



Metropolitan Transportation Authority

# Capital Program Oversight Committee Meeting

## May 2017

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### Committee Members

F. Ferrer, Acting Chair

I. Greenberg

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

Monday, 5/22/2017  
1:45 - 2:45 PM ET

## 1. PUBLIC COMMENTS PERIOD

## 2. APPROVAL OF MINUTES April 24, 2017

- *Minutes from April '17 - Page 3*

## 3. COMMITTEE WORK PLAN

- *2017 - 2018 CPOC Committee Work Plan - Page 6*

## 4. LIRR CAPITAL PROGRAM UPDATE

- *Progress Report on Capital Program - Page 8*
- *IEC Project Review on Jamaica Capacity Improvements - Page 34*
- *IEC Project Review on Main Line Double Track - Page 37*

## 5. MNR CAPITAL PROGRAM UPDATE

- *Progress Report on Capital Program - Page 41*
- *IEC Project Review on Hudson Line Sandy Restoration - Page 59*
- *IEC Project Review on Harmon Shop Replacement - Page 63*

## 6. CAPITAL PROGRAM STATUS

- *Commitments, Completions, and Funding Report - Page 66*

Date of next meeting: Monday, June 19, 2017 at 1:15 PM

**MINUTES OF MEETING**  
**MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE**  
**April 24, 2017**  
**New York, New York**  
**1:15 P.M.**

MTA CPOC members present:

Hon. Fernando Ferrer  
Hon. Ira Greenberg  
Hon. Susan Metzger  
Hon. John Molloy  
Hon. Mitchell Pally  
Hon. James Vitiello  
Hon. Neal Zuckerman

MTA CPOC members not present:

Hon. John Samuelsen  
Hon. Lawrence Schwartz  
Hon. Polly Trottenberg  
Hon. Peter Ward  
Hon. Carl Wortendyke

MTA Board members present:

Hon. Andrew Albert  
Hon. Veronica Vanterpool

MTA staff present:

Veronique Hakim  
Donald Spero  
Michael Wetherell

NYCT Staff present:

Mark Bienstock  
Robert Gomez  
Bill Montanile  
John O'Grady

Independent Engineering Consultant staff present:

Joe DeVito  
Nabil Ghaly  
Calvin Gordon  
Kent Haggis

\* \* \*

Acting Chairman Ferrer called the April 24, 2017 meeting of the Capital Program Oversight Committee to order at 1:00 P.M.

**Public Comments Period**

There was one public speaker in the public comments portion of the meeting: Jason Pineiro.

**Meeting Minutes**

Upon motion duly made and seconded, the CPOC members approved the minutes to the previous meeting held on March 20, 2017.

## **Committee Work Plan**

Mr. Spero announced that there were no changes in the Work Plan.

## **NYCT Progress Report on Enhanced Stations Initiative**

Mr. Montanile updated the Committee on the Enhanced Stations Initiative, including an overview of Packages 1, 2 and 3, as well as the Scope and Key Elements of the Initiative. He then presented several progress photos of Package 1 work. In its Project Review, the IEC stated that Package 1 is on budget and has kept to schedule, but that recent delays to the start of fabrication of the dashboard, totems and canopies need to be recovered to avoid delay to construction. The IEC then recognized the Program Team for organizing itself in accord with current Design-Build best practices, including co-locating all team members and including direct representatives of key NYCT User Groups in the team. The IEC then commented on the Program Team's efforts to improve the schedule control of the fabrication of long-lead industrial design items such as custom light fixtures, canopies, totems and dashboards. Finally, the IEC stated that the Program Team has put in place a thorough and wide-ranging process for assessing the design development and the lessons learned from Package 1, which will benefit future packages. 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.

## **NYCT Progress Report on Signals and Train Control Division**

Mr. Gomez cited the projects that comprise the Signals and Train Control Division, as well as the current phase of each project. He then reported on the status of ISIM-B Module 1, which was awarded in November, 2015, as well as ISIM-B Module 3, which is currently in Procurement and is scheduled for award in the 3<sup>rd</sup> Quarter of 2017. Finally, he presented a status update on several interlockings included in the Division. In its Project Review, the IEC reported that ISIM-B Module 1 is on schedule and currently within budget. Regarding ISIM-B Module 3, the IEC stated that due to the complexity of the project, award in the 3<sup>rd</sup> Quarter of 2017 will be challenging. Citing the Traffic Light Report, the IEC reported that three of the interlockings have achieved a "Green" reporting status, one has been delayed by 5 months, and that any additional slippage to two others could potentially impact the CBTC Queens Boulevard installation contract. 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.

## **NYCT Progress Report on Systems and Security Division**

Mr. Bienstock cited the projects that comprise the Systems and Security Division, as well as the current phase of each project. He then provided status updates on the following projects: VHF Radio System Upgrade; Flushing Line Public Address System; Help Point; Passenger Stations Local Area Network (PSLAN); B-Division Train Arrival; Bus Radio System; and finally, the Bus Command Center, including several progress photos of the project. In its Project Review of the Flushing Line Public Address System, the IEC reported that the project is on budget (with construction contract within engineer estimates) and that the project is on schedule for substantial completion by March 2019. With respect to the B-Division Train Arrival System, the IEC reported that the project is within budget and while it is proceeding on schedule, close coordination between internal resources and Transit Wireless is necessary to achieve the accelerated rollout schedule, adding that development of an integrated project schedule would be helpful. Regarding the Bus Radio System, the IEC reported that the project is on budget and while it is currently on schedule to meet its January 2021 Substantial Completion date, interim milestones may be challenging. Finally, with respect to the Bus Command Center, the project is on budget, but the IEC agrees with NYCT's current completion date of November 29, 2017, a delay of 78 calendar days, based on the contractor's schedule. 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.

## **MTA Capital Program Commitments & Completions and Funding**

Ms. Hakim reported on 2017 Commitment and Completion goals through March. The MTA plans \$7.3 billion in commitments, including 51 major commitments that will be tracked throughout the year. Through March, the MTA made 10 major commitments, 8 were on time and 2 were delayed, but have now been achieved. Four major commitments remain delayed, but are expected to be achieved this year. Through March, agencies committed \$1.1 billion versus a \$1.4 billion year-to-date goal; the shortfall is mainly due to the 4 delayed major projects. By year end, the MTA forecasts meeting its 2017 commitments goal. In terms of completions, the agencies plan a total of \$5.0 billion, including 34 major completions that will be tracked throughout the year. The MTA has achieved 4 of its 5 major completions year-to-date. One major completion remains delayed, but is expected to be achieved this year. Through March, agencies completed \$382 million versus a \$482 million year-to-date goal; the shortfall is mostly due to several smaller projects at NYCT falling behind schedule. By year end, the MTA forecasts meeting or exceeding its completions goal.

## **Quarterly Traffic Light Reports**

Mr. Wetherell reported that in the Core Capital Program Traffic Light Report for the 4<sup>th</sup> Quarter 2016, a total of 253 projects were reviewed: 53 in design and 200 in the construction phase. Of the 253 projects reviewed: 62%, (i.e., 157) were designated green; 19% (i.e., 49) were designated yellow, and 19% (i.e., 47) were designated red. This is an increase of 21 red projects from the 3<sup>rd</sup> Quarter 2016 report (26 vs. 47). In terms of the Traffic Light Report covering the Sandy Program, a total of 92 active projects were reviewed in the 4<sup>th</sup> Quarter: 2 in Design, 17 in Post-Design-to-Construction, and 73 in the Construction phase. Of the 92 projects reviewed: 72% (i.e., 66) were designated green; 13% (i.e., 12) were designated yellow; 15% (i.e., 14) were designated red. This is an equal number of red projects to the 3<sup>rd</sup> Quarter 2016 report (14 vs.14). For each of the projects designated red this quarter the agencies have prepared a one-page report stating the problem and corrective action.

## **Executive Session**

Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the public CPOC meeting at 1:33 PM to go into Executive Session.

## **Adjournment**

Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the Executive Session, reconvened the public session and then immediately adjourned the April 24, 2017 meeting of the MTA Capital Program Oversight Committee at 1:55 PM.

Respectfully submitted,  
Michael Jew-Geralds  
Office of Construction Oversight



## **2017-2018 CPOC Committee Work Plan**

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I. Recurring Agenda Items

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

II. Specific Agenda Items

**June**

Quarterly MTACC Capital Program Update

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

LIRR and MNR Update on Positive Train Control (PTC)

NYCT Communication Based Train Control (CBTC)

Quarterly Change Order Report

Quarterly Traffic Light Reports

**July**

NYCT Capital Program Update

- Sandy Recovery and Resiliency Update
- Update on Track Program

**September**

Quarterly MTACC Capital Program Update

Update on Minority, Women and Disadvantaged Business Participation

Update on Small Business Development Program

Quarterly Change Order Report

Quarterly Traffic Light Reports

**October**

LIRR and MNR Capital Programs Update

LIRR and MNR Update on Positive Train Control (PTC)

Update on Capital Program Security Projects (in Executive Session)

**November**

NYCT Capital Program Update  
NYCT, LIRR, MNR Update on New Fare Payment System  
CPOC Committee Charter Review

**December**

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

**January**

NYCT Capital Program Update

**February**

B&T Capital Program Update  
LIRR and MNR Update on Positive Train Control (PTC)  
Update on Minority, Women and Disadvantaged Business Participation

**March**

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

**April**

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

**May**

LIRR and MNR Capital Programs Update

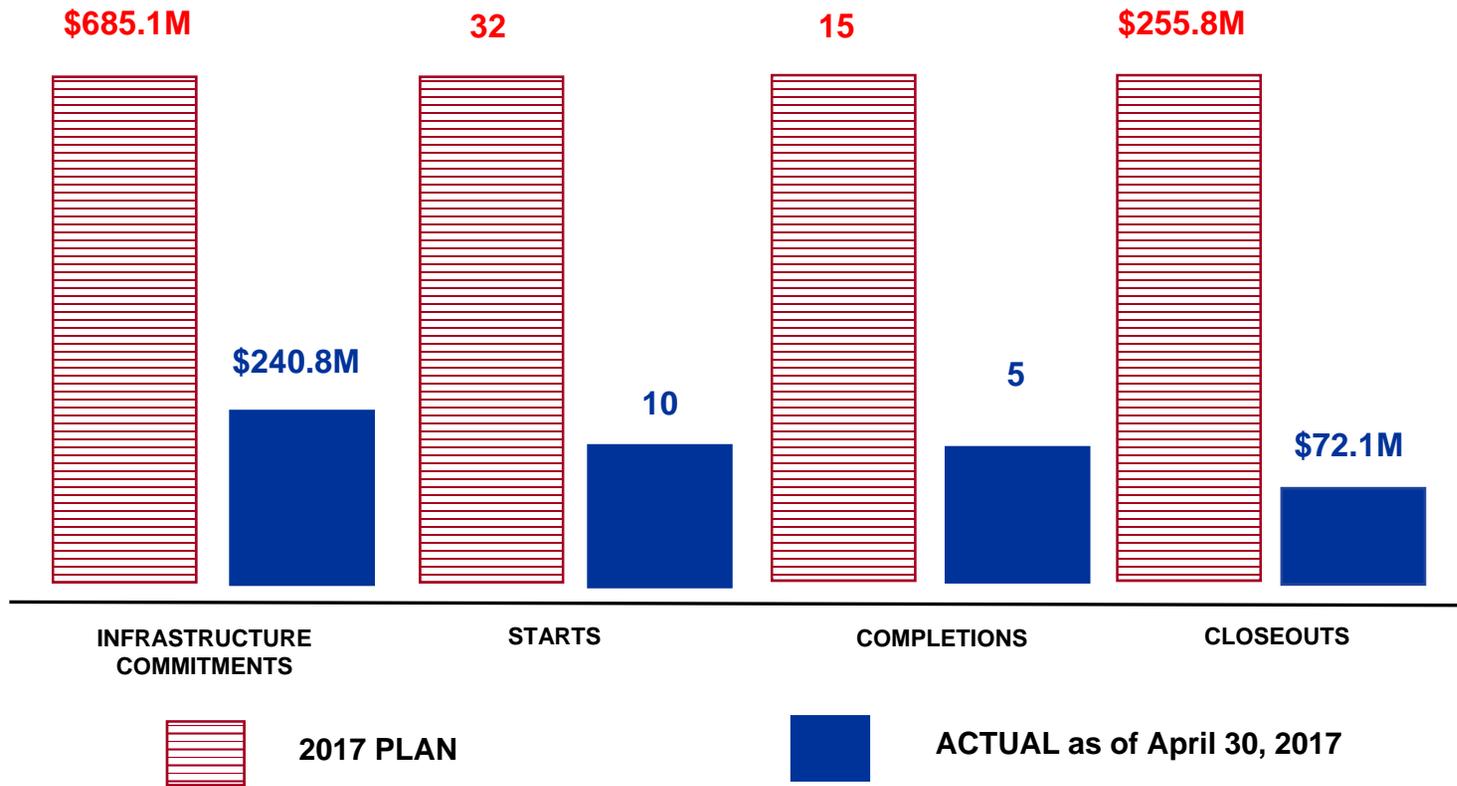
# Capital Program Oversight Committee

Long Island Rail Road  
Capital Program Overview

May 2017



# 2017 LIRR Capital Program Goals



# 2017 Major Starts and Completions

## Planned Major Starts:

### Construction

- ✓ **2017 Track Program**
- Main Line Double Track Phase II
- Murray Hill Station Elevators
- Buckram Road Bridge
- Mid-Suffolk Electric Yard
- Morris Park Diesel Locomotive Shop

### Design

- Jamaica Capacity Improvements (JCI)  
Phase II Design

## Planned Major Completions:

### Construction

- ✓ **150th Street – Jamaica Bridge Rehab**
- ✓ **Escalator Replacement Program**
- Wreck Lead Bridge Systems Restoration
- Massapequa Pocket Track
- ✓ **Employee Facilities Renewal**
- Speonk to Montauk Signalization
- 2017 Track Program



# A Few Active Construction Projects



# STATIONS: Wantagh Station Platform Replacement



Station Platform Rendering



Precast Platform Slab

- **Schedule:**
  - Notice of Award: March 2016 A
  - Phase 1 Completion: 3<sup>rd</sup> Q 2017
  - Beneficial Use: 1<sup>st</sup> Q 2018
  
- **Budget: \$26.8M**



Substructure with Formwork – Track Level



# Stations: Hicksville Station Improvements



Hicksville Station Platform and Canopy Rendering

- **Schedule:**
  - Notice of Award: July 2016 A
  - Construction Start: September 2016 A
  - Beneficial Use: 3<sup>rd</sup> Q 2018
  
- **Budget: \$70.2M (Station) \$50.6M (North Track Siding)**



Hicksville Platform Waiting Room Rendering



# Stations: Hicksville Station Improvements Cont.



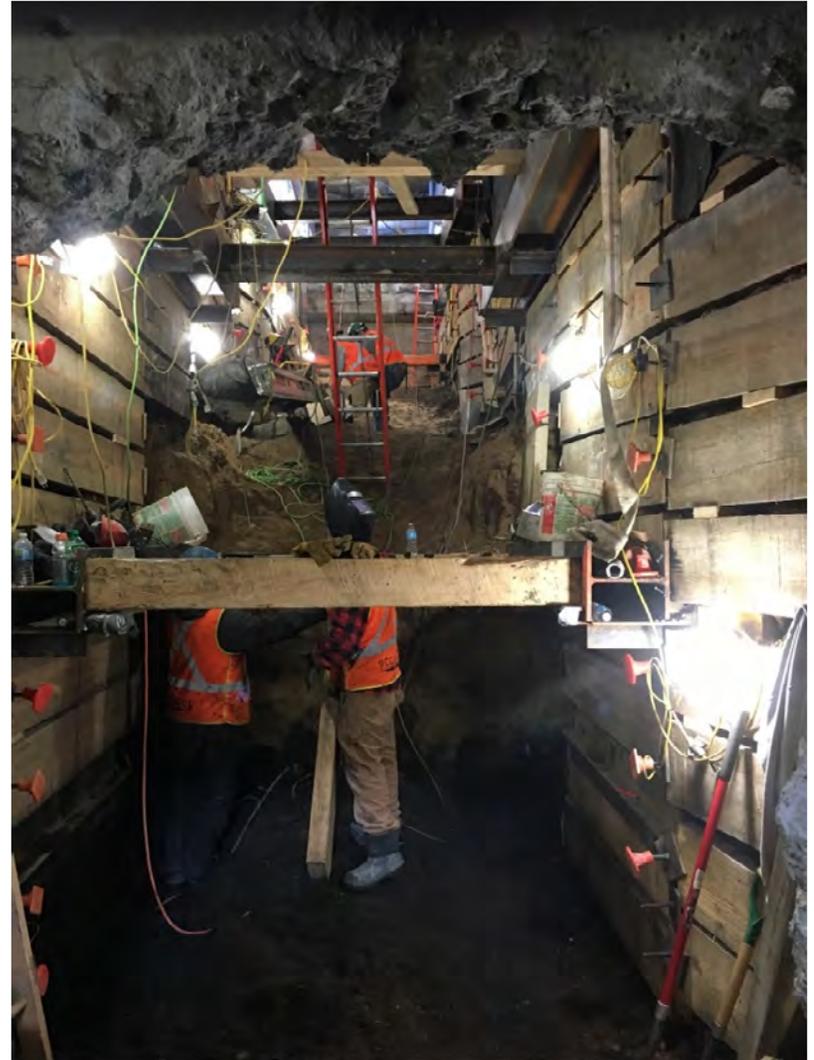
Removal of Platform B



Form/Piping for New Platform



Construction of New Platform



Excavation for New Tunnel Stairs

# Stations: Escalator Replacement Program



Baldwin Machine Room



Baldwin Escalator Platform Level



Baldwin Escalator Replacement

## ■ Schedule:

- Notice of Award: August 2014 A
- Construction Start: October 2014 A
- Beneficial Use: April 2017 A

## ■ Budget: \$14.0M



# Morris Park Locomotive Shop and Employee Facility



Locomotive Shop Rendering



Facility Footprint

## ■ Schedule

- Design/Build Contract Award: 3<sup>rd</sup> Q 2017
- Beneficial Use: 1<sup>st</sup> Q 2020

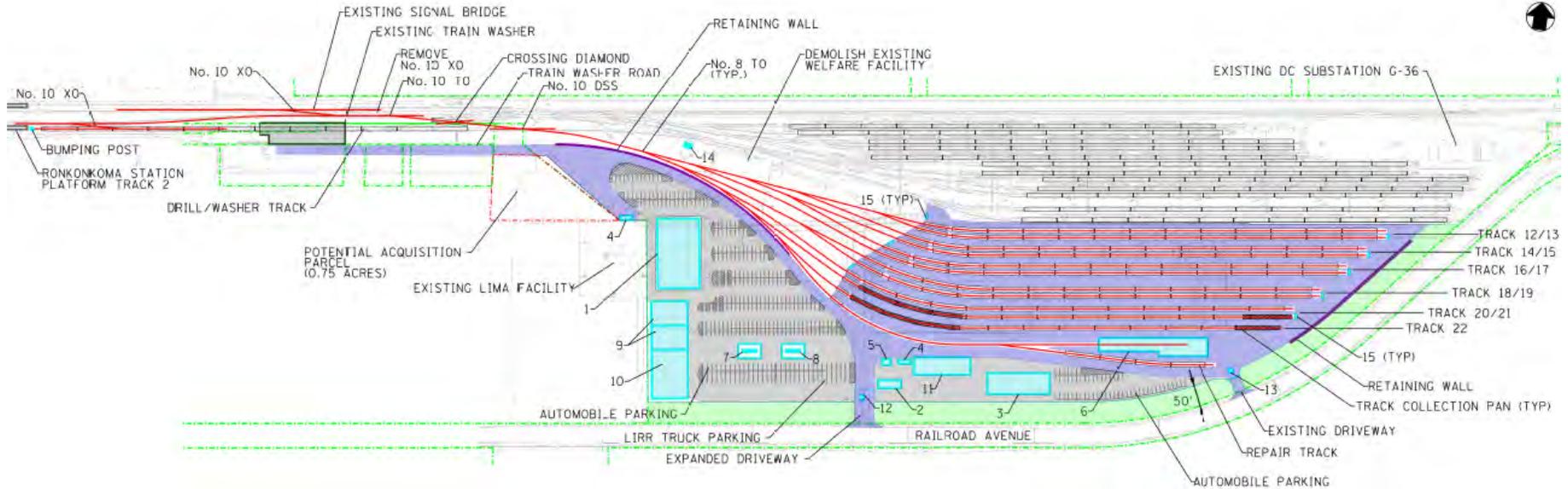
■ Budget: \$108.3M



Existing Shop (Built in 1889)



# Mid-Suffolk Yard



Mid-Suffolk Yard Layout

- **Schedule:**
  - Design/Build Contract Award: 3<sup>rd</sup> Q 2017
  - Beneficial Use: 1<sup>st</sup> Q 2020
- **Budget: \$128M**



New Employee Facility Rendering



# Buckram Road Bridge Replacement



Current Photo (looking North)



Single-Span Rendering (looking North)

- **Schedule:**
  - Design/Build Contract Award: 2<sup>nd</sup> Q 2017
  - Construction Start: 3<sup>rd</sup> Q 2017
  - Beneficial Use: 2<sup>nd</sup> Q 2018
- **Budget: \$18.3M**



# Post Ave Bridge Replacement

- **Schedule:**
  - D/B Construction Start: February 2017 A
  - Beneficial Use: 2<sup>nd</sup> Q 2018
  
- **Budget: \$15.6M**



Post Ave Bridge (Existing)



# Annual Track Program: Cyclical Track Renewal



Southold Switch Installation

- **Schedule:**
  - Construction Start: February 2017 A
  - Beneficial Use: December 2017
  
- **Budget: \$60M**

ELEMENTS OF WORK	2017	
	Goal	Actual as of 4/30/17
Wood Ties (ea)	31,380	2,573
Concrete Ties (ea)	25,000	10,243
Grade Crossing Renewal (ea)	12	1
Switch Replacement (ea)	8	2
Continuous Welded Rail (CWR) (ft)	26,780	12,183
Surfacing (miles)	72	8
Surface Interlocking Switches	44	3
Field Welds (ea)	800	255



# Signal Normal Replacement

Asset	2015 - 2019 Plan Qty	Actual Completed As of 4/30/2017
Batteries	20	5
Switch Machines	20	0
Signal Heads	14	0
Signal Cable(LF)	195,386	7200
Equipment Cases	9	5
Install Line Cable and Cutover	28	0
Grade Crossing Renewal	87	15
TC Green Cable Locations	154	18

- **Schedule:**
  - Construction Start: February 2016 A
  - Beneficial Use: 4<sup>th</sup> Q 2020
  
- **Budget: \$40M**



Grade Crossing Renewal  
Ocean Ave  
W. Hempstead Br.



Equipment Case Renewal  
Dubois Ave  
Far Rockaway Br.



# Power Asset Replacements

- **Schedule:**
  - Power System Replacements:
    - Construction Start: April 2016 A
    - Beneficial Use: 4<sup>th</sup> Q 2019
  - Power Substation Replacements:
    - Construction Start: 3<sup>rd</sup> Q 2018
    - Beneficial Use: 3<sup>rd</sup> Q 2022
  - Substation Component Replacements:
    - Construction Start: April 2016 A
    - Beneficial Use: 4<sup>th</sup> Q 2020
  
- **Budget: \$227M**



Negative Return Reactor



Signal Power Motor-Generator

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# Jamaica Capacity Improvements and Main Line Double Track

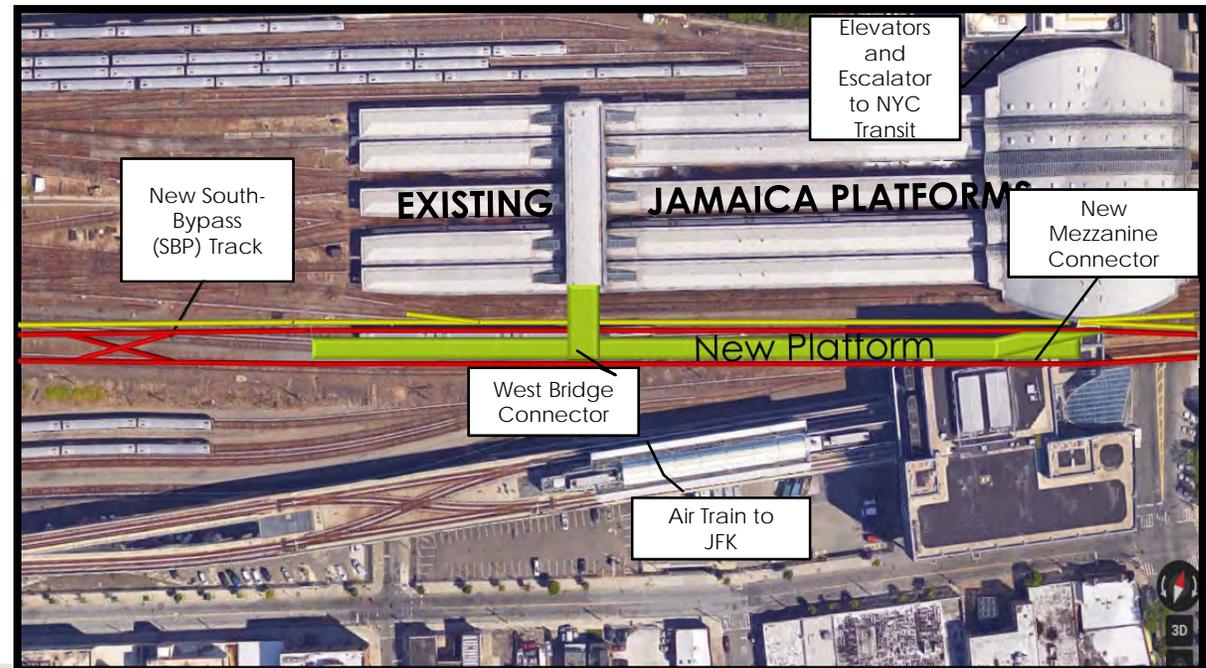


# Jamaica Capacity Improvements - Phase I

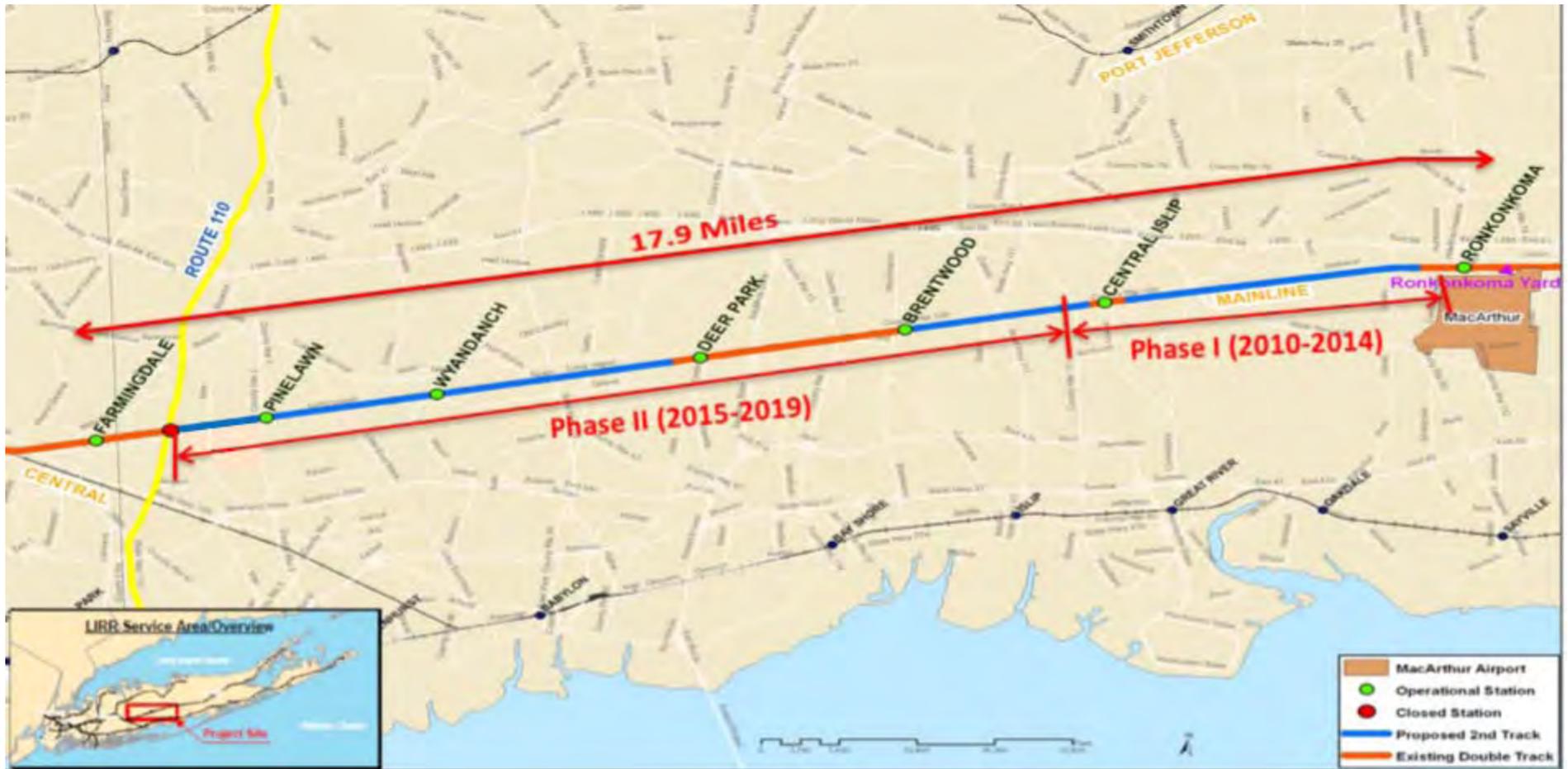
## □ Schedule:

- South Bypass Track
  - LIRR Force Account Construction
  - Forecast Completion (including cutover): May 2017 A
- Platform F Construction
  - Award: September 2016 A
  - Completion: 3<sup>rd</sup> Q 2019
- Universal Crossovers (Union, Metropolitan, and Beaver) to facilitate Phase 2: 3<sup>rd</sup> Q 2020

□ Budget (Phase I): **\$301.6M**



# Main Line Double Track Project



# Main Line Double Track Project

## Phase I - West of Central Islip to Ronkonkoma



Third Rail Installation by Force Account

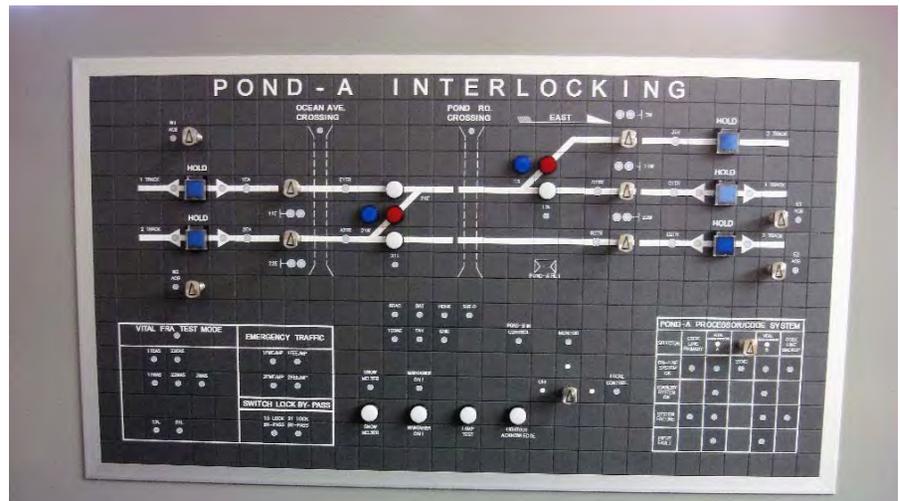


Retaining Wall by Contractor

### □ Schedule:

- Base Civil and Site Work
  - Substantial Completion: May 2016 A
- Track and Systems Installation
  - Construction Start: August 2015 A
  - Substantial Completion: 1<sup>st</sup> Q 2018

### □ Budget: \$137.2M



New Control Panel – Pond A – West of Ronkonkoma



# Main Line Double Track Project

## Phase II - Farmingdale to West of Central Islip



Trackbed excavation at Wyandanch

- **Schedule:**
  - Phase 2 Civil and Site Work
    - Notice of Award: June 2016 A
    - Substantial Completion: 3<sup>rd</sup> Q 2017
  - Phase 1 & 2 Signal Equipment:
    - Notice of Award: June 2016 A
    - Substantial Completion: 1<sup>st</sup> Q 2018
  - Phase 2 Track, Systems and Station Platforms
    - Notice of Award: May 2017 F
    - Substantial Completion: 3<sup>rd</sup> Q 2018
- **Budget: \$250M**



Retaining Wall at Pedestrian Underpass-Deer Park



# Sandy Restoration Projects



# Substations Replacement/Restoration



Oil City Substation

## ■ Schedule:

- Long Island City Substation - Completed in March 2015 A
- Oceanside Substation - Completed in June 2015 A
- Oil City Substation - Completed in January 2017 A
- Long Beach Substation - In Construction – 1<sup>st</sup> Q 2018

## ■ Budget: \$51.6M



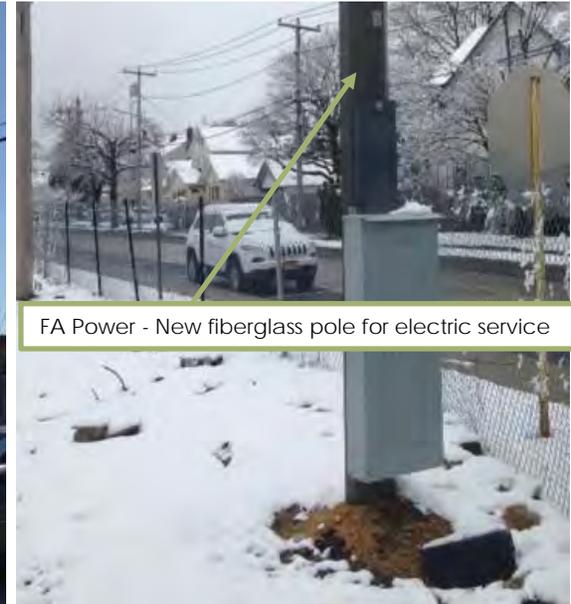
# Long Beach Branch Systems Restoration



New Rocklyn Ave. Crossing Hut Interior



LB Yard Communication hut  
(ABFE +4)



Rocklyn Ave. – New electric service pole

## □ Schedule:

- Construction Start: July 2013 A
- Beneficial Use: 3<sup>rd</sup> Q 2019

## □ Budget: \$64.9M



# Wreck Lead Bridge Systems Restoration

Wreck Lead Bridge is a single track bascule bridge that crosses Wreck Lead Channel on the Long Beach Branch.



Excavating Cable Trench



New Walkway Lighting

- **Schedule:**
  - Construction Start: July 2013 A
  - Beneficial Use: 2<sup>nd</sup> Q 2017
  
- **Budget:\$14.9M**



Emergency Generator



# West Side Storage Yard Restoration



Switch Machine

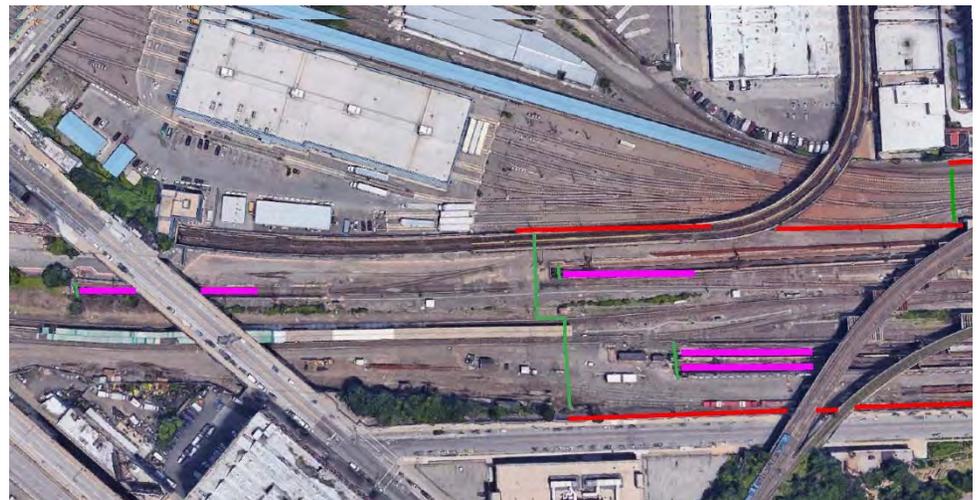
- **Schedule:**
  - Construction Start: October 2013 A
  - Beneficial Use: 2<sup>nd</sup> Q 2019
  
- **Budget: \$43.3M**



Fire Alarm Panel in Building 2

# WSY & ERT Flood Mitigation

- **Scope:** Design-build flood mitigation construction
- **Schedule:**
  - Design Completion: 3<sup>rd</sup> Q 2017
  - Construction Start: 1<sup>st</sup> Q 2018
  - Beneficial Use: TBD
- **Budget:** \$108M



# May 2017 CPOC IEC Project Review



## Jamaica Capacity Improvements – Phase I



# Schedule & Budget Review

## Jamaica Capacity Improvements (JCI) – Phase I

- **Schedule:** Notwithstanding the slippage of one of the key interim project milestones, the overall JCI – Phase I project remains on schedule.
- **Budget:** Currently, the project is on budget and the expenditures to date reflect the percent of project completion.



# IEC Observation

The IEC is concerned regarding the Agency's risk mitigation efforts as it relates to the following:

- **Force Account:** LIRR needs to have an integrated program schedule as there are several competing projects which have key milestone activities and forecasted substantial completion dates in 2018.



# May 2017 CPOC IEC Project Review



## Main Line Double Track



# Schedule Review

- The agency has combined phase 1 and phase 2 into one project.
- As previously reported, the civil portion of phase 1 reached substantial completion in May 2016.
- From this point forward the IEC will report on phase 1 and phase 2 as one project.
- The project is on schedule. However, in the opinion of the IEC, the total project schedule is aggressive with minimal float.



# Budget Review

- The project is on budget, with the expenditures to date reflecting the correct percentage of project completion.
- In the opinion of the IEC, appropriate contingency remains in the project budget.



# Observation

## Potential Delay in Delivery of Signal Equipment:

- As previously identified, a delay in signal equipment delivery is both a cost and schedule risk to the project.
- During the RFP procurement, the LIRR incentivized the early delivery of huts and cases. The agency PM team has been performing factory visits and attending factory acceptance testing prior to the delivery of equipment.
- The latest schedule update confirms that the final signal deliveries and the signal equipment substantial completion are in-line with contract dates.



# Capital Program Oversight Committee

MTA Metro-North Railroad  
Capital Program Highlights

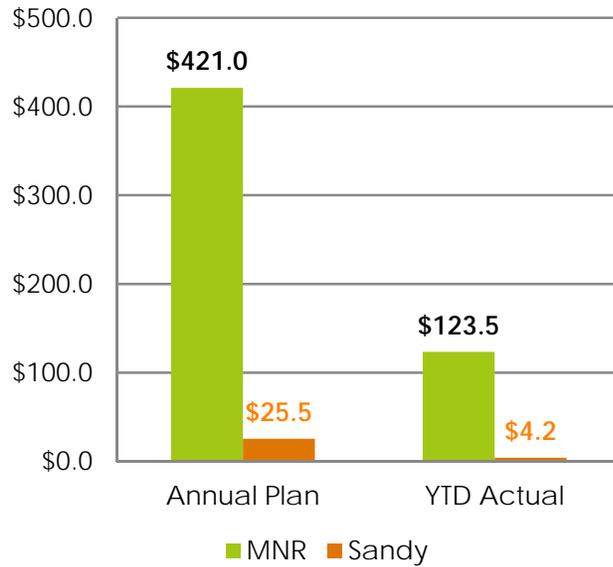
May 2017



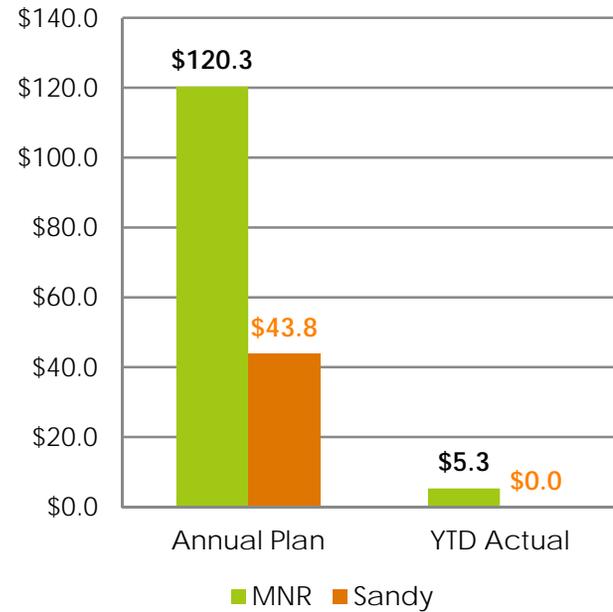
**Metro-North Railroad**

# 2017 Metro-North Capital Program Goals Actual Through April 2017

### Commitments \$ million



### Completions \$ million

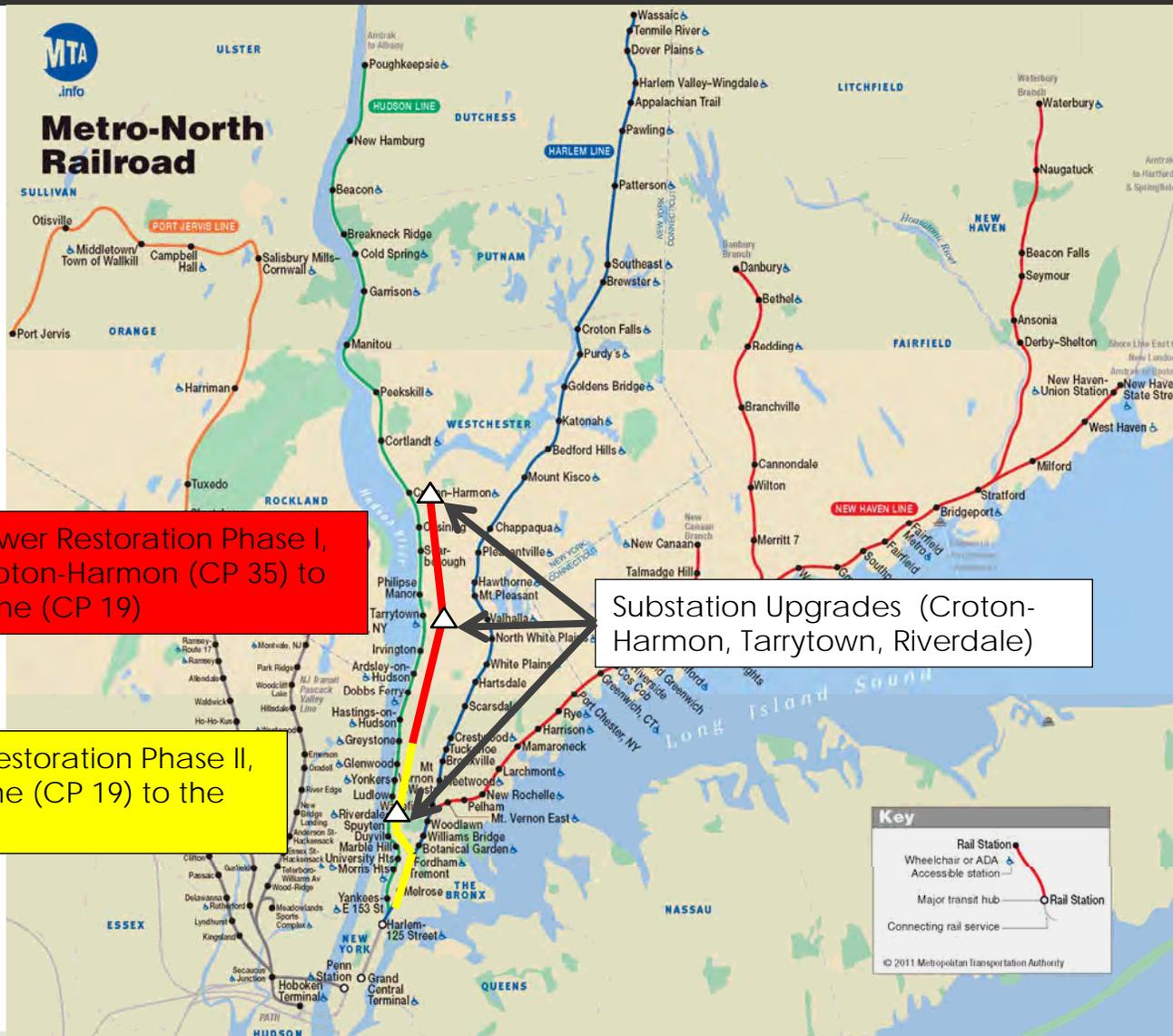


# Major Projects

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



# Superstorm Sandy Restoration Projects



## Design-Build

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

#### Status

- Phase I – **Ongoing Work** (Croton-Harmon – Greystone)
  - IA - Trough, cable and conduit installation from Croton-Harmon to Tarrytown to be completed September 2017.
  - IB – Similar work from Tarrytown to Greystone to commence in October 2017.
  
- Phase II – **Future Work** (Mott Haven to Greystone)
  - Design development from preliminary design to final design is progressing and field survey underway.
    - Will continue through March 2018.
  - Phase II implementation plans are being formulated.
    - Force Account and flag support needs versus capacity to be analyzed.



# Design-Build 30 Mile Hudson Line Power and C&S Infrastructure Restoration (Phase I + Phase II): \$301 M

- Schedule
  - Phase I work has slipped and is currently 18 months late.
  - Initial start-up challenges and working along right-of-way with limited space for new infrastructure are main contributors.



Cable installation at Philipse Manor



Conduit and Cable installation along East Wall at Ossining

Status



## Design-Build 30 Mile Hudson Line Power and C&S Infrastructure Restoration (Phase I + Phase II): \$301 M

### Status

- Mitigation strategies implemented that will continue:
  - Long-term outages extended past scheduled completion date where appropriate.
  - Increased flaggers from 12 to 16 (33%) to increase production rates.
    - Production has not increased as much as expected due to site constraints.
- Additional schedule mitigation being discussed with Design-Builder:
  - Exploring the possibility of progressing Phase I and Phase II construction concurrently.
  - Continue to identify means to enhance productivity by working with Design-Builder on design requirements where appropriate.
  - Apply lessons learned from Phase I to Phase II.
    - Design-Builder advancing the design and performing site visits to better plan work.
    - Design-Builder looking to move more work to the Track 4 side for greater ease of installation and avoidance of existing infrastructure resulting with higher productivity expected as continuous outages are allowed.



Design-Build  
30 Mile Hudson Line Power and C&S Infrastructure  
Restoration (Phase I + Phase II): \$301 M

Status

- Phase II – (Mott Haven to Greystone)
  - Advance start of Phase II (overlap with Phase I) from CP5 to CP19.
    - Start date under review.
- Contractor is planning on proposing a schedule that can reduce delay; at this time project team holding overall 18 month delay.
  - Phase II schedule under review to determine feasibility.



## Design-Build 30 Mile Hudson Line Power and C&S Infrastructure Restoration (Phase I + Phase II): \$301 M

### Status

- Budget Impact
  - Metro-North is assessing impact to budget resulting from an overall 18 month delay (acceleration of Phase II start has a positive impact).
- Risk Management
  - A Risk Assessment was completed recognizing the challenges of project implementation in a constricted work environment adjacent to the active railway.
  - Risk Assessment will be updated periodically through the completion of the project.



## Sandy Hudson Line Restoration: Replace 3 Hudson Line Substations: \$44 M

Award: 12/2014

Completion: 10/2017

### Status

- Croton-Harmon
  - Factory acceptance testing of the electrical switchgear was successfully completed. Delivery is scheduled in June 2017.
  - Next step: Final testing and commissioning.
  - Completion: October 2017
- Tarrytown and Riverdale
  - Component testing, switchgear wiring and terminations, and installation of lighting and fire alarms in the substations vault is ongoing.
  - Next step: Final commissioning and power cut-over.
  - Completion: October 2017
- Six month delay incurred due to delays in equipment fabrication and test failures of relays and DC rectifiers



# Substations - Photos



RIVERDALE: Fiberglass Raised Platform in Vault



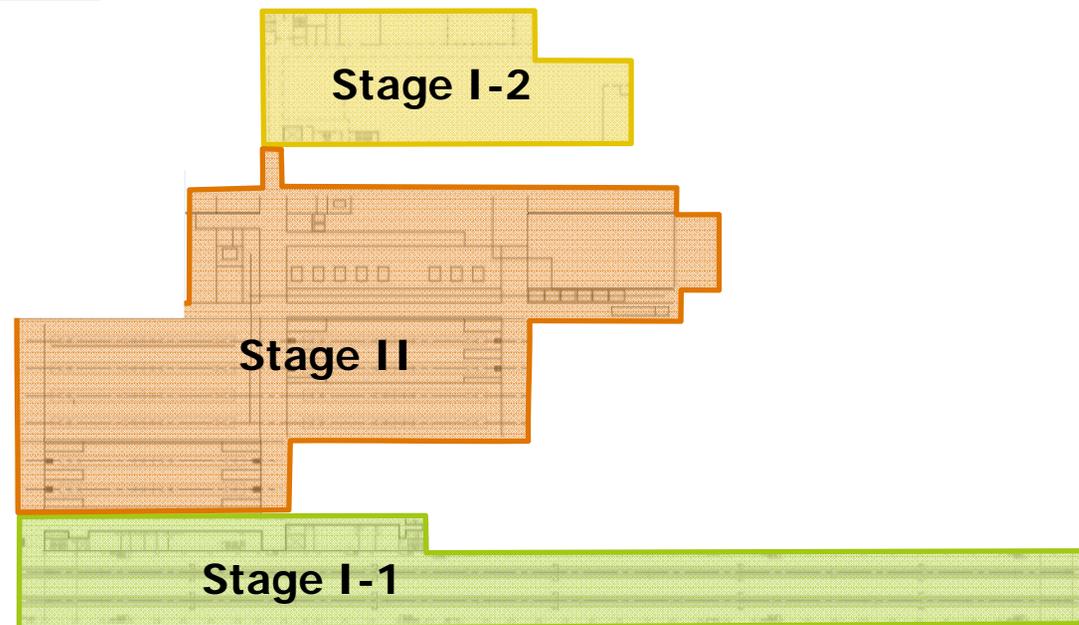
TARRYTOWN: DC Traction Substation (AC/DC Switchgear)



CROTON-HARMON

# Harmon Shop Replacement Design-Build Scope: Phase V – Stages I and II

	Stage I-1:	Stage I-2:	Stage II:
Facility	Consist Shop Facility	EMU Annex	EMU Running Repair and Support Shops
Program	2010-14	2010-14 (Concurrent w/I-1)	2015-19
Complete	1 <sup>st</sup> Quarter 2018	1 <sup>st</sup> Quarter 2018	3 <sup>rd</sup> Quarter 2022
Major Areas	<ul style="list-style-type: none"> <li>• Two Ten-Car Consist Tracks</li> <li>• Working Storeroom</li> <li>• Lockers, Lunch Room</li> </ul>	<ul style="list-style-type: none"> <li>• Wheel and Axle Shop</li> <li>• Machine, Carpentry, Sheet Metal, Tread Brake, Armature Shops, Plant Maint., Air Room, Compressor Repair</li> <li>• Lockers, Lunch Room</li> </ul>	<ul style="list-style-type: none"> <li>• Ten Vehicle Repair Bays</li> <li>• Truck, HVAC, Toilet Repair, Battery and Paint Shops, Clean Room</li> <li>• Storeroom</li> <li>• Training Department, Office Spaces</li> </ul>



# Harmon Shop Replacement Design-Build Phase V – Stage I

Budget: \$316 M

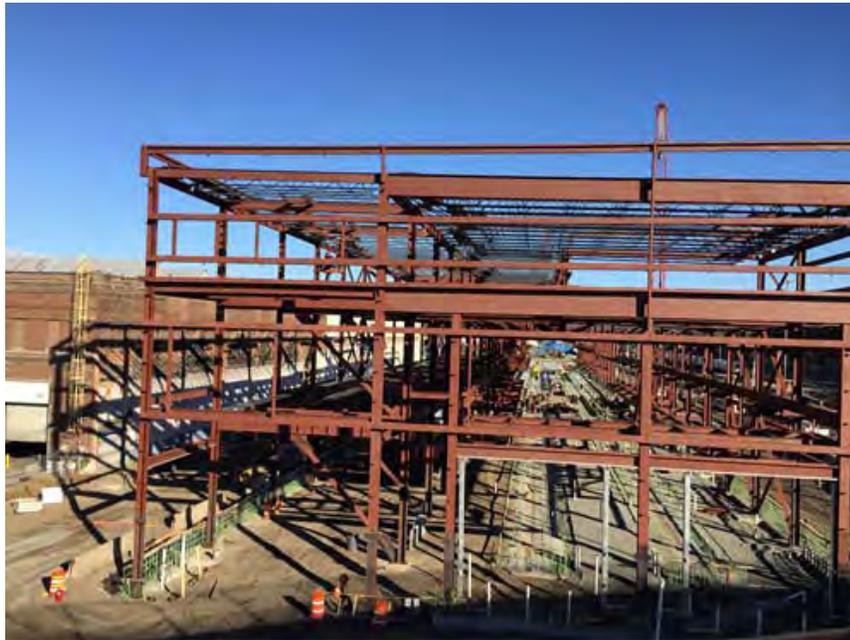
Completion: 01/2018

## Status

- Consist Shop Facility and EMU Annex
  - Insulated metal walls completed.
  - Roof installations, interior Concrete Masonry Unit (CMU) walls, Mechanical, Electrical, and Plumbing (MEP) utilities are ongoing.
  - Interior painting has commenced.
  - Track installation inside the shop has commenced in Consist Facility.
  - Kalwall translucent wall panels completed and equipment deliveries have commenced to EMU Annex.
- Project is within budget.
- Scheduled for completion in January 2018 with a potential 2 month delay that Metro-North looks to mitigate.



# Phase V – Stage I Progress Photos



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



May 2017 – Consist Shop Facility – Installation of Precast perimeter walls, insulated metal wall panels complete. CMU walls, MEP utilities, roofing, painting and elevated track rail installations are ongoing.



# Phase V – Stage I Progress Photos



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



May 2017 – Installation of insulated metal wall panels and Kalwall translucent wall panels completed. Installation of roofing, MEP utilities, CMU walls, painting and stairs are ongoing. Delivery of Mechanical and Electrical equipment has commenced.



# Phase V – Stage I Progress Photos



May 2017 – Consist Shop Facility: Installation of car roof level platform railings and stairs, and preparation for translucent wall panels, roof skylights and interior painting.



May 2017 – EMU Annex: Installation of MEP utilities, delivery of mechanical, electrical and elevator equipment and preparation for interior painting.

# Harmon Shop Replacement Design-Build Phase V – Stage II

Budget: \$442 M

Award: 07/2018

Completion: 07/2022

## Status

- The 30% preliminary design was submitted in March 2017 to facilitate the compilation of the RFP documents.
- The updated Risk Assessment for Stage II based on the 30% preliminary design is anticipated June 2017.



# Upcoming Design-Build Projects

- To be Reported as Major Projects:
  - GCT PA/VIS Head End, Big Boards and Displays
  - Customer Communications – Outlying Stations
  - Croton-Harmon Main Shop Replacement, Phase V, Stage II
  
- Other Upcoming Design-Build Efforts:
  - Enhanced Stations
  - Overhead Bridge at 14<sup>th</sup> Ave – Mt. Vernon



# May 2017 CPOC IEC Project Review



## Hudson Line Sandy Restoration/Resiliency



# Schedule Review

- The IEC agrees with MNR that Phase I is presently about 18 months behind schedule.
- Production rates have not reached the level estimated during preliminary design.
- The second continuous track outage (outbound local track) was completed in April 2017, lasting approximately six months longer than planned.
- The overall project completion date will be known when the contractor adds the work to the Phase I schedule.



# Budget Review

- As previously reported, the existing budget will need to be increased due to an expected increase in monthly soft costs.
- A Risk Assessment Update workshop was performed to identify threats to the schedule and budget and to develop mitigations.
  - The update included current completion information, current productivity rates and future track outage planning.
  - Results are approximately in line with current forecasts for schedule and budget.



# Mitigations & Observations

## Agency Mitigations

- Increased the number of flaggers per day.
- Extending long-term continuous outages when needed.

## IEC Observations

- The IEC agrees with MNR that there is a potential to increase the production rates in the next stages.
  - Fewer site constraints
  - Flagging efficiency
- The IEC will periodically update the risk model to include revised production rates.



# May 2017 CPOC IEC Project Review



## Harmon Consist Shop Replacement Phase V, Stage 1



# Harmon Consist Shop Replacement Phase V - Stage 1

## Budget Review

- The project is within budget. In the opinion of the IEC, the remaining project contingency is sufficient.

## Schedule Review

- The contractor's latest schedule update indicates a potential 3-month delay to completion due to a delay in the submission process for the procurement of some shop equipment.
- All of the contract interim milestones have been met or are on schedule.



# Harmon Consist Shop Replacement Phase V - Stage 1

## IEC Findings

- **Budget Risks:** The major budget risks identified during the risk assessment dealt with design changes and scope increase. Those risks have not been realized and there is less likelihood of their occurring.
- **Schedule Risks:**
  - **Procurement of Equipment** – Axle inspection station, fire standpipe and the Building Management System are on the critical path.
  - **Testing and Commissioning** - The testing and commissioning plan has been approved. On-site commissioning activities will start in August 2017.

The IEC believes that it is unlikely that all of the current delay can be recovered, however Stage 1 should be complete before the start of Stage 2.



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# **MTA Capital Program Commitments & Completions**

## **through April 30, 2017**



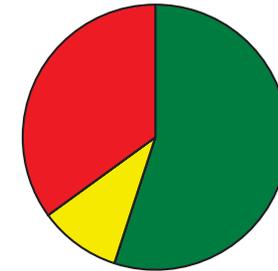
### Capital Projects – Major Commitments – April 2017

In 2017, agencies plan a total of \$7.3 billion in overall commitments with 51 major commitments planned.

Through April, agencies committed \$1.6 billion versus a \$2.0 billion YTD goal. Eleven major commitments were made on time or early, two were delayed, but have now been committed and seven major commitments remain delayed. All delays are explained on the following pages.

The MTA forecasts meeting or exceeding its end of year \$7.3 billion commitment goal. This forecast is partly due to the LIRR's commitment for the Moynihan Train Hall as well as NYCT commitments for the Enhanced Station Initiative. These commitments were not part of the original 2017 commitment goals.

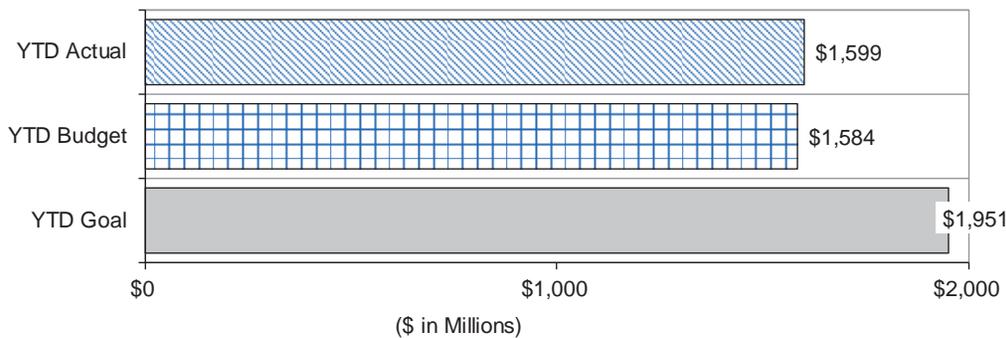
### Year-to-Date Major Commitments



	Count	Percent	Change from Prior Month
<b>GREEN</b> = Commitments made/forecast within Goal	<b>11</b>	<b>55%</b>	↑ 3
<b>YELLOW</b> = Commitments delayed beyond Goal (already achieved)	<b>2</b>	<b>10%</b>	-
<b>RED</b> = Commitments delayed beyond Goal (not yet achieved)	<b>7</b>	<b>35%</b>	↑ 3
<b>Total</b>	<b>20</b>	<b>100%</b>	<b>↑ 6</b>

### Budget Analysis

2017 Annual Goal	\$7,280	(\$ in millions)
2017 Forecast	106%	of Annual Goal
Forecast left to Commit	79%	(\$6,100)



### Year-to-Date Agency Breakdown

2017 Goals	Prior month variance		
	GREEN	YELLOW	RED
<b>New York City Transit</b>			
2 GREEN 4 RED	+1 GREEN	----	+1 RED
<b>Long Island Rail Road</b>			
1 GREEN 2 RED	----	----	+1 RED
<b>Metro-North Railroad</b>			
1 GREEN	----	----	----
<b>Bridges and Tunnels</b>			
8 GREEN 1 RED	+2 GREEN	----	+1 RED
<b>Capital Construction Company</b>			
	----	----	----
<b>MTA Bus Company</b>			
	----	----	----
<b>MTA Police Department</b>			
1 YELLOW	----	----	----

## Capital Projects – Major Commitments – April 2017 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
<b>7 All-Agency Red Commitments (3 new this month)</b>							
<b>NYCT</b>				<b>LIRR</b>			
<i>Line Structures</i>				<i>Communications and Signals</i>			
Structural Repairs / 4th Ave	Construction Award	Feb- 17	May- 17	Positive Train Control	Force Account	Feb- 17	Nov- 17
		\$84.4M	\$84.4M			\$49.1M	\$49.1M
Bids have been taken and the project award is delayed due to NYCT budget adjustment procedures resulting from a high bid (goal includes the impact of the higher bid). The project has been delayed one additional month since last month's report.				\$28.9 million was committed in March with the balance to be awarded by November 2017. Funding for force account activities have been adjusted based on updated cash flow needs and not all funding needed to be committed in March. The overall PTC beneficial use date is unaffected and remains 12/2018.			
<i>Signals &amp; Communications</i>				<i>Track</i>			
B- Division Beacon Train Arrival	Construction Award	Feb- 17	Jun- 17	<b>Main Line Double Track Phase 2- Track &amp; Systems (New Item)</b>	Construction Award	Apr- 17	May- 17
		\$70.0M	\$70.0M			\$52.0M	\$52.0M
Delayed pending funding allocation approval. The project has been delayed an additional two months since last month's report.				Bid opening delayed due to time extension requests from prospective contractors to secure pricing from their subcontractors.			
<i>Track</i>				<b>B&amp;T</b>			
Mainline Track & Switch Program (18 Projects) - 1st Qtr	Construction Award	Mar- 17	May- 17	<i>Structures</i>			
		\$217.8M	\$218.6M	<b>Henry Hudson Skewback Retrofit (New Item)</b>	Construction Award	Apr- 17	May- 17
2017 Yard Track (\$2.3M) and 2017 Yard Switches (\$3.7M) remain to be awarded. The 2017 Yard Track & Switch projects were delayed due to attention on other priorities including meeting obligations in the 2015- 2016 Track & Switch Mainline projects and commencing the 2017 Mainline Track & Switch program. In addition, inclement weather conditions during the 1st Qtr prevented working in the yards.							
<i>Traction Power</i>				Extension due to MWBE and Insurance issues.			
<b>New Substation &amp; 2 CBHs - Maspeth Av- Humboldt St/CNR (New Item)</b>	Construction Award	Apr- 17	Jul- 17				
		\$76.7M	\$76.7M				
Delayed advertisement due to an extended approval process by NYCT stakeholders. Bid opening scheduled in May.							

## Capital Projects – Major Commitments – April 2017 – Schedule Variances

Project	Commitment	Goal	Actual
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### 2 All-Agency Yellow Commitments (0 new this month)

#### **LIRR**

##### *Track*

2017 Track Program	Construction Award	Feb- 17 \$75.0M	Mar- 17 (A) \$75.0M
Full administrative reviews and approvals had not been concluded by the end of February and full commitment was delayed until March.			

#### **MTA PD**

Nassau County District Office	Construction Award	Feb- 17 \$7.0M	Mar- 17 (A) \$7.0M
A lease was signed with the property owner in February. Administrative reviews and procedures to award the project have delayed forecast award to March.			

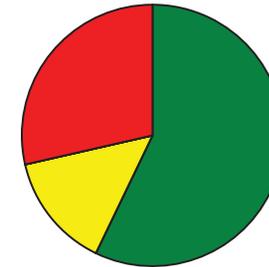
### Capital Projects – Major Completions – April 2017

In 2017, agencies plan a total of \$5.0 billion in overall completions with 34 major completions planned.

Through April, agencies have completed \$480 million versus a \$700 million YTD goal. Four major completions were achieved on time or early; two in January and two in March. One major completion is delayed but has now been completed (LIRR's Escalator Replacement Program project), and two major completions remain delayed (NYCT's Sandy: 53<sup>rd</sup> St Tube and LIRR's Sandy: Wreck Lead Bridge Systems Restoration project). All delays are explained on the following pages.

The year-to-date shortfall is mostly due to the 53<sup>rd</sup> Street Tube and several smaller completions at NYCT which are delayed, but forecast for completion later in the year. By year-end, the MTA forecasts meeting or exceeding its \$5.0 billion goal.

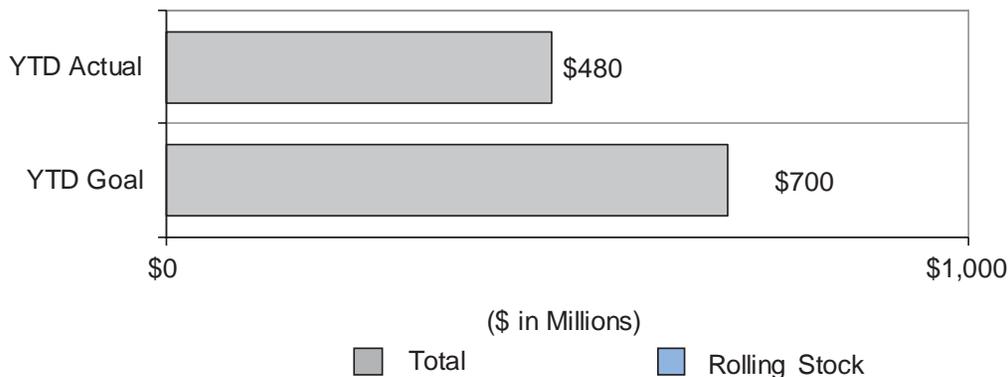
### Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
<b>GREEN</b> = Completions made/forecast w ithin Goal	4	57%	-
<b>YELLOW</b> = Completions delayed beyond Goal (already achieved)	1	14%	↑ 1
<b>RED</b> = Completions delayed beyond Goal (not yet achieved)	2	29%	↑ 1
<b>Total</b>	<b>7</b>	<b>100%</b>	<b>↑ 2</b>

### Budget Analysis

2017 Annual Goal \$4,970 (\$ in millions)  
 2017 Forecast 103% of Annual Goal  
 Forecast left to Complete 91% (\$4,633)



### Year-to-Date Agency Breakdown

2017 Goals	Prior month variance		
	GREEN	YELLOW	RED
<b>New York City Transit</b>			
2 GREEN 1 RED	----	----	+1 RED
<b>Long Island Rail Road</b>			
2 GREEN 1 YELLOW 1 RED	----	+1 YELLOW	----
<b>Metro-North Railroad</b>			
----	----	----	----
<b>Bridges and Tunnels</b>			
----	----	----	----
<b>Capital Construction Company</b>			
----	----	----	----
<b>MTA Bus Company</b>			
----	----	----	----
<b>MTA Police Department</b>			
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## Capital Projects – Major Completions – April 2017 – Schedule Variances

Project	Completion	Goal	Forecast
<b>2 All-Agency Red Completions (2 new this month)</b>			
<b>NYCT</b>			
<i>Sandy</i>			
<b>Sandy: 53rd St Tube (New Item)</b>	Construction	Apr-17 \$92.6M	May-17 \$92.6M
Delay due to design Changes to the High Tension Switchgear and Transformer to meet Con Edison Safety Requirements.			
<b>LIRR</b>			
<i>Sandy</i>			
<b>Wreck Lead Bridge Systems Restoration (New Item)</b>	Construction	Apr-17 \$14.9M	Jun-17 \$14.9M
Beneficial use has been delayed due to NYS Environmental Conservation requirement to use scow barges to store dredged material, which delayed the excavation work.			

## Capital Projects – Major Completions– April 2017 – Schedule Variances

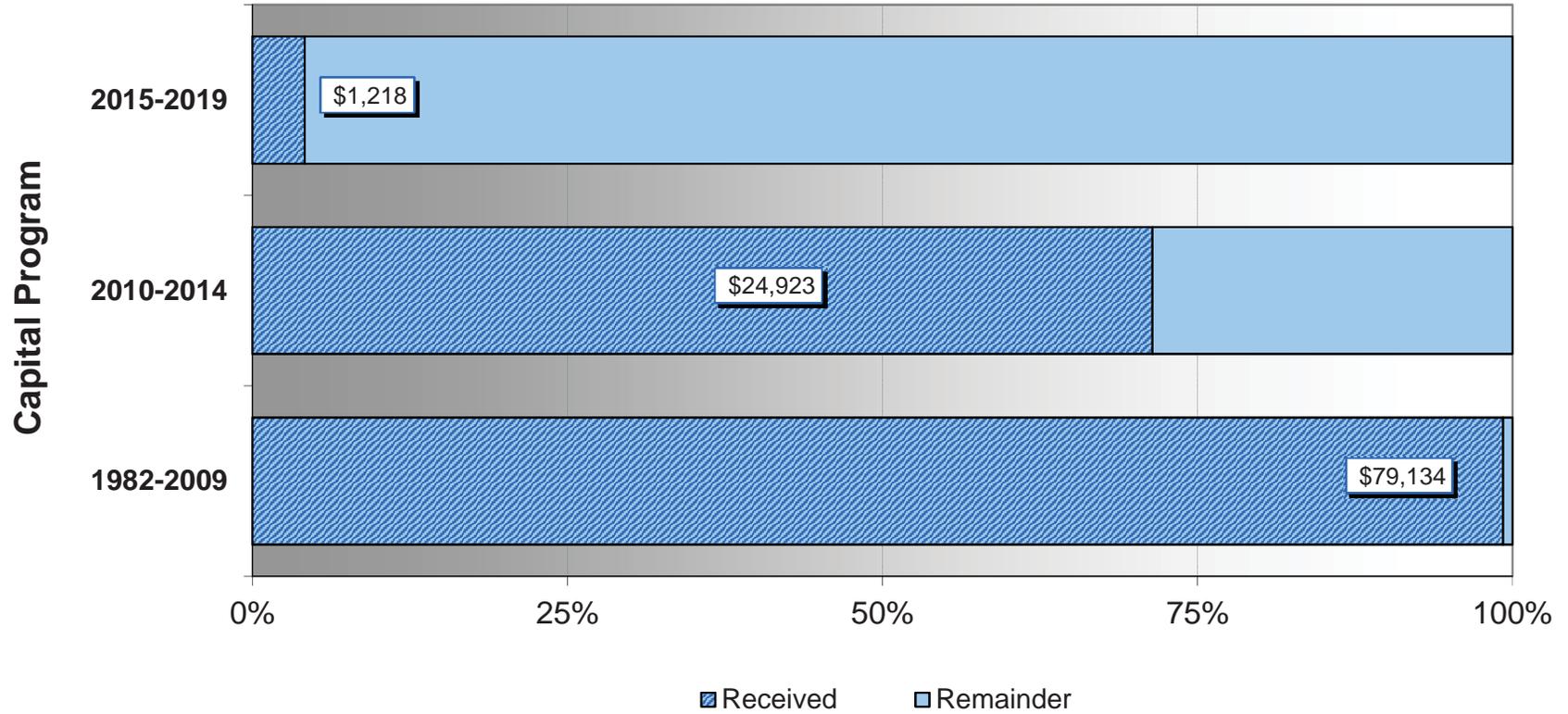
Project	Completion	Goal	Actual
<b>1 All-Agency Yellow Completions (1 new this month)</b>			
<b>LIRR</b>			
<i>Stations</i>			
<b>Escalator Replacement Program (New Item)</b>	Construction	Mar- 17 \$11.2M	Apr- 17 (A) \$11.2M
An escalator testing issue at Baldwin station has caused the delay.			

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## Status of MTA Capital Program Funding

# Capital Funding (April 30, 2017)

\$ in millions



## Capital Funding Detail (April 30, 2017)

\$ in millions

### 2005-2009 Program

Funding Plan	Receipts		
<u>Current</u>	<u>Thru March</u>	<u>This month</u>	<u>Received to date</u>
24,504	23,919	\$ -	23,919

### 2010-2014 Program

Federal Formula, Flexible, Misc  
 Federal High Speed Rail  
 Federal Security  
 Federal RIFF Loan  
 City Capital Funds  
 State Assistance  
 MTA Bus Federal and City Match  
 MTA Bonds (Payroll Mobility Tax)  
 Other (Including Operating to Capital)  
 B&T Bonds  
 Hurricane Sandy Recovery  
     *Insurance Proceeds/Federal Reimbursement*  
     PAYGO  
     *Sandy Recovery MTA Bonds*  
     *Sandy Recovery B&T Bonds*

Funding Plan	Receipts		
<u>Current</u>	<u>Thru March</u>	<u>This month</u>	<u>Received to date</u>
\$5,839	\$5,614	\$ -	\$5,614
295	295	-	295
206	100	-	100
-	-	-	-
774	607	-	607
770	400	-	400
132	103	-	103
12,703	10,754	-	10,754
1,538	1,432	-	1,432
2,111	1,916	-	1,916
9,376	3,453	-	3,453
160	160	-	160
758	-	-	-
230	89	-	89
Total	34,892	24,923	-
			24,923

### 2015-2019 Program

Federal Formula, Flexible, Misc  
 Federal Core Capacity  
 Federal New Start  
 State Assistance  
 City Capital Funds  
 MTA Bonds  
 Asset Sales/Leases  
 Pay-as-you-go (PAYGO)  
 Other  
 B&T Bonds & PAYGO

Funding Plan	Receipts		
<u>Current</u>	<u>Thru March</u>	<u>This month</u>	<u>Received to date</u>
\$6,275	\$87	\$ -	\$87
100	-	-	-
500	-	-	-
8,336	-	-	-
2,492	80	-	80
5,889	-	-	-
600	-	-	-
1,846	1,014	-	1,014
562	36	-	36
2,856	-	-	-
Total	29,456	1,218	-
			1,218