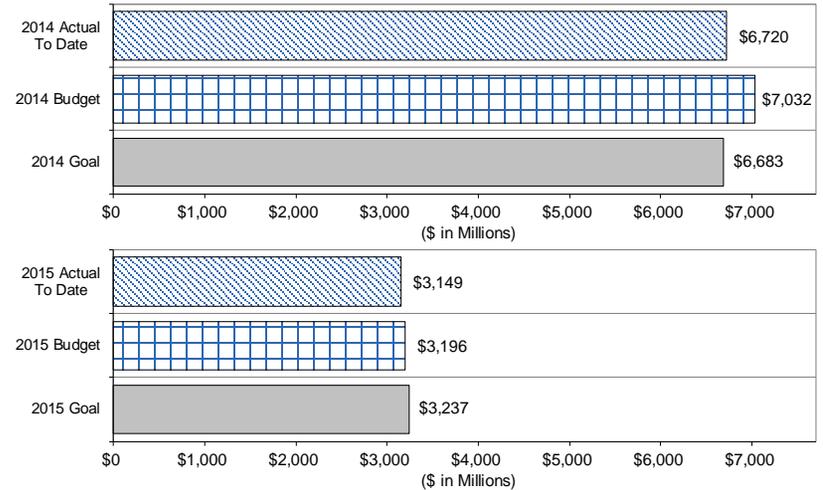
Prior Years' Major Commitments – Quarterly Update: Sept. 2016

The status of 2014 and 2015 major commitments delayed beyond 2015 continue to be tracked until committed and are reported to CPOC on a quarterly basis.

In 2014, agencies set a goal of 55 major commitments and an overall MTA commitment goal of \$6.5 billion. In 2014, 39 commitments totaling \$5.8 billion were made. Of 16 major commitments that slipped beyond 2014, eight were committed in 2015, and eight slipped beyond 2015. Since 2016, four of these commitments have been made.

In 2015, agencies set a goal of 34 major commitments and an overall MTA commitment goal of \$3.1 billion. In 2015, 25 major commitments totaling \$2.9 billion were made. Nine remaining major commitments slipped beyond 2015 and six of these have now been made.

Budget Analysis



Actual	MTA-Wide Prior Years' Major Commitments																	Post 2016
	2014 G	2014 Y	2015 G	2015 Y	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16		
Goal Total	89	12	27	13	20	0	0	3	0	1	1	3	1	1	1	0	2	4
2014	55	12	27		8			1			1		1	1	1		1	2
Jan-15	1			1														
Feb-15	3			2	1													
Mar-15	4			3	1													
Apr-15	7			4	3													
May-15	2			2						1								
Jun-15	6				5													
Jul-15	2			1								1						
Aug-15	2							2										
Sep-15	1											1						
Oct-15	2				1							1						
Nov-15	2				1													1
Dec-15	2																1	1

This chart tracks when all major commitments are forecast/achieved versus original goal, starting with those that were committed within 2014 and 2015, followed by those that slipped beyond 2015. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been committed, and red represents projects that are still delayed. Projects that are red will become yellow when they are committed.

GREEN = Commitments made/forecast w/in Goal **YELLOW** = Commitments delayed beyond Goal (already achieved) **RED** = Commitments delayed beyond Goal (not yet achieved)

Prior Year Major Commitments – September 2016 – Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
7 All-Agency Red Commitments							
NYCT				MNR			
<i>Sandy Recovery & Mitigation</i>				<i>Power</i>			
Sandy Repairs: Rutgers and Cranberry Tubes	Construction Award	Jun-14 \$154.0M	Feb-22 \$165.0M	Power Infrastructure Restoration - 4 Substations	Construction Award	Oct-15 \$42.2M	Oct-16 \$49.3M
This originally was a two-tube Sandy project. Due to operational planning issues, the two tubes were separated. The Cranberry tube contract awarded in December 2014 while the Rutgers tube was rescheduled to 2022 due to construction sequencing of the tubes. The project cost increase reflects unfavorable bids received for Cranberry Tube contract.				Construction services for the four substations was executed in December 2014. The only remaining commitment (\$3.3M) in the agreement with New York State Electric and Gas Company will commence with installation of the Brewster Feeders. The Brewster design was repackaged with Sandy substations work. This resulted in an increase in budget and scope to include resiliency.			
Sandy: 148th Yard Long-Term Perimeter Protection & Power Cable	Construction Award	Nov-15 \$135.1M	Mar-17 \$124.9M				
Award is delayed due to uncertainty in overall Sandy Yard funding, delay of easement agreement, completion of risk assessment and RTA approval. Design was delayed earlier to proceed with 500-year storm design and provide Cat 2 + 3' resiliency for tower. Project cost decreased reflecting draft RTA estimate.							
<i>Stations</i>							
ADA: Phase 2: 57 Street - 7 Avenue / Broadway	Construction Award	Nov-14 \$35.9M	May-17 \$66.8M				
Delay due in part to the an elevator relocation in the excavation area impacting existing ducts. In addition, alternatives providing ADA access to the 57th Street Station, impacting the design completion schedule and increasing project costs.							
<i>Signals & Communications</i>							
HVAC Repair And Maintenance For DCE Facilities - Ph2	Construction Award	Dec-14 \$53.6M	Dec-16 \$53.6M				
Delay due to additional time needed to complete specifications for the overhead crane at 207th Street and scope increase to include a new centralized HVAC SMS facility.							
Integrated Service Information & Management B-Div: Module 2	Construction Award	Dec-15 \$43.7M	Dec-16 \$60.7M				
Delay is due to PSLAN installation at ten stations. Award was previously rescheduled due to MTA funding constraints. Cost increase mainly due to added PSLAN scope not originally included in the budget.							
<i>Service Vehicles</i>							
Work Train & Special Equipment: 54 Flat Cars	Purchase Award	Dec-15 \$33.5M	Jun-17 \$34.7M				
Advertisement further delayed due to the extended procurement period. Award was previously rescheduled due to MTA funding constraints.							

Prior Year Major Commitments – September 2016 – Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast
10 All-Agency Yellow Commitments (5 new this quarter)			
NYCT			
<i>Sandy Recovery & Mitigation</i>			
Sandy: Clark St Tube (New Item)	Construction Award	Aug-14 \$77.4M	Sep-16 (A) \$115.3M
The bid opening postponed to July to answer bidder questions thus delaying the award. The award was previously delayed due to schedule adjustments based on service and community impact as well as constructability and programmatic concerns. Project cost adjusted to reflect a negotiated CCM contract and the final bid.			
Sandy Mitigation: Sidewalk Vent Grating/Covers/Manholes - 8 Stations (New Item)	Construction Award	Jul-15 \$70.4M	Jul-16 (A) \$47.1M
Project was awarded in July but delayed pending executive approval and coordination with NYS. Project cost reflects favorable bid price.			
<i>Buses</i>			
Purchase 231 Articulated Buses	Purchase Award	Jun-14 \$245.5M	Mar-16 (A) \$202.0M
The procurement staff summary approved by the MTA Board in November, but the contract award was subject to State Comptroller review. Contract awarded in March.			
<i>Depots</i>			
Bus Radio System - NYCT	Construction Award	Aug-15 \$215.0M	Mar-16 (A) \$187.3M
Procurement Staff Summary approved by MTA Board in February. Project Awarded in March. Project cost decrease reflects a favorable bid.			
<i>Stations</i>			
Station Components: 4 Stations / Jamaica	Construction Award	Dec-14 \$37.8M	Jun-16 (A) \$81.4M
Awarded in June. The past delay was due to additional scope including new station component work at three stations, extending the design, and additional painting in 3 of the 4 stations. Project cost increased due to added scope and an unfavorable bid.			

Project	Commitment	Goal	Forecast
LIRR			
<i>Track</i>			
MLC-Hicksville North Siding (New Item)	Construction Award	Sep-15 \$25.7M	Jul-16 (A) \$8.4M
Construction award delayed due to additional scope review during the design process and extended RFP process, including BAFO review.			
MLC-Hicksville Station (New Item)	Construction Award	Oct-15 \$42.2M	Jul-16 (A) \$44.6M
Construction award delayed due to additional scope review during the design process and extended RFP process, including BAFO review.			
B&T			
<i>Roadway & Decks: RFK Bridge</i>			
Construction of New Harlem River Drive Ramp	Construction Award	Jun-15 \$26.3M	May-16 (A) \$22.9M
Awarded in May. Delay was due to additional time required to negotiate and to improve coordination with NYC DOT and their contractors.			
MTA Bus			
Bus Radio System - MTA Bus	Construction Award	Aug-15 \$58.5M	Mar-16 (A) \$58.5M
Procurement Staff Summary approved by MTA Board in February. Project Awarded in March.			
Hurricane Sandy Depot Rehabilitation at Far Rockaway (New Item)	Construction Award	Dec-14 \$25.0M	Aug-16 (A) \$15.0M
Delay due to finalizing a construction strategy and cost estimates.			

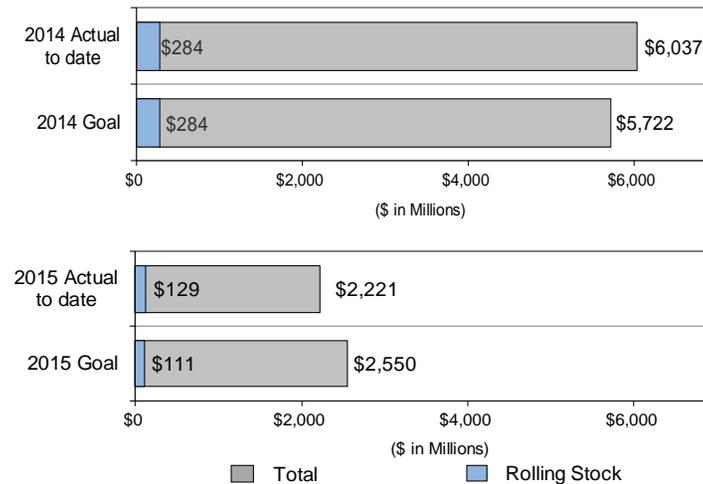
Prior Years' Major Completions – Quarterly Update: Sept. 2016

The status of 2014 and 2015 major completions delayed beyond 2015 continue to be tracked until completed and are reported to CPOC on a quarterly basis.

In 2014, agencies set a goal of 46 major completions and an overall MTA completions goal of \$5.7 billion. In 2014, \$4.5 billion was completed, including 28 major completions. Of the 18 major completions that slipped from 2014, nine were made in 2015 and nine slipped beyond 2015. Since 2015, five of these completions have been achieved.

In 2015, agencies set a goal of 25 major completions and an overall MTA completions goal of \$2.6 billion. In 2015, 19 major completions totaling \$2.1 billion were made. The remaining six major completions slipped beyond 2015 and three of the six have been achieved in 2016.

Budget Analysis



Actual Goal	MTA-Wide Prior Years' Major Completions																	Post 2016	
	2014 G	2014 Y	2015 G	2015 Y	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16			
Total	71	23	5	8	20	1	1	0	1	1	0	0	3	1	0	2	1	4	
2014	46	23	5		9		1		1	1			2				1	1	2
Jan-15	1			1															
Feb-15	0																		
Mar-15	2			2															
Apr-15	3				3														
May-15	2				1								1						
Jun-15	4				3														1
Jul-15	4				4														
Aug-15	4			3								1							
Sep-15	0																		
Oct-15	0																		
Nov-15	0																		
Dec-15	5			2		1											1		1

This chart tracks when all major completions are forecast/achieved versus original goal, starting with those that were completed within 2014 and 2015, followed by those that slipped beyond 2015. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been completed, and red represents projects that are still delayed. Projects that are red will become yellow when they are completed.

GREEN = Completions made/forecast within Goal **YELLOW** = Completions delayed beyond Goal (already achieved) **RED** = Completions delayed beyond Goal (not yet achieved)

Prior Year Major Completions – September 2016 – Schedule Variances
Actual Results Shaded

Project	Completion	Goal	Forecast
7 All-Agency Red Completions			
NYCT			
<i>Track</i>			
2014 Track & Switch Program (4 Projects) - 3rd Qtr	Construction Completion	Sep-14 \$33.7M	Mar-17 \$36.5M
Delay due to remaining work at SSI Bergen Track Wrap-up. Project completion pending track access needed to complete the work. No GOs are currently scheduled.			
<i>Depots / Rolling Stock</i>			
AVLM: Paratransit - 2,273 Vehicle	Purchase	Dec-14 \$35.8M	Dec-16 \$37.7M
Delays due to deployment of new servers to meet agency-wide operating system compliance and to prewire an additional 433 paratransit vehicles. The project was further delayed due to server consolidation and the procurement of a modification for additional consultant work.			
<i>Signals and Communications</i>			
PA/CIS at 45 Stations - Install Cable	Construction Completion	Dec-15 \$56.1M	Dec-17 \$56.0M
Project delayed due to slow progress of work. In-house forces were diverted to address other safety sensitive projects.			
LIRR			
<i>Power</i>			
F Circuit Breaker House	Construction Completion	Oct-14 \$7.2M	Feb-17 \$7.2M
Delay due to a reevaluation of the project's need to be informed by a power load study.			
<i>Signals and Communications</i>			
Centralized Traffic Control	Construction Completion	Jun-15 \$12.9M	May-17 \$12.9M
Delay due a redesign of the theater as a result of a reevaluation of theater operations.			

Project	Completion	Goal	Forecast
MTACC			
<i>East Side Access</i>			
GCT Concourse Finishes Early Work (CM014A)	Construction Completion	Apr-14 \$56.7M	Nov-16 \$58.0M
Current delay due to productivity being lower than expected.			
<i>Second Avenue Subway</i>			
63rd St Station Upgrade (C3)	Construction Completion	Dec-15 \$208.9M	Nov-16 \$225.3M
Delay is due to contractor productivity rate.			

Prior Year Major Completions – September 2016 – Schedule Variances
Actual Results Shaded

Project	Completion	Goal	Forecast
8 All-Agency Yellow Completions (4 new this quarter)			
NYCT			
<i>Stations</i>			
Station Rehab: Smith-9th Street & 4th Ave <i>(New Item)</i>	Construction Completion	Jul-14 \$40.7M	Aug-16 (A) \$43.6M
Project delay was due to a broken water valve, completing as-built drawings, punch list work as well as required drain line and water service repairs. The project was further delayed to redo water line work at Smith-9th Street.			
<i>MTA-Wide Security</i>			
Electronic Security - URT Phase 2 <i>(New Item)</i>	Construction Completion	May-15 \$31.0M	Sep-16 (A) \$33.1M
The project was delayed due to lack of timely track access and shortage of flagging support services. The project was further delayed by network issues which delayed equipment testing.			
<i>Buses</i>			
Purchase 72 Standard Diesel Buses	Purchase	Dec-15 \$41.8M	Jan-16 (A) \$39.2M
All buses have been delivered and accepted. The last bus was damaged during transport and is being repaired. Project cost decreased due to lower negotiated price.			
MTACC			
<i>East Side Access</i>			
Harold Structures (Part 1) (CH053)	Construction Completion	Aug-14 \$326.1M	Feb-16 (A) \$311.5M
The project has been completed. The previous delays were due to a cutover of the new duct bank, resource issues, and Amtrak's request for additional time.			
<i>7 Line Extension</i>			
Systems, Finishes, and Core & Shell	Construction Completion	Oct-14 \$580.1M	May-16 (A) \$596.3M
The project has been completed. While revenue Service began September 13, 2015, the previous delay was due to remaining punchlist items required for substantial completion.			

Project	Completion	Goal	Forecast
LIRR			
<i>Sandy Mitigation: Line Structures</i>			
Atlantic Ave Tunnel Lighting	Construction Completion	Nov-14 \$7.0M	Apr-16 (A) \$7.0M
The project has been completed. The previous delay was due to asbestos concerns resulting in investigations, clearances, and requirements for high tension cable installation.			
MNR			
<i>Track and Structures / Power</i>			
Harlem River Lift Bridge Cable/Breaker House /Controls <i>(New Item)</i>	Construction Completion	Aug-15 \$25.4M	Aug-16 (A) \$25.4M
Prior delay was due to performance issues with the elevator subcontractor. Subsequent delay was due to additional testing of the motor control system.			
MTAPD			
<i>Security</i>			
MTAPD K-9 <i>(New Item)</i>	Construction Completion	Jul-14 \$15.0M	Aug-16 (A) \$15.8M
Beneficial Use was established Sept 2015. While there are some lingering punchlist items, substantial completion was achieved in August.			

Status of MTA Capital Program Funding

Capital Funding Detail (September 30, 2016)

\$ in millions

	Funding Plan	Receipts		
	Current	Thru August	This month	Received to date
2005-2009 Program	24,504	23,371	\$6	23,377

	Funding Plan	Receipts		
	Current	Thru August	This month	Received to date
2010-2014 Program				
Federal Formula, Flexible, Misc	\$5,839	\$5,614	\$ -	\$5,614
Federal High Speed Rail	295	295	-	295
Federal Security	206	100	-	100
Federal RIFF Loan	-	-	-	-
City Capital Funds	774	582	0.3	582
State Assistance	770	150	-	150
MTA Bus Federal and City Match	132	102	-	102
MTA Bonds (Payroll Mobility Tax)	12,703	9,850	-	9,850
Other (Including Operating to Capital)	1,538	646	8	655
B&T Bonds	2,111	1,292	-	1,292
Hurricane Sandy Recovery				
<i>Insurance Proceeds/Federal Reimbursement</i>	9,376	3,423	-	3,423
PAYGO	160	160	-	160
<i>Sandy Recovery MTA Bonds</i>	758	-	-	-
<i>Sandy Recovery B&T Bonds</i>	230	59	-	59
Total	34,892	22,271	9	22,280

	Funding Plan	Receipts		
	Current	Thru August	This month	Received to date
2015-2019 Program				
Federal Formula, Flexible, Misc	\$6,275	\$ -	\$27	\$27
Federal Core Capacity	100	-	-	-
Federal New Start	500	-	-	-
State Assistance	8,336	-	-	-
City Capital Funds	2,492	40	-	40
MTA Bonds	5,889	-	-	-
Asset Sales/Leases	600	-	-	-
Pay-as-you-go (PAYGO)	1,846	500	-	500
Other	562	36	-	36
B&T Bonds & PAYGO	2,856	-	-	-
Total	29,456	576	27	603

Capital Funding (September 30, 2016)

\$ in millions

