



Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

May 2016

Committee Members

T. Prendergast, Chair

F. Ferrer

R. Bickford

A. Cappelli

S. Metzger

J. Molloy

M. Pally

J. Sedore

E. Watt

C. Wortendyke

N. Zuckerman

Capital Program Oversight Committee Meeting

Monday, 5/23/2016

1:45 - 2:45 PM ET

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

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES April 18, 2016

- Minutes from April '16 - Page 3

3. COMMITTEE WORK PLAN

- 2016-2017 CPOC Work Plan - Page 6

4. LIRR CAPITAL PROGRAM UPDATE

- Progress Report on LIRR Capital Program - Page 8*
- LIRR MLDT 2 Risk Assessment Summary Appendix - Page 36*
- IEC Project Review on Jamaica Capacity Improvements - Page 40*
- IEC Project Review on Main Line Double Track - Page 43*

5. MNR CAPITAL PROGRAM UPDATE

- Progress Report Update on MNR Capital Program - Page 48*
- IEC Project Review on Harmon Shop Replacement - Page 78*
- IEC Project Review on Hudson Line Sandy Restoration - Page 81*

6. MTACC SECOND AVENUE SUBWAY MONTHLY UPDATE

- Progress Report on Second Avenue Subway - Page 85*
- IEC Project Review on Second Avenue Subway - Page 92*
- Second Avenue Subway Appendix - Page 95*

7. CAPITAL PROGRAM STATUS

- Commitments, Completions and Funding Report - Page 96

Date of next meeting: Monday, June 20, 2016 at 1:15 PM

MINUTES OF MEETING
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE
April 18, 2016
New York, New York
1:15 P.M.

MTA CPOC members present:

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

MTA CPOC members not present:

Hon. Alan Cappelli
Hon. Vincent Tessitore
Hon. Ed Watt

MTA Board members present:

Hon. Andrew Albert
Hon. Jonathan Ballan
Hon. Ira Greenberg

LIRR Staff Present

Bernadette Cicchesi

MNR Staff Present

Mike Shiffer

MTA Staff Present:

Jessie McKinney
Craig Stewart
Michael Wetherell

MTACC Staff Present:

Michael Horodniceanu
Anil Parikh

NYCT Staff Present

Sonia Jaising
Branko Kleva
John O'Grady

Independent Engineering Consultant Staff Present:

Chris Adams
Joe DeVito
Kent Haggas
Mohammad Mohammadinia

* * *

Chairman Prendergast called the April 18, 2016 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: Mr. Murray Bodin.

Meeting Minutes

Upon motion duly made and seconded, the CPOC members approved the minutes to the previous meeting held on March 21, 2016.

Committee Work Plan

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

NYCT, LIRR and MNR Update on New Fare Payment System

Mr. McKinney provided an update on the NYCT New Fare Payment System, including agency plans and progress, details on MetroCard replacement strategies, and the current schedule, which includes an initial rollout in mid-2018. Mr. Shiffer and Ms. Cicchesi then provided updates on the LIRR and MNR on-board and mobile ticketing initiatives, as well as the Commuter Railroads' long-term strategy study. In its Project Review of the NYCT program, the IEC stated that there is a risk that the June 2018 initial rollout milestone may not be met due to several critical activities that must be in place prior to that time. With respect to LIRR and MNR Mobile Ticketing, the IEC stated that, assuming the pilot is successful, the schedule to commence a system-wide rollout for mobile ticketing in June is reasonable. 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 Sandy Recovery & Resiliency Division

Mr. O'Grady introduced Mr. Kleva and Ms. Jaising. Mr. Kleva then updated the committee on the NYCT Sandy Recovery and Resiliency Program, which comprises the following: stations; under-river tunnels (including the Canarsie Tunnel Program of Projects); yards, terminals and shops; and Competitive Resiliency Projects. He noted that over \$2 billion of commitments across 15 projects are planned for 2016. Sonia Jaising then provided an update on the Clifton Shop Design-Build Project, which is scheduled for award in November 2016. In its Project Review on the South Ferry Station Complex, the IEC reported that the project is on budget, expenditures to date reflect the actual percentage of project completion, and that in the IEC's opinion, the remaining project contingency is sufficient to reach substantial completion. With respect to schedule, the IEC noted that the contractor has met all contractual milestones to date. Citing major project risks associated with late changes to CCTV, phone, wireless and PA systems, the IEC concluded that, based on the steps being taken by NYCT, most delay risks resulting from these changes can be mitigated. 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 Second Avenue Subway Monthly Update

Mr. Parikh outlined the status of various Program issues/milestones since the March 2016 update. In its Monthly Update, the IEC noted that the March target dates for installations at the Lexington Ave./63rd Street Station were all met and that local testing is now underway. The IEC then cited its concerns related to schedule targets for interim milestones, the forecasted escalator and elevator completions for 72nd Street Station, and the testing schedule for major station equipment systems. 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 and Completions

Mr. Stewart reported that in 2016 agencies plan to commit a total of \$6.6 billion dollars, including 41 major commitments. He then stated that the MTA is reporting on ten major commitments: eight were committed on time or early, one was committed late, and one was delayed beyond March (and was awarded on April 11). By year end, the MTA forecasts meeting its annual commitment goal of \$6.6 billion. With respect to completions, the agencies plan a total of \$4.6 billion in 2016, including 43 major completions. Agencies completed \$270 million through March, versus a \$412 million year-to-date goal. By year end, the MTA forecasts meeting its annual completion goal of \$4.6 billion.

Executive Session

Upon motion duly made and seconded, Chairman Prendergast adjourned the public CPOC meeting at 1:55 PM to go into Executive Session.

Adjournment

Upon motion duly made and seconded, Chairman Prendergast adjourned the Executive Session, reconvened the public session and then immediately adjourned the April 18, 2016 meeting of the MTA Capital Program Oversight Committee at 2:15 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

June 2016

Quarterly MTACC Capital Program Update

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

LIRR and MNR Update on Positive Train Control (PTC)

Quarterly Change Order Report

Quarterly Traffic Light Reports

July 2016

NYCT Capital Program Update

- 2015-2019 Capital Program Overview
- Signals and Train Control

MTACC Monthly Second Avenue Subway Update

September 2016

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 2016

LIRR and MNR Capital Programs Update

LIRR and MNR Update on Positive Train Control (PTC)

MTACC Monthly Second Avenue Subway Update

Update on Capital Program Security Projects (in Exec Session)

November 2016

NYCT Capital Program Update

NYCT, LIRR, MNR Update on New Fare Payment System

MTACC Monthly Second Avenue Subway Update

December 2016

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

January 2017

NYCT Capital Program 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

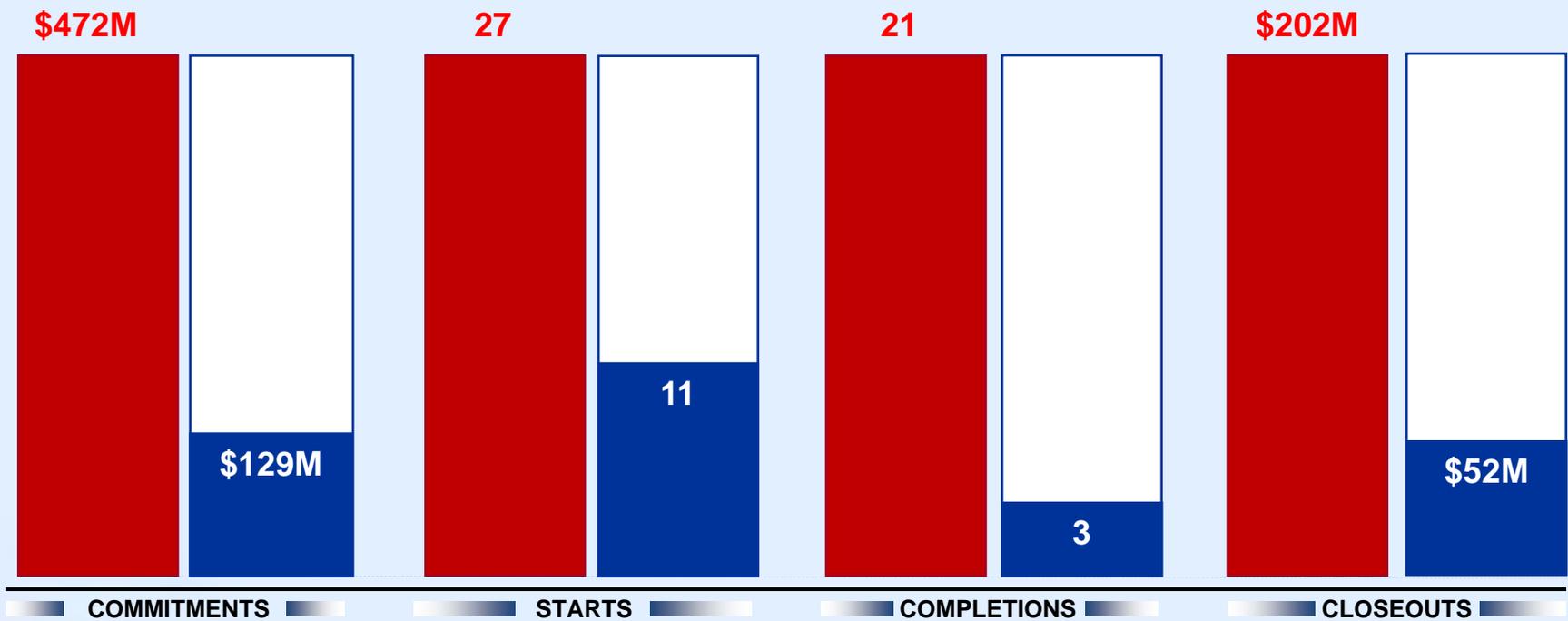
Capital Program Oversight Committee

Long Island Rail Road Capital Program Overview

May 2016



2016 LIRR Capital Program Goals



2016 PLAN

ACTUAL as of April 30, 2016



2016 Major Starts and Completions

Major Starts:

Construction

- **Post Avenue Bridge**
- Wantagh Station
- Flushing- Main Street Station
- Hicksville Station
- Jamaica Capacity Improvements (JCI) – Platform F
- **Nostrand Station**
- **Double Track – Phase 2**
- **2016 Track Program**
- **Infrastructure Component Replacement**

Design

- **Station Enhancement Project**
- **Substation Replacements**

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
- Mid-Suffolk Yard
- **Morris Park Locomotive Shop**

— 2010-2014 Capital Program

— 2015-2019 Capital Program



Line Structures



Bridge Openings (Design-Build)

Ellison Avenue Bridge



Prior to Construction



**New Bridge Opened on
April 15, 2016**

Colonial Road Bridge



Prior to Construction



**New Bridge Opened on
May 12, 2016**

Post Ave Bridge Replacement (Design-Build)

2015-2019 Capital Program



Existing Bridge

STATUS/SCHEDULE:

- Prelim Design was Completed in Feb 2016
- Start Construction 1st Quarter 2017
- Construction Completion 2nd Quarter 2018

BUDGET: \$17M



Seeking the Best Method of Construction



Preliminary Design - Buckram Road Bridge Replacement (Design-Build)

2015-2019 Capital Program



Existing 2 Span Bridge Structure

STATUS/SCHEDULE

- Preliminary Design Completion in June 2016
- Start Construction 1st Quarter 2017
- Construction Completion 3rd Quarter 2018

BUDGET: \$23M



Option for Single Span Bridge Structure



Passenger Stations



Wantagh Station Platform Replacement



New Station Platform Replacement

Status/Schedule:

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

Budget: \$24M



Deteriorated Platform Substructure



Deteriorated & Spalled Concrete Platform



Hicksville Station Improvements



Existing Waiting Room



New Waiting Room



Existing Platform



New Platform

Status/Schedule

- Design Completed in July 2015
- Construction Start 2nd Quarter 2016
- Construction Completion 2nd Quarter 2018

Budget: \$69M



Nostrand Avenue Station Rehabilitation

2015-2019 Capital Program



New Stairs, Overpass & Elevators

Status/Schedule

- Construction Award 4th Quarter 2016
- Construction Completion 1st Quarter 2019

Budget: \$21M



New Platform and Canopies



Study & Conceptual Design Stations Enhancement Project

2015-2019 Capital Program



Bayside Station



East Hampton Station

Status/Schedule

- Design Award Forecast June 2016
- Construction Award Forecast 2nd Quarter 2017

Budget: \$25M



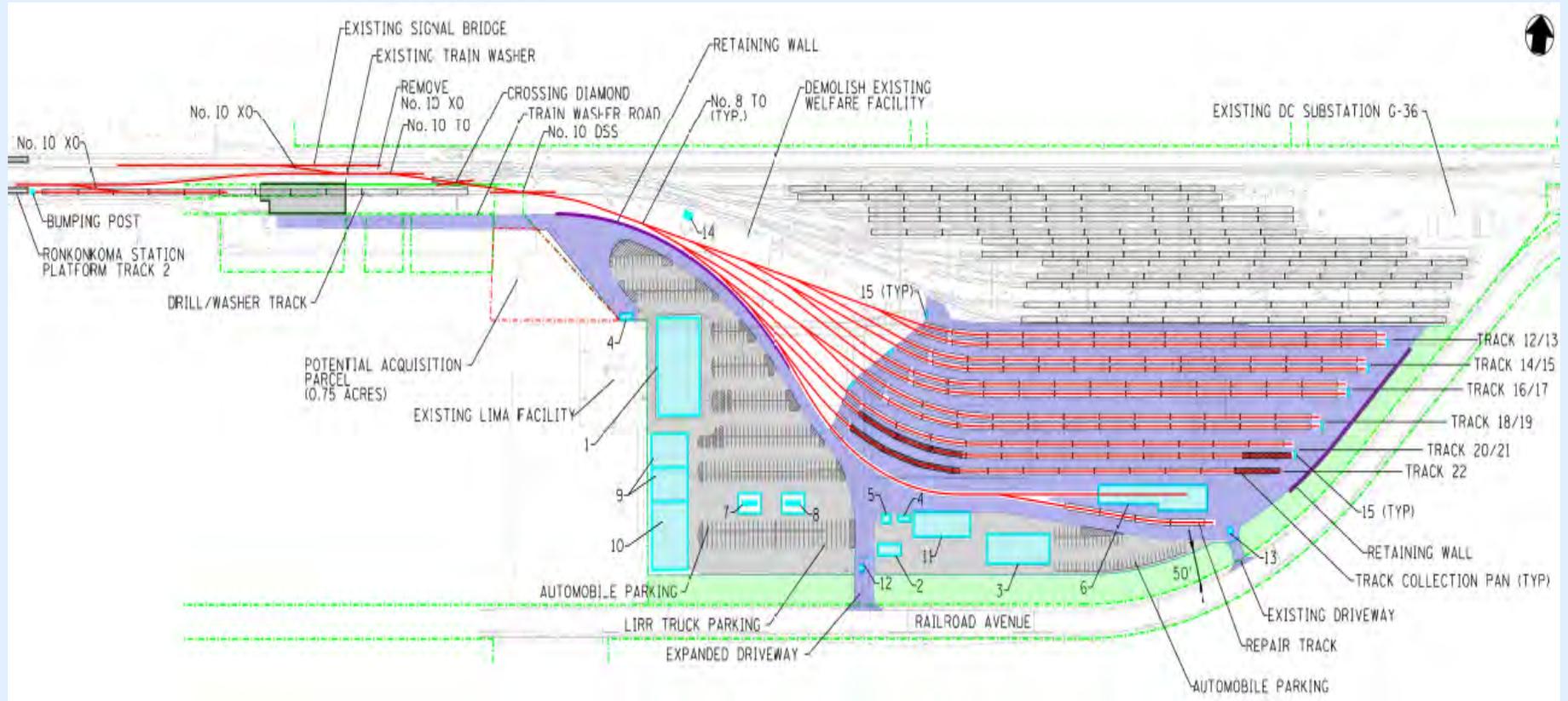
Stewart Manor Station



Shops and Yards



Mid-Suffolk Yard (Design-Build)



Status/Schedule

- Preliminary Design Completion June 2016
- Design-Build Contract Award 1st Quarter 2017
- Construction Completion 3rd Quarter 2019



Morris Park Locomotive Shop and Employee Facility (Design-Build)

Construction in
2015-2019 Capital Program



New Locomotive Shop and Employee Facility (conceptual rendering)

Status/Schedule

- Preliminary Design Completion July 2016
- Design/Build Contract Award 1st Quarter 2017
- Construction Completion 3rd Quarter 2019

Budget: \$108M



Sinking Tracks Leading Into Shop



Cracks and Voids



Existing Round House Repair Facility

Track



Jamaica Capacity Improvements - Phase I

Status/Schedule

Johnson Yard Reconfiguration (Design-Build)

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

South Bypass Track

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

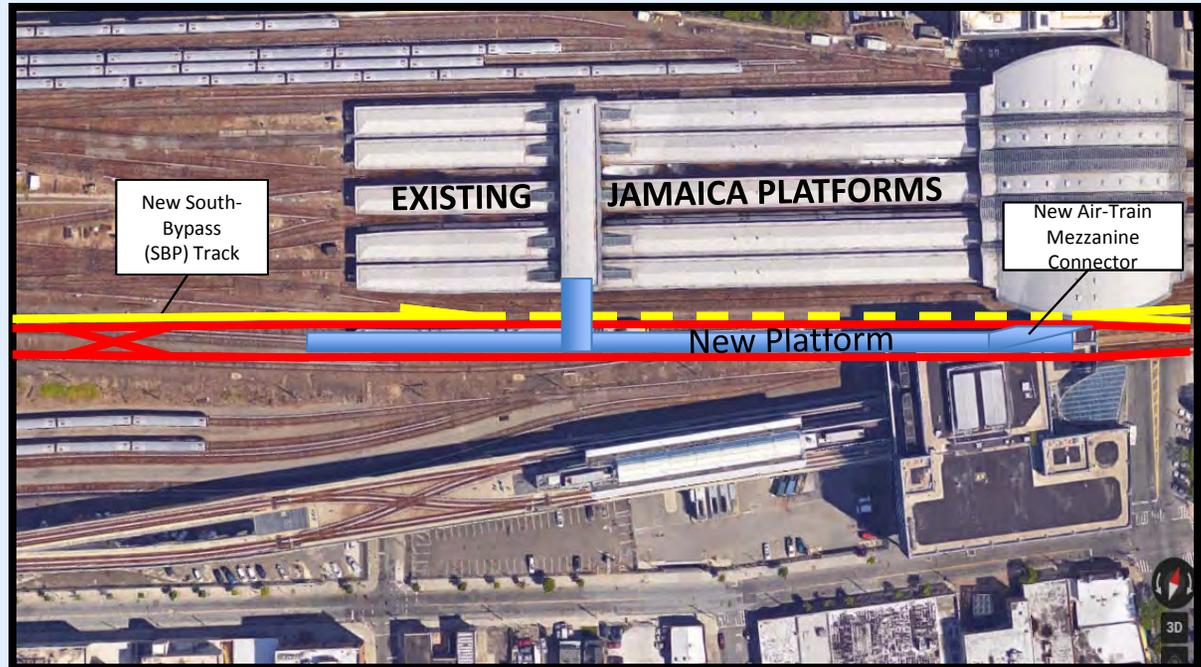
Platform F Construction

- Award Jul 2016 F
- Completion 2nd Quarter 2019 F

Universal Crossovers to facilitate Phase 2

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

Phase I Budget: \$302M



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
- Track and Systems Installation
Aug 2015 (Actual) – Dec 2017

Budget: \$138M



New Mechanized Track Installation



Double Track Project Phase II

2015-2019 Capital Program

Phase II - Farmingdale to West of Central Islip



Wyandanch (today)

Status/Schedule

- Award of Phase 2 Civil and Site Work
June 2016
- Award of Phase 1 & 2 Signal Equipment
July 2016
- Project Completion (under review)

Budget: \$250M



Pinelawn (today)



Double Track Project Phase II

Risk Assessment and Mitigation

The Risk Assessment for Main Line Double Track Phase 2 identified significant cost/schedule risks, and recommended that LIRR seek mitigation opportunities. Below are the most significant risks identified in Golder Associates' Report dated April 22, 2016:

- **Lead time for delivery of signal equipment**
- **Coordination of utility pole relocation**
- **Delays to the early civil/site work**
- **Track settlement resulting from temporary support of excavation**
- **Potential need to upgrade power transformers for wayside equipment**



Signals and Communications



Babylon Interlocking Renewal

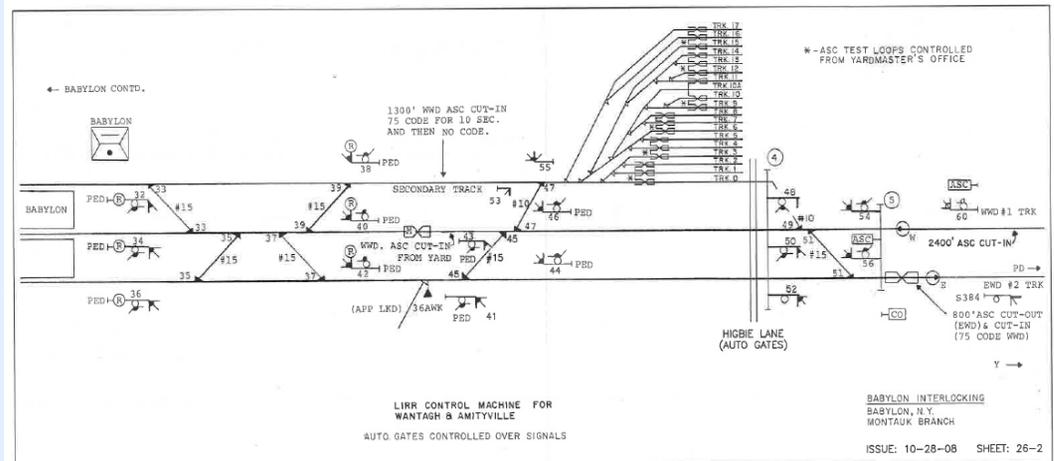
2015-2019 Capital Program



Status/Schedule

- Design Start 1st Quarter 2017
- Design Completion 1st Quarter 2018
- Construction Completion 4th Quarter 2020

BUDGET : \$52M



Power - Substations



Power Substation Replacements

2015-2019 Capital Program



Meadowbrook Substation

Status/Schedule

Meadowbrook, Bellmore, Ocean Ave

- Design Start 2nd Quarter 2016
- Construction Start 3rd Quarter 2017

Queens Breaker, Murray Hill

- Design Start 2nd Quarter 2017
- Construction Start 3rd Quarter 2018

Jamaica

- Design Start 2nd Quarter 2017
- Construction Start 3rd Quarter 2019

Budget: \$81M



Ocean Avenue Substation



Bellmore Substation

Normal Replacement





Transformer

POWER SUBSTATION COMPONENT REPLACEMENT SCOPE	
Asset	Location
Motor Generator	2
Structural Repairs	16
Substation Painting and Transformer Coating	9
Roof Replacement	9
Transformer Replacement	29
Breaker Replacement	3
RTU Replacement	92
Ballast Replacement	120

Power Systems – Component Replacement

POWER SYSTEM REPLACEMENT SCOPE	
Asset	Quantity (Approved Scope)
3 rd Rail Cable	8500 LF
3 rd Rail Disconnect Switches	85 EA
3 rd Rail Protection Board	400,000 LF
3 rd Rail Composite Rail	90,000 LF
3 rd Rail Feeder Cable Upgrade	16,000 LF
Negative Reactor Upgrade	20 EA
Substation Battery Replacement	6 EA
Signal PowerMotor Generator Replacement	6 EA
DC Relay Controls Replacement	18 EA
Signal Power Line Replacement	5 EA
Power Pole Replacement	99 EA
4,160 Volt Feeders	4 EA
Atlantic Avenue Tunnel Lighting	See Note

Note 1: The project includes the removal / replacement of lighting and associated Hardware in two sections of the tunnel : Ralph Ave to East New York And East New York to Dunton.

Annual Track Program Cyclical Track Renewal

2015-2019 Capital Program



Budget: \$60M

ELEMENTS OF WORK	2016	
	Goal	Actual as of 4/30/16
Wood Ties (ea)	15,340	4,297
Concrete Ties (ea)	17,000	12,698
Grade Crossing Renewal (ea)	7	0
Switch Replacement (ea)	13	0
Continuous Welded Rail (CWR) (ft)	89,160	51,288
Surfacing (miles)	72	22.7
Field Welds (ea)	800	233
Surface Interlocking Switches	44	13



Communications Component Replacement

2015-2019 Capital Program

The purpose of this project is to replace the deteriorated line poles (total 575 poles, 115 per year at current funding) and applicable hardware at various locations along the railroad Right of Way (ROW). These poles carry the cable lines providing services to the LIRR Communication System including: fiber optic cable (data, telephone, CCTV), Signal cabling & supervisory, and Substation control lines.

Budget: \$7.7M



Pole Replacement Preparation



Setting New Pole



Alignment

Appendix - Double Track Project Phase II

Risk Assessment and Mitigation

- The Risk Assessment for Main Line Double Track Phase 2 identified significant cost/schedule risks, and recommended that LIRR seek mitigation opportunities.

For each of the most significant risks identified in the RA Report, the LIRR will be implementing the corresponding Mitigation Strategies list below:

- **Long Lead Time for Delivery of Signal Equipment:** As part of the procurement process, the LIRR has requested that the vendor meet a very aggressive delivery schedule. The delivery dates being requested are expected to significantly improve the project completion date. This will be accomplished by using a standardized design approach to the extent possible, to reduce the design time and enable the early release of signal huts and cases for fabrication.
- **Coordination of Utility Pole Relocation:** Based on the design documents the number of pole relocations are minimal compared to Phase 1 construction. Also, LIRR is committed to having the Force Account resources available when needed to support the pole removals and installations.
- **Delays to the early Civil/Site work:** During procurement process, the Civil/Site Work completion date will be accelerated to support the early track infrastructure and systems installation work.
- **Temporary Support of Excavation:** Track settlement encountered during Phase I while driving sheeting has been mitigated. A monitoring systems will be put in place to minimize occurrence, and the Contractor will be using specialized Hi-Frequency equipment when installing sheeting to minimize potential movement.
- **Required Transformer Upgrades:** Load study associated with additional switch machines will be conducted to analyze if transformer upgrade is necessary for Phase 2. If required, early coordination with LIRR Departments will help mitigate risk.

MTA Agency: Long Island Rail Road	Risk Assessment Report Date: April 22, 2016
Project Name: Main Line Double Track Phase 2	Status of Project when Risk Assessment Was Performed: 30% Design

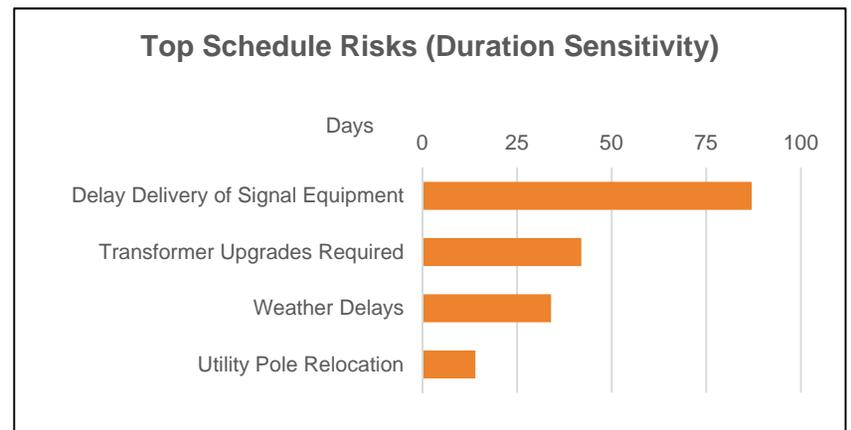
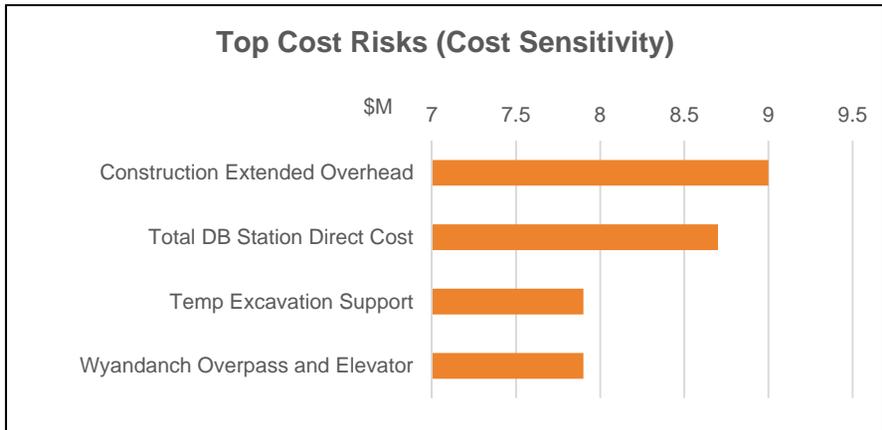
Project Description

The LIRR Main Line Double Track Phase 2 Project consists of the design and construction of a new track parallel to the existing single track for approximately 7.4 miles between Farmingdale and Central Islip on the Main Line. The civil work will be performed by a third party design build contractor, and the installation of track, switches, third rail and signals to be performed by LIRR force account labor. The project scope also includes new station platforms at Wyandanch and Pinelawn. Phase 2, consist of Segments 2 and 3, and will include all remaining track and station work. Segment 2 is 1.3 miles long. Segment 3 is 6.1 miles long plus a single crossover ¾ miles further west in the vicinity of Farmingdale Station. Phase two is projected to be constructed starting in the year 2016. The design for the Segment 2 and 3 civil contracts are being completed, and the third party construction contracts are scheduled to be awarded in the second quarter of 2016, pending funding approval.

Risk Assessment Findings

Based upon simulation results at the 80% Confidence Level, the Risk Informed project duration adds 8 months to the baseline schedule duration. Long Island Rail Road has identified mitigation measures and will manage to the schedule. The Risk Informed estimate results at the 80% Confidence Level of the total project cost is \$256 million. The project budget totals \$250 million which falls below the Risk Informed Cost.

Risk Informed Cost and Schedule Results





Summary of Major Cost and Schedule Risks & Mitigations

Risks	Mitigation Measure	Resources Required	Time Frame for Mitigation
Top Schedule Risks			
Delay in Delivery of Signal Equipment	As part of the procurement process, the LIRR has requested vendors' proposals be based on an accelerated delivery schedule. The delivery dates being requested are expected to significantly improve the project completion date. This will be accomplished by streamlining the design approach to the extent possible, enabling the early release of signal huts and cases for fabrication.	Procurement and project management staff	Award of the signal contract (June-July 2016)
Transformer upgrades required	Load study associated with additional switch machines will be conducted to analyze if transformer upgrade is necessary for Phase 2. If required, early coordination with LIRR Departments will help mitigate risk.	LIRR consultant, project management and support departments	January 2017, prior to phase 2 system installation
Weather Delays	As part of the contract documents, the contractor is required to monitor schedule and provide recovery/work-around plans to maintain schedule. Temperature restrictions included in contract for installation/removal of sheeting.	Contractor and Force Account resources	Project Duration
Coordination of Utility Pole Relocation	Based on the design documents the number of pole relocations are minimal compared to Phase 1 construction. Also, LIRR is committed to having the Force Account resources available when needed to support the pole removals and installations.	Force Account resources	December 2016



Summary of Major Cost and Schedule Risks & Mitigations

Risks	Mitigation Measure	Resources Required	Time Frame for Mitigation
Top Cost Risks			
Delays to the early Civil/Site work	The Design-Build RFP for the early Civil/Site Work will include incentives for contractors' accelerated completion of work, which will permit the early start of track infrastructure and systems installation work.	Contractor and LIRR project management	June 2016
Temporary Excavation Support (Sheet Pile)	Track settlement encountered during Phase I while driving sheeting has been mitigated. A monitoring systems will be put in place to minimize occurrence, and the Contractor will be using specialized Hi-Frequency equipment when installing sheeting to minimize potential.	Contractor and LIRR project management	Project Duration
DB Station Direct Cost	During preliminary engineering, LIRR and consultant will evaluate the access/egress requirements for the new Wyandanch Station platform. Should a pedestrian overpass need to be considered, it will be included as an option in the platform design-build contract scope of work.	LIRR project management	Preliminary Engineering Phase (August 2016 – May 2017)

May 2016 CPOC IEC Project Review



Jamaica Capacity Improvements – Phase I

May 23, 2016



Schedule & Budget Review

Jamaica Capacity Improvements (JCI) – Phase I

- **Schedule:** The JCI – Phase I project is scheduled to be completed prior to the target date for ESA opening day service.
 - The Johnson Yard design/build project reached substantial completion on April 20, 2016, as scheduled.
 - The bid date for the Platform F construction contract was postponed to the end of May 2016 due to contractor requests for additional time to develop their bids.
- **Budget:** Currently, the project is on budget 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. Some recent examples are as follows:

- **Working In the Vicinity of Active Tracks:** LIRR has included strict contract provisions for separating work areas, using flagging and track foul time during crane operations and/or taking tracks out of service.
- **Coordination Between 3rd Party Contractor and Force Account Crews:** Work scope is clearly delineated within stages. Coordination meetings are being scheduled frequently.



MAY 2016 CPOC IEC Project Review



Main Line Double Track

May 23, 2016



Schedule Review

- The IEC concurs with the LIRR's explanation of the project schedule delays.
- In the opinion of the IEC the agency is taking appropriate steps to mitigate schedule delays.



Budget Review

- The expenditures to date reflect the correct percentage of project completion.
- The IEC awaits the LIRR's revised project cost estimate, in order to review the potential impact of various project delays on the total project budget and contingency.
- In the opinion of the IEC, changes to the project schedule may significantly impact the project contingency.



Risk

- The IEC facilitated and participated in a risk assessment workshop with the LIRR for the Main Line Double Track Phase 2, on March 16 and 17, 2016, to identify the project risks and opportunities.
- Preliminary results show that in order to meet schedule goals stated by the LIRR, the agency will need to negotiate expedited delivery of systems equipment. This has the potential to increase project cost and add schedule risks. As a result, the project budget may need to be increased.



IEC Recommendations

- The IEC recommends that the agency establishes interim contractual milestones for the remaining third party contracts, and concentrates on monitoring the status of intermediate inspection and acceptance dates to gauge Force Account performance and to mitigate project risks and issues.

This would allow the PM team to sequence the project schedule and mitigate delays in a more efficient manner.



Capital Program Oversight Committee

MTA Metro-North Railroad
Capital Program Highlights

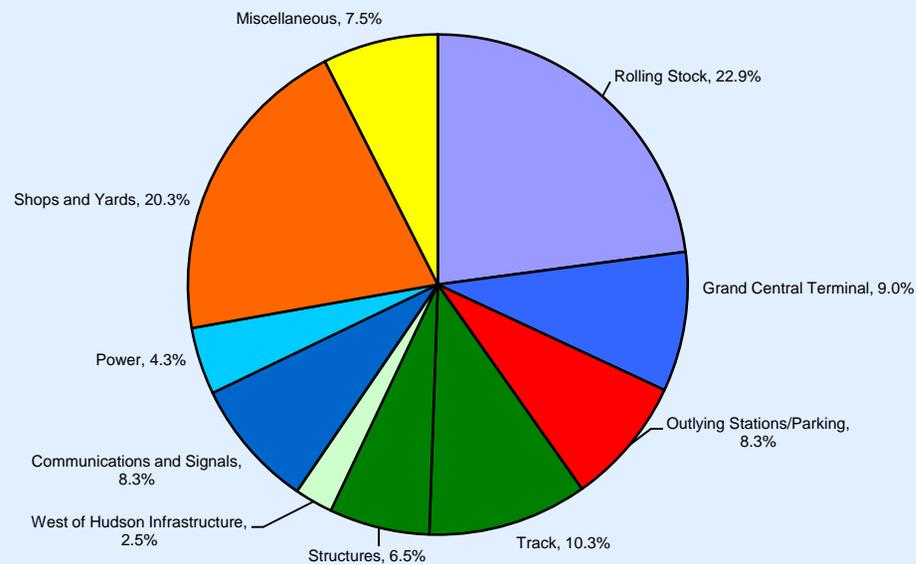
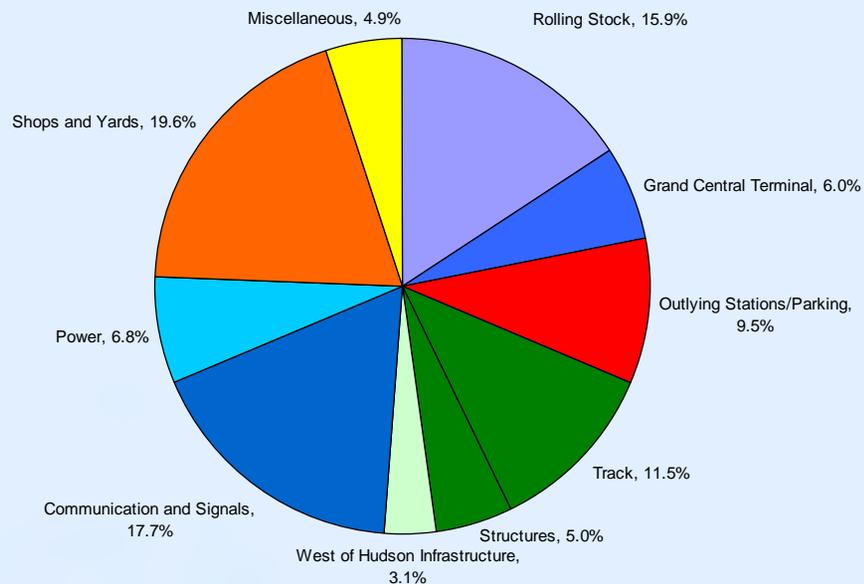
May 2016

MTA Metro-North Railroad



2010 – 2014 Capital Program = \$1.5B

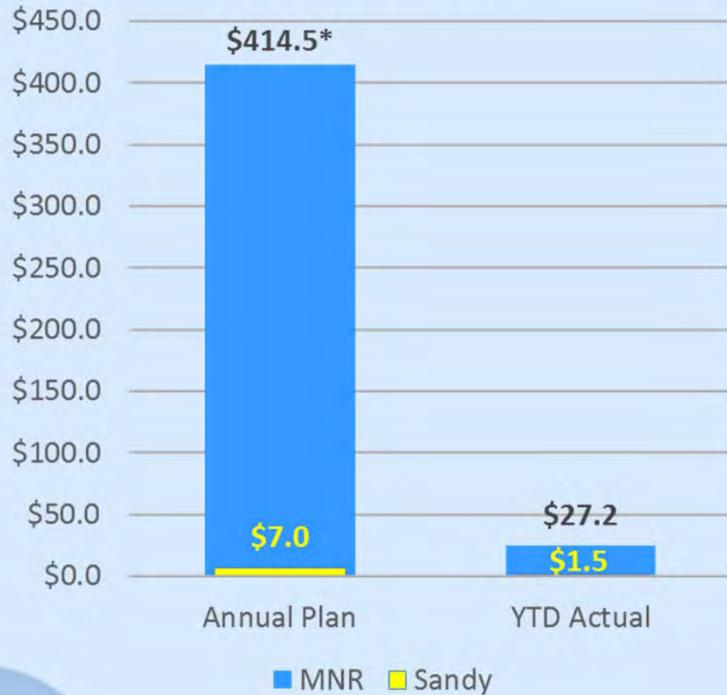
2015 – 2019 Capital Program = \$2.3B



2016 Commitment Performance

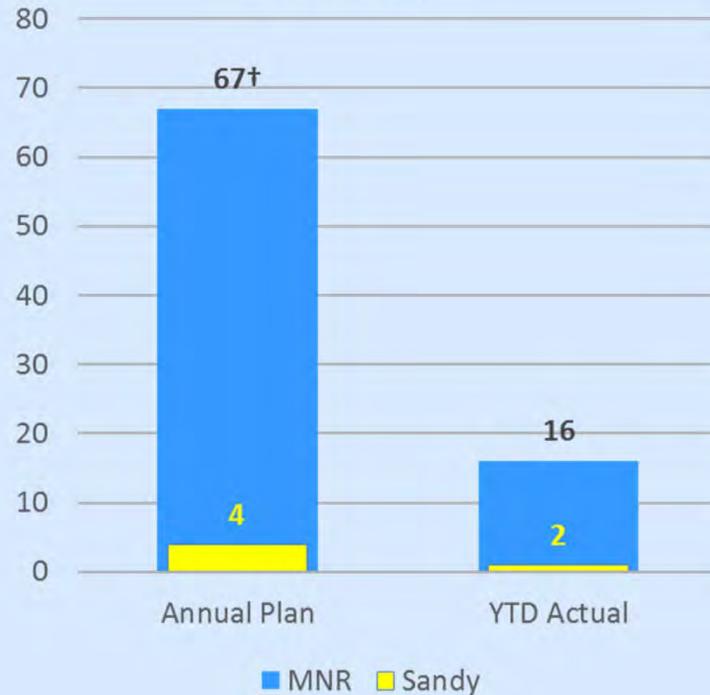
Actual Through April 30, 2016

Performance
Value \$ million



*Includes \$16.2M from 2015 carryovers

Performance
of Projects



†Includes 9 projects from 2015 carryovers



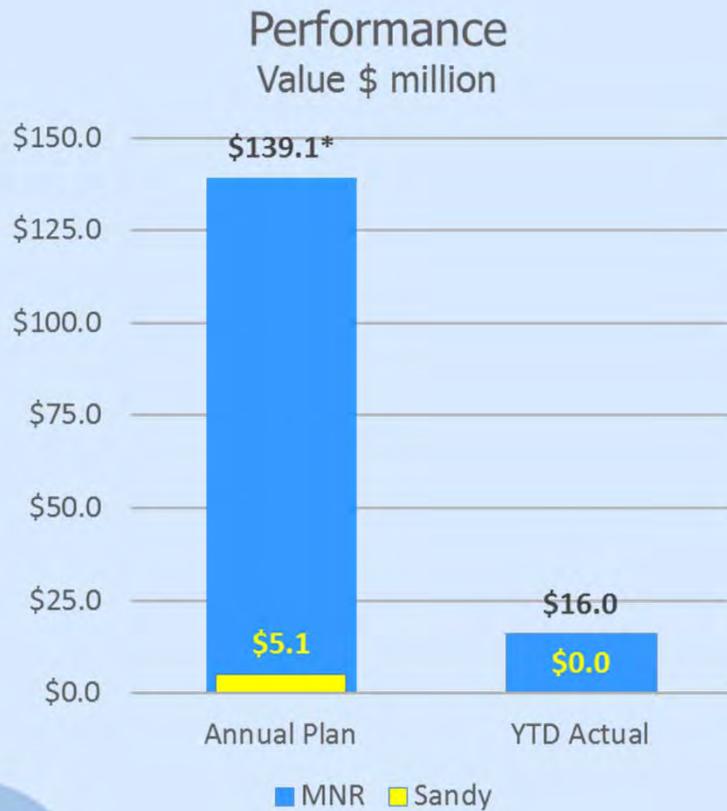
Major Planned 2016 Commitments

Projects	(\$ in millions)
➤ Positive Train Control	\$102.3
➤ GCT PA /VIS Head End, Big Boards and Displays	\$21.9
➤ Customer Communications – Outlying Stations	\$28.5
➤ 2016 Cyclical Track Program	\$22.0
➤ Harlem & Hudson Power Rehabilitation	\$15.0
➤ Rock Slope Remediation (West of Hudson)	\$15.0
➤ Rock Slope Remediation (East of Hudson)	\$14.7
➤ GCT Train Shed/Tunnel Structure	\$13.2
➤ Undergrade Bridge Rehabilitation	\$13.0
➤ Turnouts – Mainline/High Speed	\$12.5
➤ MoW Equipment Purchase	\$10.1



2016 Completions Performance

Actual Through April 30, 2016



*Includes \$41.6M from 2015 carryovers



†Includes 7 projects from 2015 carryovers

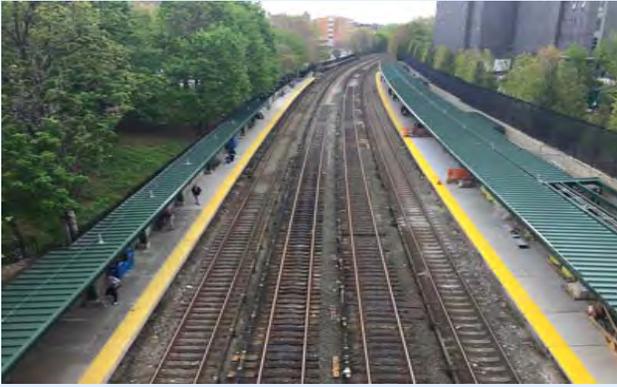


Major Planned 2016 Completions

Projects	(\$ in millions)
➤ 2014 Cyclical Track Program (completed)	\$13.6
➤ Fordham Station Improvements	\$15.1
➤ GCT Leaks Remediation Phase II	\$18.6
➤ Signal System Replacement – New Haven Line	\$38.7



Fordham Station



In-Bound and Out-Bound Platforms Canopies



Platform Canopy installation in-progress on Outbound Platform 80% Complete

Budget	\$ 20 M
Scope	<p>This station improvement project will increase safety and enhance customer experience, with upgrade to the platforms, improved access points (ADA accessible Ramp/Sidewalk) and passenger amenities</p> <ul style="list-style-type: none"> • New tactile warning strip • Enclosed heating shelters, Benches • New lighting, PA system, Signage, Information Monitor
Forecasted Completion Date	June 2016
Project Status	On-time and within budget



GCT Leaks Remediation



Demolition of deteriorated structural steel due to leaks at 42nd Street and Vanderbilt Avenue



Restored structural steel at 42nd Street and Vanderbilt Avenue



Paved Vanderbilt Avenue

Budget	\$ 32 M (MTA \$19 M + NYCDOT \$13 M)
Scope	<p>The repairs will greatly reduce water infiltration from surrounding areas and improve the 100-year old waterproofing system.</p> <p>The five elements of the project are:</p> <ul style="list-style-type: none"> • Park Avenue Viaduct • Vanderbilt Avenue and sidewalks • 42nd Street sidewalk and curb lane • Vanderbilt Avenue, 42nd to 45th Street traffic light foundations and pedestrian ramps • NYCDOT Bridges spanning 45th Street
Forecasted Completion Date	December 2016
Project Status	On-time and within budget

Signal System Replacement New Haven Line



Budget	\$ 39 M
Scope	<p>Design and construct a new communications and signal system for the New York State portion of the New Haven Line (extending approximately three miles into Connecticut). This project begins to replace the oldest signal system on the railroad and will optimize block spacing to improve capacities and trip time on this section of the New Haven Line.</p> <p>The section between CP-217 and CP-223 (New Rochelle to Rye) was placed into service in November 2015.</p> <p>The final cutover for the section between CP-223 to CP 229 (Rye, NY to Greenwich, CT) is scheduled for June 2016.</p>
Forecasted Completion Date	December 2016
Project Status	On-time and within budget

GCT Train Shed



Prior condition of a structural steel member as a result of water seepage



Repaired structural steel member

Budget	\$ 25 M
Scope	<p>Repairs in the train shed, including repairs to roof structure (including sidewalks), expansion joints located in the roof above, column, portion of platform on Track 101 and repairs to ceiling over the M42 substation.</p> <ul style="list-style-type: none"> • Shop drawing submittals and review are ongoing. • Deleading of steel and fabrication and delivery of new steel are ongoing. • Steel repairs are progressing, with the repairs and final coat of paint completed in many of the areas.
Forecasted Completion Date	February 2017
Project Status	On-time and within budget

Major Project

Superstorm Sandy Restoration/Resiliency





Metro-North Railroad

Superstorm Sandy Restoration Projects

C&S/Power Restoration Phase I, from Greystone (CP19) to Croton-Harmon (CP35) - \$164.1M

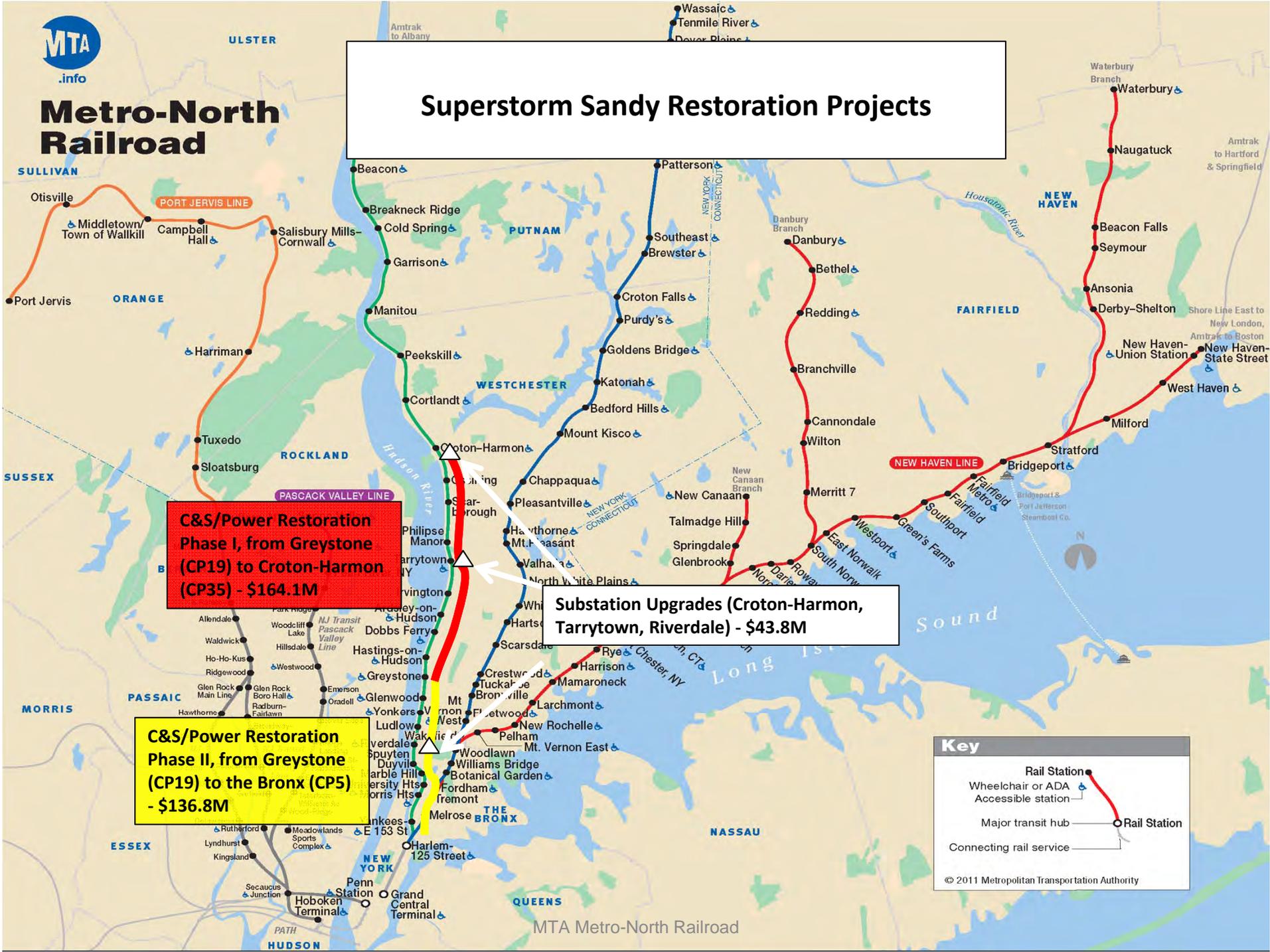
C&S/Power Restoration Phase II, from Greystone (CP19) to the Bronx (CP5) - \$136.8M

Substation Upgrades (Croton-Harmon, Tarrytown, Riverdale) - \$43.8M

Key

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

© 2011 Metropolitan Transportation Authority



Design-Build

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

Awarded Design-Build Phase I : 05/2015

Option :

Design-Build Phase II – Anticipated to commence 2Q of 2017

Completion

: 06/2017

Completion:

July, 2019

Status

- Excavation/installation of power, communication, & signal trough (approximately 95% complete on track 4 side)
- Elevated platforms to house critical equipment (located near the Ossining Station):
 - Steel fabrication underway.
 - 3 out of 6 footings complete near track 4
- Track 3 outage is anticipated to commence in July 2016
- Overall the Design-Builder's schedule depicts a two(2) month delay in project completion date. Design-Builder continues to look for ways to mitigate delays and recover schedule.
- Project currently on budget.

Sandy Hudson Line Restoration Design-Build



Concrete Placement for Duct Banks



Signal Power Conduit / Manhole installed



C&S Trough installation



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

DC Substation Award: 12/2014

Completion: 12/2016

Status

Riverdale

- Substation elevated vault foundation and conduit installation are complete.
- Factory acceptance tests for the electrical equipment are underway with final testing anticipated in June 2016.
- Delivery of the prefabricated substation and electrical equipment is anticipated in July 2016.

Tarrytown

- Substation elevated vault foundation and conduit installation are complete.
- Factory acceptance tests for the electrical equipment are underway with final testing anticipated in June 2016.
- Delivery of the prefabricated substation and electrical equipment is anticipated in August 2016.

Croton-Harmon

- Substation elevated vault foundation and conduit installation are complete.
- Fabrication of the substation and its associated electrical equipment is underway.
- Delivery of the prefabricated substation and electrical equipment is anticipated in September 2016.

Final wiring, testing and commissioning for three substations to be completed by December 2016.

Tarrytown Substation A-25



Elevated vault foundation for new A-25 Tarrytown substation



Positive cable pulls to track 4



Riverdale Substation A-13



Elevated vault foundation for new A-13 Riverdale Substation



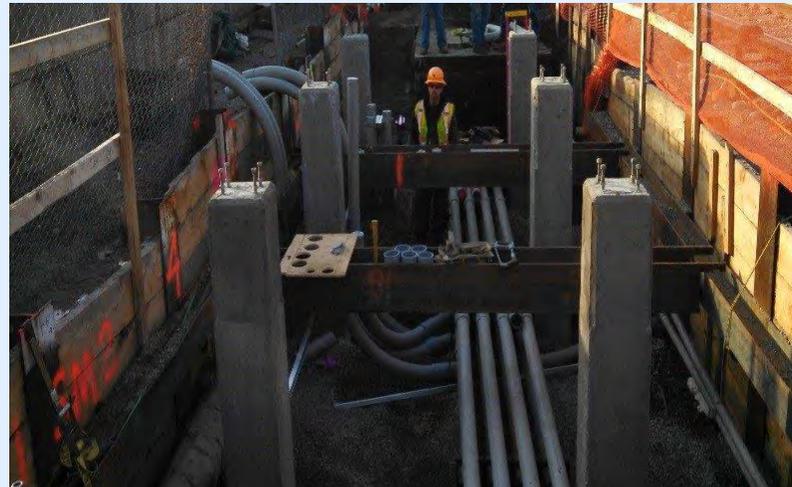
Foundation for new crew quarters adjacent to A-13 Riverdale Substation



Harmon Substation A-33



Elevated vault foundation for new A-33 Harmon Substation



Foundation footings for new elevated platform adjacent to track 3



Major Project

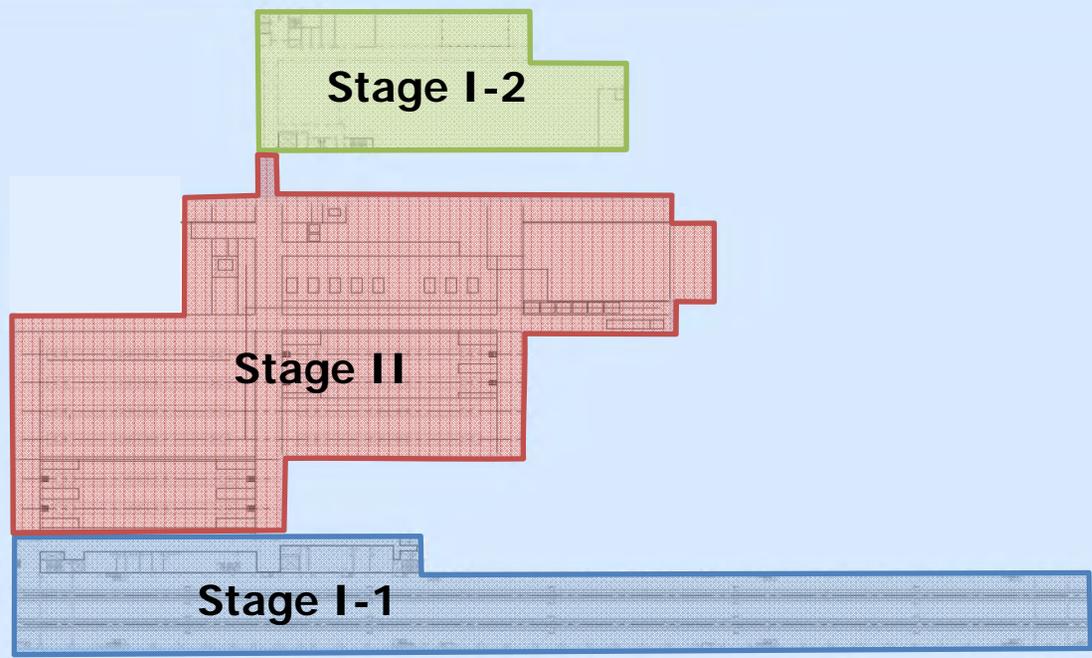
Harmon Shop Replacement



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	January 2018	January 2018	2 nd Quarter 2022
Major Areas	<ul style="list-style-type: none"> Two Ten-Car Consist Tracks Working Storeroom Lockers, Lunch Room 	<ul style="list-style-type: none"> Wheel and Axle Shop Machine, Carpentry, Sheet Metal, Tread Brake, Armature Shops, Plant Maint., Air Room, Compressor Repair Lockers, Lunch Room 	<ul style="list-style-type: none"> Ten Vehicle Repair Bays Truck, HVAC, Toilet Repair, Battery and Paint Shops, Clean Room Storeroom Training Department, Office Spaces



Design-Build Phase V - Stage I Project Budget and Schedule

Current Budget	
Total Project (including soft costs)	\$315,590,606

Current Schedule			
Milestone	Award	Complete	
Design-Build Phase V, Stage I	12/30/14	01/15/18	
• Final Design	1/1/15	03/01/16	
• Construction	4/1/15	01/15/18	



Design-Build Croton-Harmon Phase V – Stage I

Status

- *Foundation for Consist Shop Facility and EMU Annex are underway*
- *Structural steel for EMU Annex anticipated by May 2016*
- *Structural steel for Consist Shop Facility anticipated by September 2016*
- *Project is on budget and on schedule for completion in January 2018*



Phase V – Stage I Progress Photos



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



Installation of compacted aggregate piers for the Consist Shop foundations at north end.



Installation of formwork, rebar and foundations at the EMU (Electric Multiple Unit) Annex.



Excavation and installation of medium voltage (13.2Kv) and communication duct banks and manholes.



Upcoming Projects Design-Build

Enhanced Stations

GCT PA / VIS Head End, Big Boards and Displays

Customer Communications – Outlying Stations

Mount Vernon Overhead Bridge at 14th Ave

Croton-Harmon Main Shop Replacement, Phase V, Stage II



Design-Build Enhance Five Stations



Harlem-125th Street



Crestwood



White Plains



Riverdale



Port Chester

- A Best Practices Design Consultant is being sought to advise on industry best practices as a means to enhance the aesthetic and amenities of the stations, passenger's experience, and improve stations through design innovation and excellence, all with minimal disruptions to customers.
- Architectural enhancements such as: artistic lighting and lighting of historic stations as well as other type of enhancement opportunities will be explored as part of this effort.
- By year's end it is anticipated that a design-build contract will be awarded to implement the enhancements.
- These improvements will be coordinated with the phased Customer Communications project which will deploy customer information technology providing real-time train information.



Forecasted Award Year	Project Budget (\$ millions)
Q4 2016	\$16.5

Design-Build GCT PA /VIS Head End, Big Boards and Displays

Master Page # 73 of 103 - Capital Program Oversight Committee Meeting 5/23/2016

Existing



Proposed

HUDSON LINE DEPARTURES			
TIME	TRACK	DESTINATION	REMARKS
12:51	15	Poughkeepsie	Tarrytown – 1st Stop
1:43	38	Croton-Harmon	Marble Hill – 1st Stop
2:20	114	Croton-Harmon	Yankees – E 153rd St – 1st Stop
2:43	34	Poughkeepsie	Tarrytown – 1st Stop
2:51	40	Poughkeepsie	Tarrytown – 1st Stop
3:00	16	Croton-Harmon	Marble Hill – 1st Stop

Big Board Departure Board in the Main Concourse



Gateboard



Design-Build GCT PA /VIS Head End, Big Boards and Displays

Existing



Proposed



Arrival/Departure Board in Historic Enclosure

Forecasted Award Year	Project Budget (\$ millions)
Q1 2017	\$45



Design-Build Customer Communications – Outlying Stations



Customer Communications project includes work to deploy the latest customer information technology and provide real-time information through departure boards and announcements.

The work will be split into various packages, grouped by stations.

Forecasted Award Year	Project Budget (\$ millions)
2017	\$60



Design-Build Mount Vernon Overhead Bridge at 14th Ave



14th Ave – City of Mt. Vernon

Forecasted Award Year	Project Budget (\$ millions)
Q1 2017	\$6

MTA Metro-North Railroad



Design Build Croton-Harmon Main Shop Replacement Phase V – Stage II



Forecasted Award Year	Project Budget (\$ millions)
2018	\$430



May 2016 CPOC IEC Project Review



Harmon Consist Shop Replacement Phase V, Stage 1

May 23, 2016



Schedule & Budget Review

Harmon Consist Shop Replacement Phase V-Stage 1

- **Schedule:** Presently the project is 20 workdays behind the baseline substantial completion date of December 14, 2017 due to delays associated with the demolition of the existing building.
- **Budget:** The project is currently 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.

The IEC agrees with the agency's reporting of schedule and budget.



IEC Findings

- **Schedule:** The project delay resulting from demolition issues had been showing approximately 4 months. Most of that was mitigated by MNR working with the DB contractor to resequence the schedule. The building demolition is now complete and the delay remains at 20 workdays.
- **Schedule Risk:** A major risk to the project is testing and commissioning of equipment and systems. The DB team will submit commissioning procedures beginning this month and extending through 2016. Commissioning activities will start in 2017. There is presently sufficient time for testing and commissioning.
- To date the IEC is satisfied with the agency's continuous risk mitigation efforts.



May 2016 CPOC IEC Project Review



Hudson Line Sandy Restoration

May 23, 2016



Schedule & Budget Review

Hudson Line Sandy Restoration/Resiliency

- **Schedule:** The IEC agrees with MNR that the overall Phase I project is currently delayed by approximately two months.
 - The first continuous track outage (inbound local track) should be completed by the end of May 2016.
- **Budget:** The Phase I project is presently within budget. To date there have been no change orders of note.



IEC Findings

Agency Recovery Efforts

Schedule: An earlier contractor's schedule delay was mitigated by the team to two months in part through working to achieve the necessary trough/duct bank installation production rates.

- MNR and the design/build team continue to look for ways to streamline the work and increase the production rates to recover the two months.



IEC Findings & Recommendations

- **Productivity Rates for Installing the Cable Trough**

To date the IEC has not observed that the contractor has achieved the production rates planned in the recovery. The IEC will continue to monitor the production rates in future stages.

- **Force Account**

MNR has provided the number of flaggers per day as outlined in the contract. The contractor has requested additional flaggers to increase productivity. Additional flaggers have not been available thus far.

- The IEC recommends that MNR find a way to provide the contractor with additional flaggers in order to meet the planned production rates.



Second Avenue Subway Update to Transit Committee/CPOC

May 23, 2016



SAS Status

- On target to meet December 2016 RSD.
- 96th Street Station power distribution completed for systems contract to facilitate Level 3-4 Testing.
- Facility Power energization was achieved at 72nd Street on April 29.
- 72nd Street Station has made significant gains in installation of escalators, elevators and tunnel vent fans this past month.
- Systems contractor has completed installation of all track work. The remaining 400 linear feet of third rail out of the 22,000 linear feet will be completed by end of May.
- Systems contractor has also completed installation of traction power work at 96th Street station.



SAS Issue/Milestone Status

Issue/Milestone	Target Date (as of Mar. 2016 CPOC)	Current Forecast Date	Change Since Last Report	Potential Impact on Revenue Service Date
Lex. /63rd St Finishes Contract				
Level 3-4 Testing	4/30/2016	5/31/2016	31 days loss of float	Contractor encountered technical issues which delayed water mist testing, revision to stair pressurization procedure, Inergen testing and elevator dispatcher programming. No impact on RSD.



SAS Issue/Milestone Status

Issue/Milestone	Target Date (as of Mar. 2016 CPOC)	Current Forecast Date	Change Since Last Report	Potential Impact on Revenue Service Date
72nd St Finishes Contract				
Permanent Power Energization	4/15/2016	4/29/2016 A	Complete	
Escalator Installation	10/28/2016	10/28/2016	On Target	No impact on RSD.
Elevator Installation	9/1/2016	9/30/2016	No Change	No impact on RSD.
Tunnel Vent Fans Installation	5/31/2016	6/15/2016	No Change	No impact on RSD.
HVAC Installation	5/31/2016	6/15/2016	No Change	No impact on RSD.
Fire Life Safety Installation		5/31/2016	On Target	This item was not included in the March 2016 CPOC Report, however, the project considers it to be a significant milestone and thereby is including it going forward. Potential delay in delivery of water mist components is expected to erode float up to 31 days. No impact on RSD.
Level 3-4 Testing	8/31/2016	8/31/2016	On Target	No impact on RSD.
Level 3 to 5 Testing Elevator/Escalator	11/30/2016	11/30/2016	On Target	No impact on RSD.

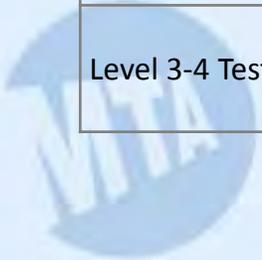
SAS Issue/Milestone Status

Issue/Milestone	Target Date (as of Mar. 2016 CPOC)	Current Forecast Date	Change Since Last Report	Potential Impact on Revenue Service Date
86th St Finishes Contract				
Permanent Power Energization	4/30/2016	5/25/2016	25 days loss of float	ConEdison inspections revealed improper electrical relay installation. This required rework of relay installation and thereby delayed completion of ConEdison inspection. No impact on RSD.
Elevator and Escalator Installation	6/1/2016	6/21/2016	No change	No impact on RSD.
Tunnel Vent Fans Installation		5/31/2016	On Target	These items were not included in the March 2016 CPOC Report, however, the project considers them to be significant milestones and thereby is including them going forward.
HVAC Installation		5/31/2016	On Target	
Fire Life Safety Installation		5/31/2016	On Target	
Ancillary 1 and 2 Structures	4/30/2016	5/20/2016	20 days loss of float	Ancillary 1 was completed on 5/12/2016. Ancillary 2 will be completed by 5/20/2016. The delay was due to the fact that the contractor enhanced a future activity (dry cooler installations and station emergency control room[SECR]) by delaying completion of the roof concrete, but all the critical work required for HVAC was completed. No impact on RSD.
Level 3-4 Testing	8/1/2016	8/1/2016	On Target	No impact on RSD.



SAS Issue/Milestone Status

Issue/Milestone	Target Date (as of Mar. 2016 CPOC)	Current Forecast Date	Change Since Last Report	Potential Impact on Revenue Service Date
96th St Finishes Contract				
Escalator Installation	5/15/2016	6/30/2016	No Change	No impact on RSD.
Elevator Installation	7/13/2016	7/31/2016	No Change	No impact on RSD.
Tunnel Vent Fans Installation	6/21/2016	5/31/2016	No Change	Contractor will install dampers on 05/27/2016; Termination will take 3 days not a week, because wire coiling will be done concurrently with damper installation.
HVAC Installation	5/31/2016	5/31/2016	On Target	No impact on RSD.
Fire Life Safety Installation	6/13/2016	5/31/2016	No Change	No impact on RSD.
Level 3-4 Testing	8/1/2016	8/1/2016	On Target	No impact on RSD.



SAS Issue/Milestone Status

Issue/Milestone	Target Date (as of Mar. 2016 CPOC)	Current Forecast Date	Change Since Last Report	Potential Impact on Revenue Service Date
Systems Contract				
Communication Systems Installation (Fire Alarm, PA/CIS)	8/31/2016	8/31/2016	On Target	No impact on RSD.
Communication Systems Installation (Police Radio)	10/15/2016	10/15/2016	On Target	No impact on RSD.
Traction Power Energization	7/11/2016	7/11/2016	On Target	No impact on RSD.
Track Work	5/15/2016	4/29/2016 A	Complete	Track work is complete; the remaining 400 linear feet of third rail out of the 22,000 linear feet will be completed by end of May.
Signal Work	7/18/2016	7/18/2016	On Target	No impact on RSD.

May 2016
NYCT Committee & CPOC
IEC Monthly Update



Second Avenue Subway

May 23, 2016



SAS May Update

The IEC observed that 2 of the 4 Target Dates for installations and testing in April were met. The completion of local testing at the Lexington Ave/63rd Street Station suffered a month's delay. The IEC's review of current project forecasts for upcoming schedule milestones raised these concerns:

- The forecasts are on-target for about 70% of the upcoming interim tracking milestones identified at the March CPOC meeting.
- There is no improvement in the forecasted elevator and escalator completions at the 72nd Street Station, which remain close to impacting the target RSD.
- The testing schedule for major station equipment has been additionally compressed by the rescheduling of the start of local testing for several systems.



SAS May Update

A review of project reports related to prior IEC concerns revealed:

- The contractor's work effort at the 72nd Street Station site has improved.
- The backlog of changes without formal direction-to-proceed continues to present a risk to the completion of the testing program.
- Monthly project construction expenditures have increased to \$39M in April but increases to an average of \$49M are needed to support the schedule to complete all remaining contract work by December 2016.



Recommendations Log

Recommendation	Agency Action	Status
<p>January 2016</p> <p>Complete implementation of an augmented staffing plan for construction management as soon as practical.</p>	<p>The Project's augmented staffing plan for construction management was satisfied with the addition of seven new hires in April 2016.</p>	<p>COMPLETE</p>



MTA Capital Program Commitments & Completions

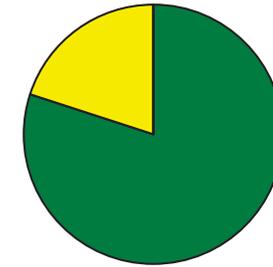
through
April 30th, 2016

Capital Projects – Major Commitments – April 2016

Through April, agencies are reporting on ten major commitments: six were on time, two were early, and two were delayed but have since been committed. NYCT's PSLAN 188 Stations award (a \$50 million actual) and East Side Access' Grand Central Terminal Caverns award (a \$712 million actual) were late, but were committed in March and April, respectively.

Year to date, agencies have committed \$1.8 billion versus a \$1.9 billion goal. The shortfall versus goal is mainly due to a favorable bid for East Side Access' Grand Central Terminal Caverns award. By year-end, the MTA forecasts meeting its \$6.6 billion goal.

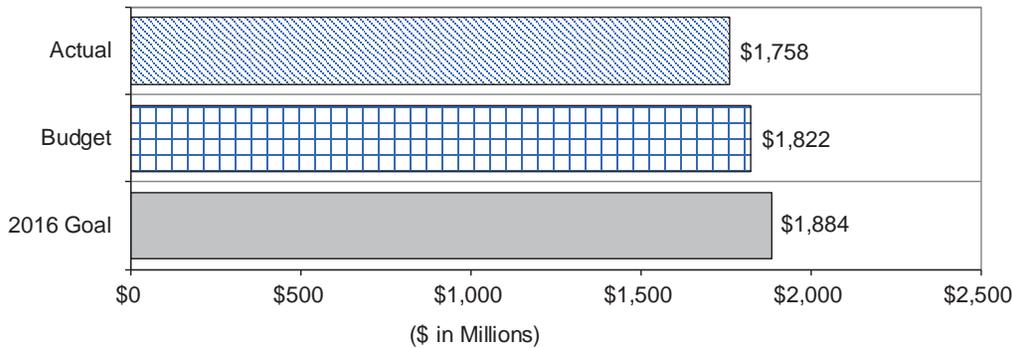
Year-to-Date Major Commitments



	Count	Percent	Change from Prior Month
GREEN = Commitments made/forecast w/in Goal	8	80%	-
YELLOW = Commitments delayed beyond Goal (already achieved)	2	20%	↑ 1
RED = Commitments delayed beyond Goal (not yet achieved)	0	-	↓ 1
	10	100%	-

Budget Analysis

2016 Annual Goal	\$6,599	(\$ in millions)
2016 Forecast	99%	of Annual Goal
Forecast left to Commit	73%	(\$4,800)



Year-to-Date Agency Breakdown

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

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

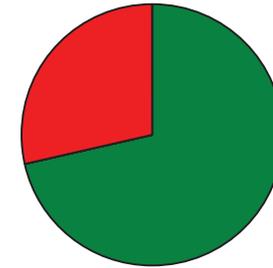
Project	Commitment	Goal	Forecast
2 All-Agency Yellow Commitments (1 new this month)			
NYCT			
<i>Signals & Communications</i>			
Passenger Station LAN: 188 Stations	Construction Award	Feb-16 \$50.0M	Mar-16 (A) \$50.0M
Award was delayed because of additional time required to secure necessary approvals for budget changes and authorizations to approve the commitment.			
MTACC			
<i>East Side Access</i>			
Grand Central Terminal Station Caverns & Track (New Item)	Construction Award	Feb-16 \$777.4M	Apr-16 (A) \$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 Completions – April 2016

Through April, agencies are reporting on seven major completions: three were achieved on time, two were early, and two are delayed. Delays include an East Side Access structures contract and NYCT's station renewals for the Liberty Line stations.

Two bus procurements have been completed ahead of schedule, offsetting the impact of the delays on the year-to-date completions value. As a result, the MTA has nearly achieved its \$585 million year-to-date goal. By year-end, the MTA forecasts meeting or exceeding its \$4.6 billion goal.

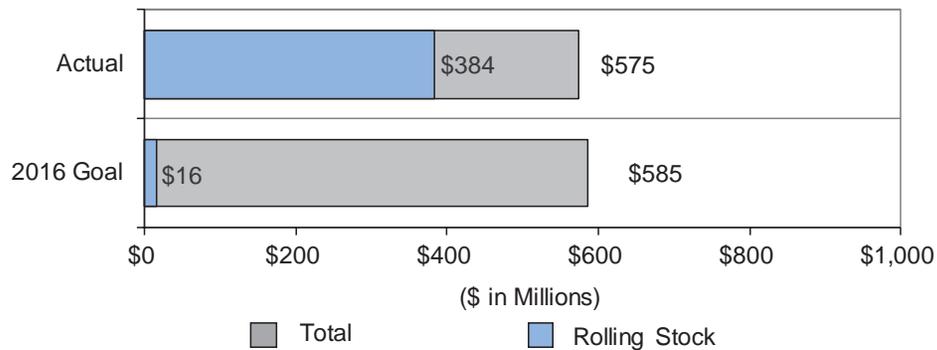
Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
GREEN = Completions made/forecast w/in Goal	5	71%	↑ 2
YELLOW = Completions delayed beyond Goal (already achieved)	0	-	-
RED = Completions delayed beyond Goal (not yet achieved)	2	29%	↑ 1
Total	7	100%	↑ 3

Budget Analysis

2016 Annual Goal \$4,629 (\$ in millions)
 2016 Forecast 102% of Annual Goal
 Forecast left to Complete 88% (\$4,153)



Year-to-Date Agency Breakdown

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

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

<u>Project</u>	<u>Completion</u>	<u>Goal</u>	<u>Forecast</u>
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2 All-Agency Red Completions (1 new this month)
NYCT
Stations

Renew Five Liberty Line Stations (New Item)	Construction Completion	Apr-16 \$74.7M	May-16 \$77.7M
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Due to late inspection schedule, substantial completion could not be declared in April, but was declared in early May. Project cost increased due to additional TA Labor services such as GOs, flagging, work trains and inspections required for additional steel work.

MTACC
East Side Access

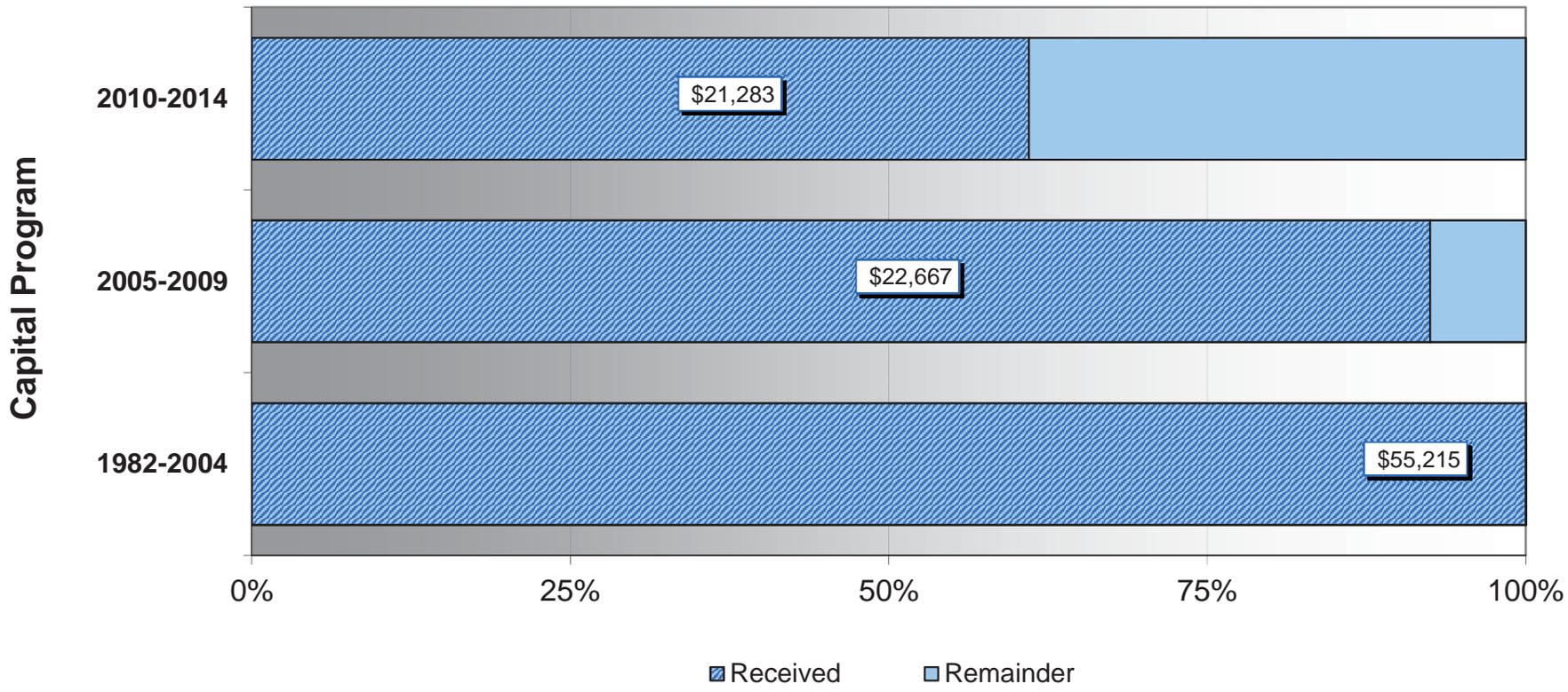
Manhattan South Structures	Construction Completion	Feb-16 \$249.8M	May-16 \$249.8M
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Slower than anticipated production in underground tunnel work has delayed substantial completion.

Status of MTA Capital Program Funding

Capital Funding (April 30, 2016)

\$ in millions



Capital Funding Detail (April 30, 2016)

\$ in millions

	Funding Plan	Receipts		
	Current	Thru March	This month	Received to date
2005-2009 Program				
Federal Formula and Flexible Funds	\$5,186	\$5,186	\$ -	\$5,186
Federal New Start	2,810	2,222	-	2,222
Federal Security	323	262	-	262
Federal Other	11	11	-	11
Federal ARRA - Stimulus	654	654	-	654
City of New York	418	409	-	409
City #7 Line Extension Funds	2,367	2,204	9	2,213
MTA Bus Federal and City Match	149	142	-	142
Asset Sales and Program Income	1,184	563	-	563
State Transportation Bond Act	1,450	1,064	-	1,064
MTA Bonds (Including LGA)	3,039	3,039	-	3,039
B&T Bonds	1,153	1,153	-	1,153
Bonds from New Sources	5,624	5,624	-	5,624
Other (Including Operating to Capital)	138	126	-	126
Total	24,507	22,659	9	22,667

	Funding Plan	Receipts		
	Current	Thru March	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	575	-	575
State Assistance	770	150	-	150
MTA Bus Federal and City Match	132	69	-	69
MTA Bonds (Payroll Mobility Tax)	12,703	8,424	727	9,150
Other (Including Operating to Capital)	1,535	642	-	642
B&T Bonds	2,111	1,292	-	1,292
Hurricane Sandy Recovery				
<i>Insurance Proceeds/Federal Reimbursement</i>	9,376	3,177	-	3,177
PAYGO	160	160	-	160
<i>Sandy Recovery MTA Bonds</i>	758	-	-	-
<i>Sandy Recovery B&T Bonds</i>	230	59	-	59
Total	34,889	20,556	727	21,283