



Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

July 2017

Committee Members

J. Lhota, Chair

F. Ferrer

N. Brown

I. Greenberg

S. Metzger

J. Molloy

M. Pally

L. Schwartz

P. Trottenberg

J. Vitiello

P. Ward

C. Weisbrod

C. Wortendyke

N. Zuckerman

Capital Program Oversight Committee Meeting

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

Monday, 7/24/2017

1:45 - 2:45 PM ET

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES June 19, 2017

- *Minutes from June '17 - Page 3*

3. COMMITTEE WORK PLAN

- *2017 - 2018 CPOC Committee Work Plan - Page 7*

4. NYCT CAPITAL PROGRAM UPDATE

- *CBTC Update Signals and Train Control Division - Page 9*

- *IEC Project Review on CBTC Flushing, CBTC QBL & Equipment Supplier Interoperability - Page 26*

- *Progress Report on Sandy Recovery and Resiliency Division - Page 35*

- *IEC Project Review on South Ferry Station Complex - Page 47*

- *IEC Project Review on Myrtle Viaduct and Bridge - Page 50*

- *IEC Project Review on Canarsie Tunnel Rehabilitation - Page 53*

- *IEC Project Review on Clifton Shop - Page 57*

- *Update on Track Program - Page 61*

5. CAPITAL PROGRAM STATUS

- *Commitments, Completions, and Funding Report - Page 75*

Date of next meeting: Monday, September 25, 2017 at 1:45 PM

MINUTES OF MEETING
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE
June 19, 2017
New York, New York
1:15 P.M.

MTA CPOC members present:

Hon. Fernando Ferrer
Hon. Susan Metzger
Hon. John Molloy
Hon. Mitchell Pally
Hon. James Vitiello
Hon. Carl Wortendyke
Hon. Neal Zuckerman

MTA CPOC members not present:

Hon. Ira Greenberg
Hon. John Samuelsen
Hon. Lawrence Schwartz
Hon. Polly Trottenberg
Hon. Peter Ward

MTA Board members present:

Hon. Andrew Albert
Hon. Norman Brown

MTA staff present:

Veronique Hakim
Janno Lieber
Donald Spero
Michael Wetherell

LIRR staff present:

Deborah Chin

MNR staff present:

Anthony Forcina

MTACC staff present:

Dan Creighton
Tim Gianfrancesco
Bill Goodrich
Eve Michel

Independent Engineering Consultant staff present:

Joe DeVito
Nabil Ghaly
Dianne Rinaldi
Darlene Rivera

* * *

Acting Chairman Ferrer called the June 19, 2017 meeting of the Capital Program Oversight Committee to order at 2:35 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 May 22, 2017.

Committee Work Plan

Mr. Spero announced that there was one change to the Work Plan: Communications-Based Train Control (CBTC), originally scheduled for June, will instead be taken up in July with NYCT's other reports.

MTACC Report on Cortland Street #1 Line

Mr. Creighton reported that the current Revenue Service date is trending toward December 2018 and that the project budget is \$158.4 million. In its Project Review, the IEC, citing the previously reported Substantial Completion date of August 2018, then stated that the contractor's current proposed schedule update -- which has yet to be approved -- indicates a December 2018 Revenue Service date and an April 2019 Substantial Completion date. The IEC then confirmed that the project budget remains at \$158.4 million, and that with a budget increase to \$181.8 million in the pending plan amendment, it appears that the budget will be sufficient to complete the remaining work. Among the IEC Observations are the following: contractor productivity, as measured in work completed and billed per month, has not reached the rate required to meet April 2019 substantial completion, and in order to meet the Substantial Completion date of April 2019, an average production of \$2.4M per month is required -- versus an average of \$1.3M per month for the most recent 12 months of billing. Further details of the presentations, and Committee Members' comments and questions with respect thereto, are included in the video recording of the meeting maintained in MTA's records.

MTACC Report on East Side Access

Mr. Goodrich reported that the project is on schedule for a December 2022 Revenue Service date. In addition, while the project budget remains \$10.178 billion (excluding a \$463 million rolling stock reserve), it is currently under review. In its Project Review, the IEC stated that additional budget needs for soft cost, third party, and force account work continue to reduce the program contingency. With respect to schedule contingency, the IEC continued to forecast a delay to Package 1, Facilities Systems (CS179) contract, which may reduce the program contingency of 22 months by 6 months. In addition, the IEC concurred with the project that there is a potential risk to the Harold Central Instrumentation Location (CIL) cutover of May 2018, which may impact the program contingency. IEC Observations with respect to Manhattan include the following: re-sequencing of the curved metal ceiling panels in the wellways in GCT Concourse & Facilities Fit-Out (CM014B) may introduce additional interface risk with the escalator installation contract; impacts to contract milestones of GCT Caverns and Track (CM007) resulting from resilient tie blocks submittal approvals have been realized; and further delays to the special track work testing required for fabrication may impact milestones as well as handover to the follow-on Traction Power contract, and Integrated System Testing (IST) performed by CS179. IEC Observations with respect to Systems (CS179) include the following: design completion delays are impacting predecessor activities including Factory Acceptance Testing (FAT); the IST duration reflected in the schedule may not be sufficient, and as a result, the IEC projects a reduction of 6 months to the 22-month program schedule contingency. Further delays to the special track work testing, required for fabrication, may impact milestones, handover to the follow-on Traction Power (CS084) contract and IST performed by CS179. 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 Phase 2 Overview

Mr. Gianfrancesco provided an overview of the project, including the current status with respect to Field Work, Design, and Environmental and Community Outreach, including that the Community Outreach contract was awarded in April 2017, and that the project is on schedule to complete the update of Preliminary Engineering by third quarter of 2018 as well as the full design of an advanced utility relocation contract by early 2019. Further details of the presentation, and Committee Members' comments and questions with respect thereto are included in the video recording of the meeting maintained in MTA's records.

MTACC/MNR Penn Station Access Project Update

Ms. Michel provided an update on current project activities, including the Conceptual Engineering Phase and the scope of work for the General Engineering Consultant, the RFP for which will be issued in the summer of 2017, with a contract award by early 2018. She then detailed the progress of the Steering Committee and Working Groups, including Metro-North Railroad, Long Island Rail Road, Amtrak, CSX, Connecticut Department of Transportation and MTACC. 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.

LIRR and MNR Positive Train Control (PTC) Update

Ms. Chin reported on progress on the Positive Train Control (PTC) initiative since the last report to CPOC in February, 2017. She stated that Beneficial Use is scheduled for December 2018 and that the Project Budget is \$968 million, with revised project Estimate at Completion (EAC) under review. In its Project Review, the IEC reported that the budget remains at \$968M as last reported, however, the railroads are in the process of determining if additional funds are needed. In its Schedule Review, the IEC stated that the latest update indicates that the project remains on schedule, however, design and software development issues identified during tests have made it more challenging to maintain the schedule, and early results of on-board and office software factory demonstrations show more work is needed, which may impact the start of formal pilot testing scheduled for August 2017. IEC Observations include the following: while the System Integrator (SI) is addressing open items from subsystem final design reviews with the goal of completing them in August 2017, results of software Factory Acceptance Testing (FAT) indicate that a number of requirements in the master test plan were not met. IEC Concerns include the following: the need for additional design and software development effort to successfully complete FAT activities will put pressure on the start of formal pilot testing, scheduled for August 2017; the availability of experienced resources is necessary to mitigate initial project delays, which presents a challenge to the project, and finally, the SI has not defined a scope of work for field verification of vital data, which if extensive, could impact the PTC deployment schedule at various line segments. 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 brought the Committee's attention to the MTA Capital Program Commitments & Completions and Funding Report and invited Committee Members' questions, of which there was none.

Quarterly Traffic Light Report

Ms. Hakim brought the Committee's attention to the Traffic Light Reports for the 1st Quarter 2017 and invited Committee Members' questions, of which there was none.

Quarterly Capital Change Order Report (for information only)

Ms. Hakim brought the Committee's attention to the Quarterly Capital Change Order Report for the 1st Quarter 2017 and invited Committee Members' questions, of which there was none.

Adjournment

Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the June 19, 2017 meeting of the MTA Capital Program Oversight Committee at 3:40 PM.

Respectfully submitted,
Michael Jew-Geralds
Office of Construction Oversight

2017-2018 CPOC Committee Work Plan

I. Recurring Agenda Items

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

II. Specific Agenda Items

September

Quarterly MTACC Capital Program Update

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

Update on Minority, Women and Disadvantaged Business Participation

Update on Small Business Development Program

Quarterly Change Order Report

Quarterly Traffic Light Reports

October

LIRR Capital Program Update

- Jamaica Capacity Improvements
- Main Line Double Track

MNR Capital Program Update

- Harmon Shop Replacement
- Hudson Line Sandy Restoration
- Customer Information System

LIRR and MNR Joint Update on Rolling Stock

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

NYCT, LIRR, MNR Update on New Fare Payment System

June

Quarterly MTACC Capital Program Update

LIRR and MNR Update on Positive Train Control (PTC)

Quarterly Change Order Report

Quarterly Traffic Light Reports

July

NYCT Capital Program Update



CBTC Update

Signals and Train Control Division

**Robert Gomez, P.E.
Program Officer**

July 2017

Capital Program Oversight Committee



Signals and Train Control Division Projects

Project Name

Phase

CBTC Flushing Line

Construction

CBTC Queens Blvd Line – Design and Furnish

Construction

CBTC Queens Blvd Line – Installer

Construction

CBTC Equipment Supplier Interoperability

Construction

CBTC 8th Ave / 2 Interlockings 30th St & 42nd St

In Design

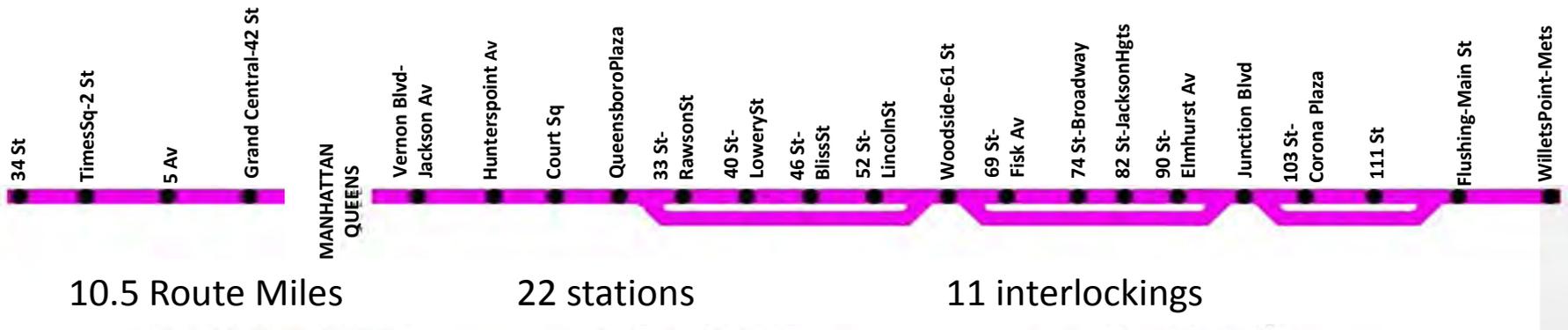
CBTC Culver Line

In Design



CBTC Flushing Line

- **Contractor:** Thales Inc.
- **Award (S-32723):** June 16, 2010
- **Project Description:** Project will overlay new CBTC system on the Flushing Line between Main St. and the new 34th St. /Hudson Yards Terminal. Modernize 1st Ave. and Times Square Interlockings and equip fleet with CBTC carborne equipment.





CBTC Flushing Line

Project Highlights

Project Progress To-date

- Installed, tested and placed in service Times Square Interlocking
- Installed, tested and placed in service Solid State Interlocking at 1st Avenue
- Completed the installation of all Wayside Equipment
- The work completed includes:
 - pulling over 1.3 million feet of cable,
 - installing approximately 900 transponders and
 - installing and configuring 24 zone controllers



CBTC Flushing Line

Overall Status

Item	Comments
Schedule	90% complete; Substantial Completion projected for 4 th Qtr. 2017
Cost	\$595M is current budget

Highlights

Progress

- CBTC in service started during the night hours from Main St. to 74th St. in February and daytime off-peak hours in June
- CBTC car equipment installation was completed by in-house forces for a total of 46 trains
- 293 out of 385 RTO Train Operators have been trained
- Six key issues that were identified during testing were successfully corrected in the May software release
- Hardware (CIU) and software (TMX) issues are under investigation. Interim solutions have been identified and are being implemented

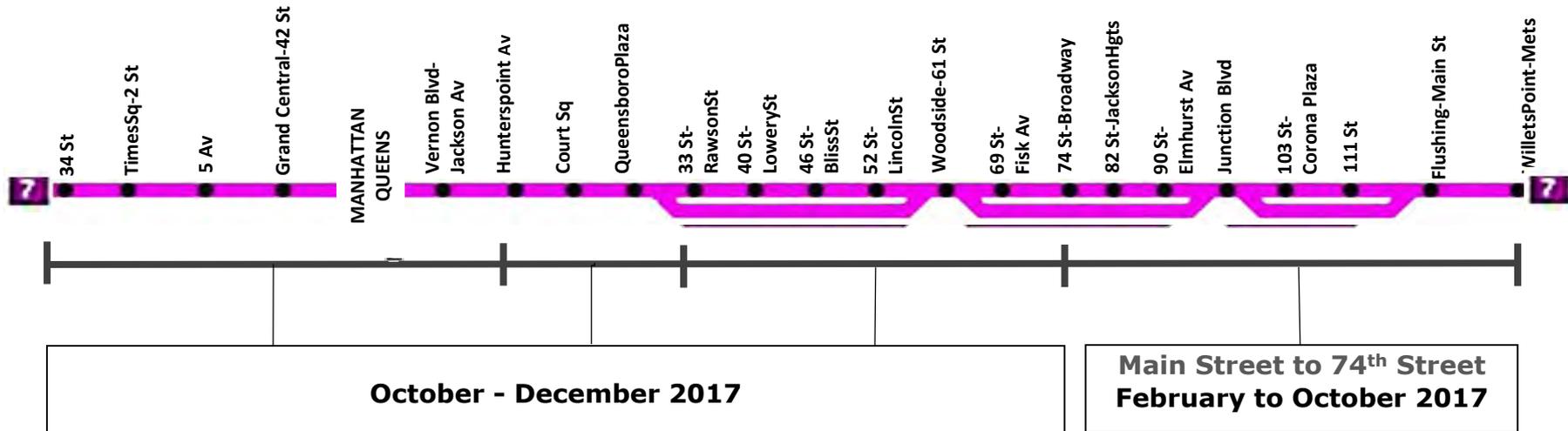
180 Day Look Ahead

- Continue Train Operator training
- Continue Monitoring CBTC system software stability from Main St. to 74th St.
- Continue CBTC testing From 74th St. to 34th St.-Hudson Yards
- CBTC will be in full operation from Main St. to 74th St. by August 2017 followed by a system monitoring period
- Commence CBTC *in-service* from 74th St. to 34th St.-Hudson Yards during October 2017



CBTC Flushing Line

Projected Dates for CBTC Cutover





CBTC Flushing Line

Critical Milestones and Issues

Status	Activity	Date Needed	Issues
 Yellow	CBTC Testing and Commissioning	Now through 4 th Qtr. 2017	CBTC to be in full operation from Main Street to 74 th Street by August 2017. Key testing and commissioning from 74 th Street to 34 th Street-Hudson Yards to validate and verify safety aspect of the CBTC system will commence in October
 Yellow	G.O., Work Train, and Flagging Availability	Now through Nov 2017	Continued support to provide TA Services, as per revised plan, is essential to maintain current schedule
 Yellow	CBTC Software Stability	3 rd Qtr. 2017	Reliable and stable system software is needed. Additional software modifications will be addressed in the upcoming software release.

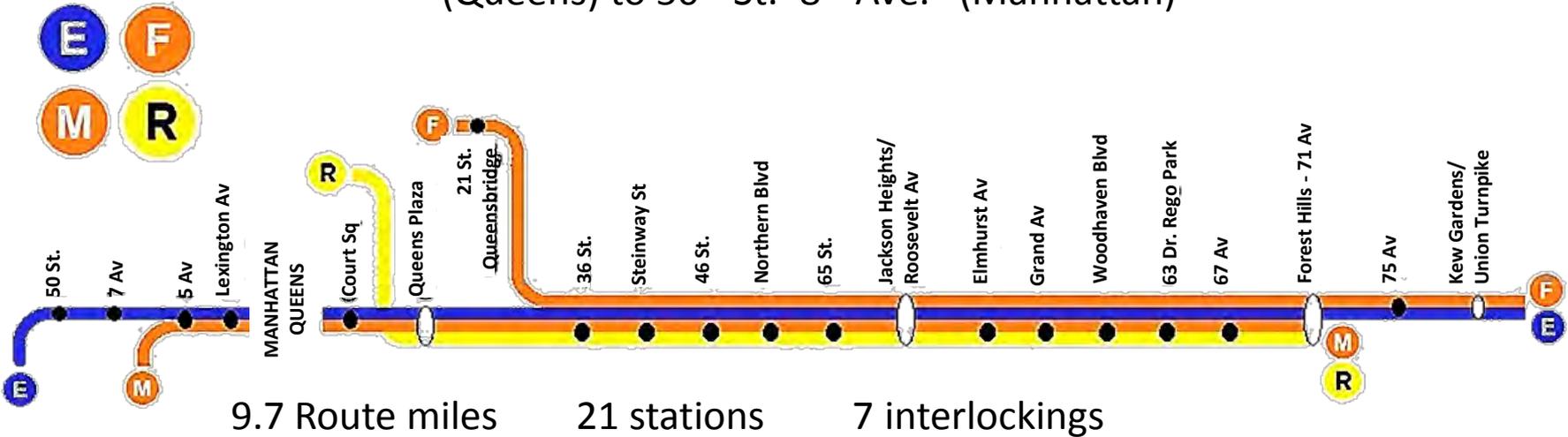
Legend

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



CBTC Queens Blvd Line(Ph. 1) – Design and Furnish

- **Award (S-48004-1):** Siemens – August 24, 2015
- **Award (S-48004-2):** Thales – August 31, 2015
- **Project Description:** Design and furnish two CBTC interoperable systems with Automatic Train Supervision (ATS) from Union Turnpike (Queens) to 50th St.–8th Ave. (Manhattan)





CBTC Queens Blvd Line(Ph. 1) – Design and Furnish

Overall Status

Item	Comments
Schedule	30% complete; Substantial Completion March 2021 (on schedule)
Cost	\$238M (within budget)

Highlights

Progress

- Completed preliminary site-specific CBTC design (Siemens & Thales) December 29, 2016
- ATS prototyping (Siemens) 90% complete
- CBTC Survey commenced (Siemens) on January 25, 2017
- Detailed design of car equipment repackaging is 65% complete (Thales)
- Interoperability and Interface Specification (I2S) was finalized

180 Day Look Ahead

- Delivery of CBTC equipment will commence
- ATS prototyping (Siemens) will be completed
- Detailed design of car equipment repackaging will be completed (Thales)
- CBTC factory integration test will commence
- Additional ATS scope to be added from ISIM-B – budget will be adjusted



CBTC Queens Blvd Line(Ph. 1) – Design and Furnish

Critical Milestones and Issues

Status	Activity	Date Needed	Issues
 Green	R160 Car Availability for CBTC Equipment Installation at Car-Shops	1 st Qtr. 2017 to June 2020	Availability of cars as planned is essential to complete the CBTC retrofitting by June 2020
 Green	G.O., Work Train, and Flagging Availability	2016 to 2021 inclusive	Continued support to provide TA Services as planned is essential to maintain the current schedule

Legend

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



CBTC Queens Blvd Line (Ph. 2)– Installer

- **Contractor:** L.K. Comstock & Co.
- **Award (S-48005):** December 22, 2016 – delayed by 2 Quarters
- **Project Description:** Install all CBTC equipment, support testing and in-service of the CBTC interoperable system including ATS from Union Turnpike (Queens) to 50th St.–8th Ave. (Manhattan) and modernize mainline interlockings.

Overall Status

Status	Item	Comments
● Green	Schedule	10% complete; Substantial Completion July 2022 (on schedule)
	Cost	Current budget is \$422M (to be increased by \$2M by budget modification)

Legend

● Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
● Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
● Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



CBTC Equipment Supplier Interoperability

- **Contractor:** Mitsubishi Electrical Power Products
- **Award (S-48002):** September 25, 2015
- **Project Description:** Provide interoperable CBTC system to meet NYCT's I2S standards and safety certify the interoperable system



CBTC Equipment Supplier Interoperability

Overall Status

Item	Comments
Schedule	23% complete; Substantial Completion scheduled for September 2018 will be delayed to October 2019 by 13 months
Cost	\$20M (within budget)

Highlights

Progress

- Preliminary Design Review (PDR): 20 documents of 39 are approved (delayed more than 1 year)
- Of the remaining 19 PDR documents, 3 have been submitted for NYCT review and approval. The remaining 16 to be submitted by 3rd Quarter 2017.

180 Day Look Ahead

- Continue review of Preliminary Design Review documents



CBTC Equipment Supplier Interoperability

Critical Milestones and Issues

Status	Activity	Date Needed	Issues
 Red	CBTC Sub-system Design for Wayside and Car Equipment (Preliminary Design Review)	December 2017	Contractor requires more time to develop their CBTC sub-system design; Preliminary Design Review documents to be revised / resubmitted. This could impact their ability to bid on the upcoming CBTC projects, thus leaving the two current qualified suppliers.

Legend

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



CBTC 8th Ave / 2 Interlockings 30th St & 42nd St

- **Project:** In Design
- **Award (S-32400):** 2nd Quarter 2018 – Modernize 2 Interlockings (adjusted by 1 Qtr. to combine with CBTC contract)
- **Award (S-48006):** 2nd Quarter 2018 – CBTC Overlay (adjusted by 1 Qtr.)
- **Project Description:** These projects will modernize 30th St and 42nd St Interlockings with Solid State Interlocking (SSI) technology and overlay the 8th Ave Line with CBTC from 59th St - Columbus Circle (Manhattan) to High Street (Brooklyn)



CBTC 8th Ave / 2 Interlockings 30th St & 42nd St

Overall Status

Status	Item	Comments
● Green	Schedule	Design Start: (S-32400) April 29, 2016; (S-48006) Sept. 30, 2016. Projects are being combined as one project during final design phase
	Cost	Total project budget is \$790M (2 Interlockings - \$250M and CBTC - \$540M)

Legend

●	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
●	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
●	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



CBTC Culver Line

- **Project:** In Design
- **Award (S-47009):** 1st Quarter 2018
- **Project Description:** This project will modernize Avenue X and Ditmas Ave Interlockings with Solid State Interlocking (SSI) technology and overlay the Culver Line in Brooklyn with CBTC from Church Ave to W. 8th St

Overall Status

Status	Item	Comments
● Green	Schedule	Design Start: April 20, 2016. Contract will be advertised by Sept. / Oct. 2017.
	Cost	Total project budget is \$430M (2 Interlockings - \$263M and CBTC - \$167M)

Legend

●	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
●	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
●	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.



July 2017 CPOC IEC Project Review

**CBTC Update
NYCT Signals & Train Control
Division**



IEC Project Review NYCT Signals & Train Control Division

- ❑ Communication Based Train Control (CBTC) Flushing Line
- ❑ CBTC Queens Blvd Line (QBL) Queens Blvd Line
- ❑ CBTC Equipment Supplier Interoperability



CBTC Flushing Line Schedule and Budget Review

Schedule: The current project schedule reflects a December 2017 substantial completion date. In the opinion of the IEC, achieving substantial completion by December 2017 will be challenging.

Budget: As reported by the project team, additional funds were approved to increase the budget through close out activities.



CBTC Flushing Line

IEC Observations:

- ❑ CBTC car equipment installations have progressed as planned.
- ❑ Extended system testing has impacted start of passenger service between Main Street & 74th Street. Limited revenue service operation with restrictions commenced in February 2017.
- ❑ Critical software changes implemented in May & June 2017.
 - Improved software stability,
 - Additional software revisions scheduled for testing in July.
- ❑ Expanding CBTC day operation has been challenging.
- ❑ Project team captured lessons learned during testing phase, and plans to apply them south of 74th Street.



CBTC Flushing Line

IEC Concerns:

- ❑ Additional software and hardware modifications are likely, which could impact the schedule for full passenger service.
- ❑ Additional software issues could be identified as passenger service expands to operate with full CBTC functionalities during rush hours service.
- ❑ Systemic hardware issue in the Communication Interface Unit (CIU) is impacting reliability of CBTC operation.
- ❑ Migrating CBTC operation to south of 74th Street requires a high level of system software stability.



CBTC Flushing Line Project Risks

- ❑ Pre-requisites for full CBTC operation on the entire line:
 - Achieve full revenue service between Main Street & 74th Street.
 - Achieving CBTC software stability by September 2017.
 - Start migration of CBTC south of 74th Street by October 2017.
- ❑ The IEC is of the opinion based on the initial delays in equipment installation and system testing, and the need to implement repeated software changes, achieving full CBTC operation in 4th Quarter 2017 will be challenging.



CBTC-QBL Design and Furnish Schedule and Budget Review

Schedule: The overall project remains on schedule. However, certain intermediate milestones have zero float. The IEC is concerned that any delay to design and/or testing activities could impact project schedule

Budget: As reported by the project team, proposed changes to the Automatic Train Supervision (ATS) scope will require modification to project budget.



CBTC-QBL Install Schedule and Budget Review

Schedule: The IEC concurs that the project is on schedule. The contractor is progressing with the site surveys and system design documentation. NYCT has been able to meet all track access requests.

Budget: As reported by the project team, a \$2M budget modification is required.



CBTC Equipment Supplier Interoperability Schedule and Budget Review

Schedule: As reported by the project team, Substantial Completion is delayed by at least 13 months. The IEC concurs that this delay could impact the ability of a 3rd CBTC equipment supplier to bid for future CBTC projects.

Budget: There is no remaining contingency to fund future budget needs.



**New York City Transit
Sandy Recovery & Resiliency Division
Capital Program Oversight Committee – July 2017**



NYCT Sandy Recovery & Resiliency Program

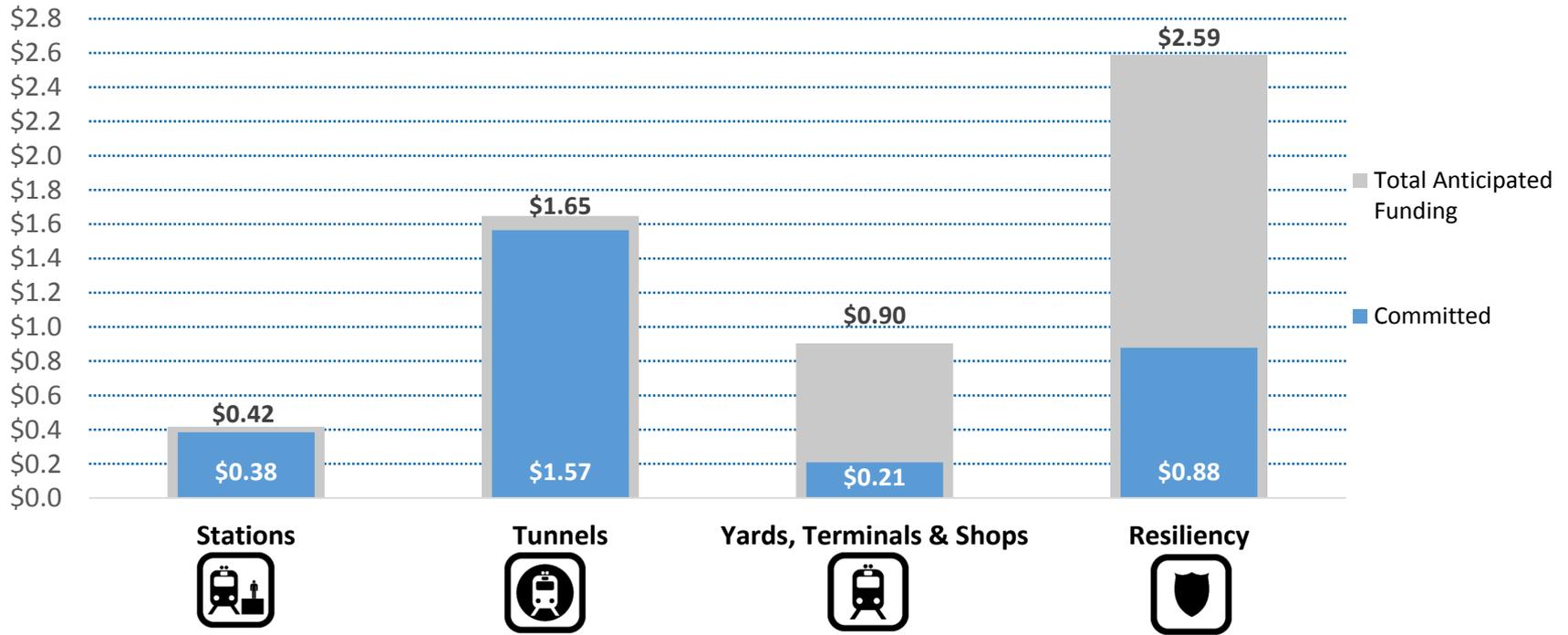
Agenda

- Program Overview
- Project Update
 - South Ferry Station
 - Canarsie Tunnel
 - Myrtle Viaduct and Bridge
 - St. George Terminal/Yard
 - Clifton Shop



NYCT Sandy Recovery & Resiliency Program Overview

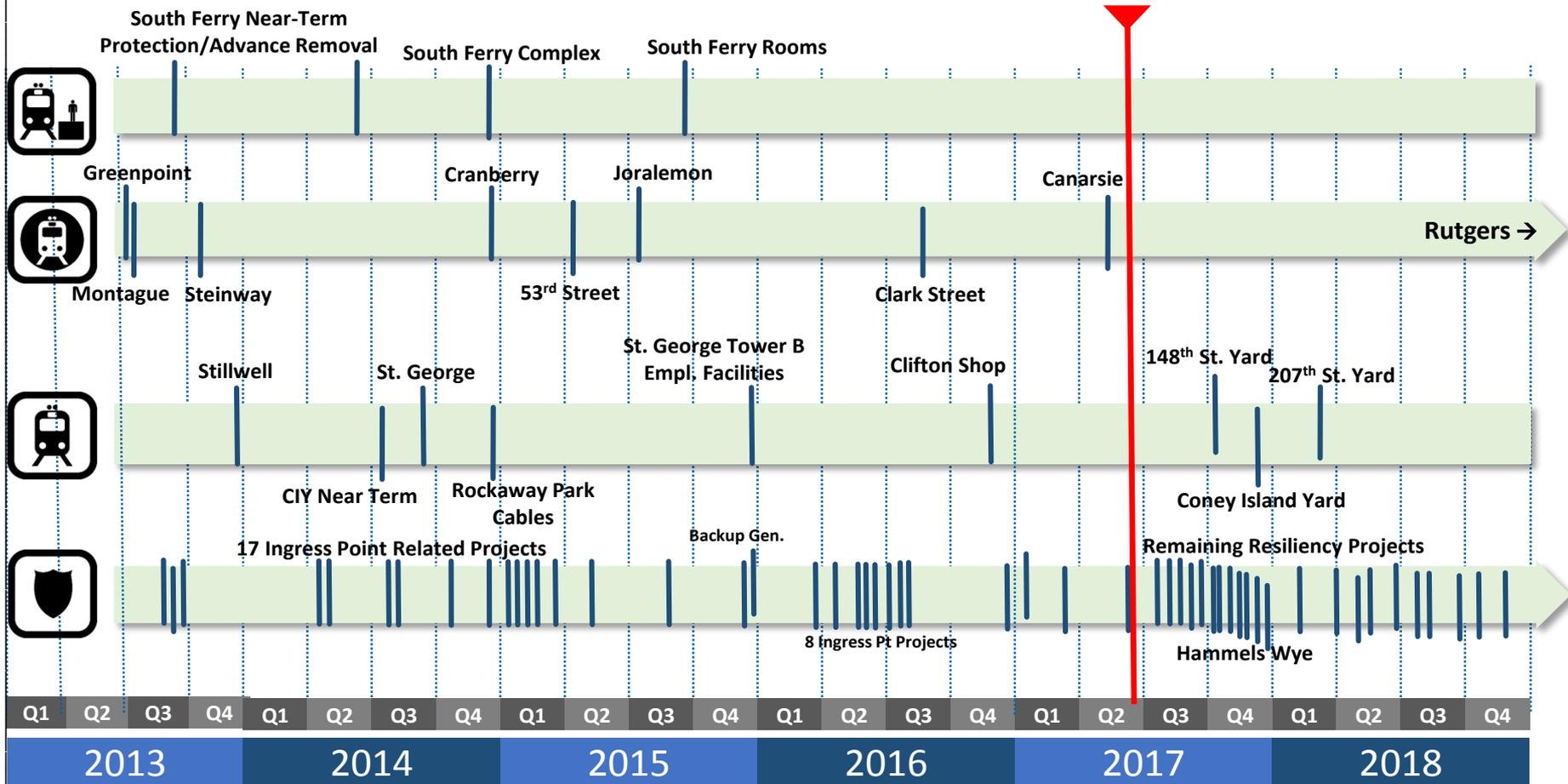
Performance (\$ billion)



- Awarded to Date: \$3.04
- 2017 Remaining Projection: \$1.02
- 2018+ Projected: \$1.74



Timeline of Construction Awards



- Awarded to Date: 56 Projects
- 2017 Remaining Projection: 12 Projects
- 2018+ Projected: 16+ Projects



South Ferry Station Reconstruction

Award: November 2014

Contractor: Judlau Contracting Inc.

Contract Duration: 31 months

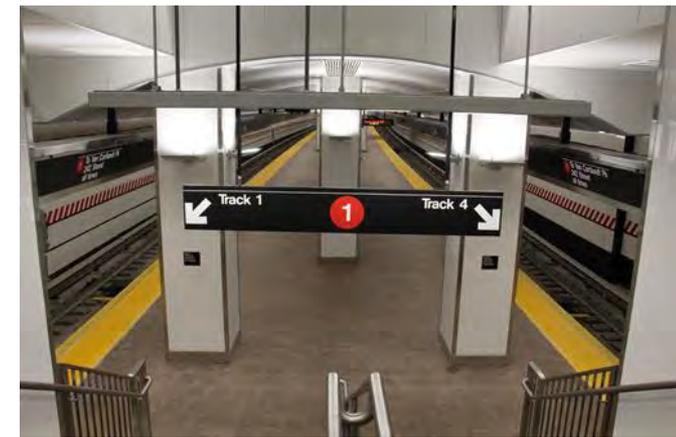
Substantial Completion: June 2017

Project Cost: \$343.9 million

- Station re-opened for public use June 27, 2017, on time and within budget
- Two SBFP contracts completed on schedule in September 2016 for \$6.3M
- Replaced damaged equipment, systems and finishes
- Added resiliency measures to protect from future storms
- Final Acceptance of Systems and Punchlist work is ongoing



Reconstructed Station Entrance



Refurbished Platforms



South Ferry Station



Flooded Mezzanine



New Marine Doors



Flooded Station

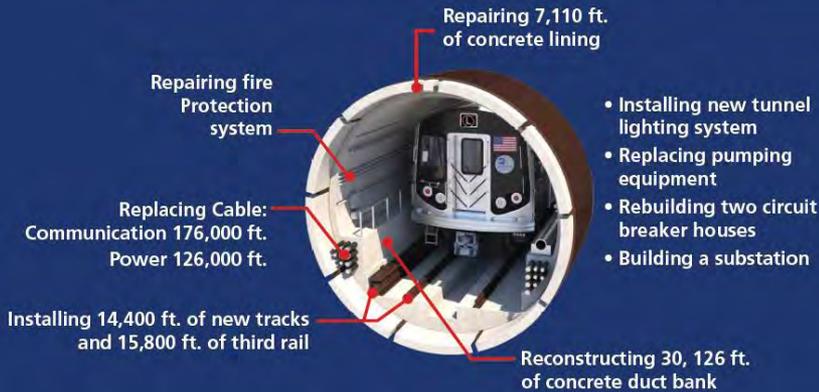


New Signal Relay Room



Canarsie Tunnels – Program of Projects

Canarsie Tunnel Reconstruction Begins April 2019



Rendering of Canarsie Tube

Award: April 2017

Contractor: Judlau – TC Electric JV

Contract Duration: 43 Months

Substantial Completion: November 2020

Project Cost: \$893.6 Million

- Tunnel shutdown 15 month closure
 - Start date – April 2019
 - End date – July 2020
- Penalty for delays (\$410,000/day)
- Incentives for early completion up to 60 days (\$188,000/day)



Rendering of new entrances at Ave A



Canarsie Tunnels – Program of Projects





Canarsie Tunnels – Program of Projects



Tunnel Scanning



Test Pit

Progress

- Alternate Service Plan being developed in coordination with NYC DOT
- Presented draft alternate service plan to elected officials and community board
- Conducted two weekend GOs in May for tunnel survey work
- Site preparation and mobilization ongoing
- Test pits, soil borings and utility relocation in progress

Next Steps

- Excavation for stairs, elevator and mezzanine extensions at Bedford Ave Station in Brooklyn
- Excavation for new entrances/debris removal shafts, at 1st Ave Station (14th St & Ave A) in Manhattan
- Excavation for new substation & CBH at 14th St & Ave B in Manhattan



Myrtle Line Viaduct and NY & AR Bridge



Bridge over New York & Atlantic Railway



Fresh Pond Inspection & Maintenance Enclosure

Award: December 2016

Contractor: Schiavone Construction Co. LLC

Contract Duration: 24 Months

Substantial Completion: December 2018

Project Cost: \$163 Million

- Replace 100-year-old viaduct (Bushwick Cut) and bridge
- Construct a car inspection and maintenance enclosure at Fresh Pond Yard
- 10 month closure – Started on July 1 as scheduled
- M Line will reopen a year before Canarsie shutdown begins in April 2019
- Project is on schedule
 - Phase I - replace bridge over NY & AR and build car inspection and maintenance enclosure by 9/1/17
 - Phase II - replace Bushwick Cut Viaduct by April 2018



St. George Interlocking – Terminal / Yard

Award: September 2014

Contractor: L.K. Comstock Co. Inc.

Contract Duration: 30 months

Substantial Completion: March 2017

Project Cost: \$120.1 Million

- Project was completed on time and within budget
- Replaced tracks, interlocking and signal system
- Installed new signal relay room, battery room and auxiliary relay room on platform above flood level
- Repaired flood damages at Signal Tower B



Completed Interlocking



Inside Central Instrument Location (CIL)



Clifton Shop (Design/Build)

Design/Build Contract

Award: December 2016

Contractor: Prismatic Dev. Corp.

Contract Duration: 43 Months

Substantial Completion: July 2020

Project Cost: \$203 million

- Reconstruct the Sandy damaged Car Equipment Maintenance Shop to be resilient to Category 2 hurricane
- Phased construction to maintain existing facility in-service
- Design packages to be completed by end of 2017
- Construction of package 1 – Demolition to start in Sept 2017



Concept Design Build



July 2017 CPOC IEC Project Review

Sandy Recovery: South Ferry Station Complex



Budget Review

- ❑ The project was completed within budget.

Schedule Review

- ❑ The project reached substantial completion on schedule, and was opened to the public on June 27, 2017.



Observation

- ❑ In the opinion of the IEC, the NYCT staff did an outstanding job in coordinating between construction and user groups, to complete the project on budget and schedule, while meeting agency quality requirements.



July 2017 CPOC IEC Project Review

**NYCT Viaduct and Bridge
Replacement on the Myrtle
Avenue Line (BMT)**



Budget Review

The project is within budget. There have been no significant additional work orders thus far.

Schedule Review

The project is on schedule. Items that could impact the schedule include:

- ❑ Completion of the Car Inspection Facility (September 1, 2017)
 - Building Enclosure, Electrical Components, Car Turntable and Lift
 - Testing and Commissioning
- ❑ Fabrication of Bridge Components
- ❑ Delivery of Signal System Equipment



Risk Management

Risk Assessment (RA) and Mitigation Workshops were held in 2016.

- ❑ The top schedule risks are:
 - Availability of Long Lead Items
 - Community Issues (e.g., noise, dust, vibration)
- ❑ The top budget risks are:
 - Delays in completing track outage results in increased temporary busing
 - Damage to existing facilities or new fabricated components



July 2017 CPOC IEC Project Review

Canarsie Tunnel Rehabilitation



Budget Review

- ❑ Contract was awarded April 2017.
- ❑ This project is within budget. There have been no significant additional work orders thus far.

Schedule Review

- ❑ IEC has reviewed the contractor's preliminary schedule and concludes the project is currently on schedule to begin the 15-month tunnel shutdown in April 2019.



Risk Management

Risk Assessment (RA) and Mitigation Workshops were held in 2016. The IEC is tracking the associated risks.

- The top potential schedule risks are:
 - Delays in Viaduct and Bridge Replacement on the Myrtle Ave Line (Bushwick Cut)
 - Subcontractor availability/capacity



Observation

- A key predecessor activity to begin the Canarsie tunnel shutdown is the completion of the Myrtle Viaduct and Bridge Replacement project. That project is currently on schedule.



July 2017 CPOC IEC Project Review

Design and Construction of Clifton Shop



Budget Review

- ❑ This project is within budget. There have been no significant additional work orders thus far.

Schedule Review

- ❑ The IEC has reviewed the contractor's preliminary schedule and concludes the project is currently on schedule. The IEC is also tracking the following milestones:
 - Package 1 Demolition phase to commence September 2017
 - Design packages (6) to be completed by December 2017



Risk Management

Risk Assessment (RA) and Mitigation Workshops were held in 2016. The IEC is tracking the associated risks.

- The top potential schedule risks are:
 - Scope changes
 - O&Ms submittal/review and approval
 - As-Builts submittal/review and approval



Observation

- ❑ Design/build coordination meetings are ongoing, user groups are providing information on floor plans and the Program Validation Study (containing the contractors program specifications).
- ❑ 2 weeks of field work will commence at the end of July, the work will consist of test pits and will assist in identifying any underground obstructions. Flaggers have been assigned to this work.



NYCT Track & Switch Capital Program

**Anthony Ancilleri
Acting Chief Track Officer
Division of Track**

July 2017



- **The 2015-2019 Track & Switch Capital Program**
- **Project Selection Process**
- **Challenges**
- **Strategies/New Technologies**



2015-2019 Capital Mainline Track & Switch Program Budget

Program Year	Program Budget (\$M)
2015 - 2016	854.4
2017	293.0
2018	278.4
2019	273.6
TOTAL	1,699.3



2015-2019 Capital Mainline Track & Switch Program

Project Type	Goals	Completed to Date
Mainline Track Reconstruction	51 miles	21 miles
Mainline Switch Reconstruction	127	44
Yard Track	1.2 miles	1.3 miles
Yard Switches	20	3
Continuous Welded Rail Initiative (CWR)	22 miles	17.9 miles



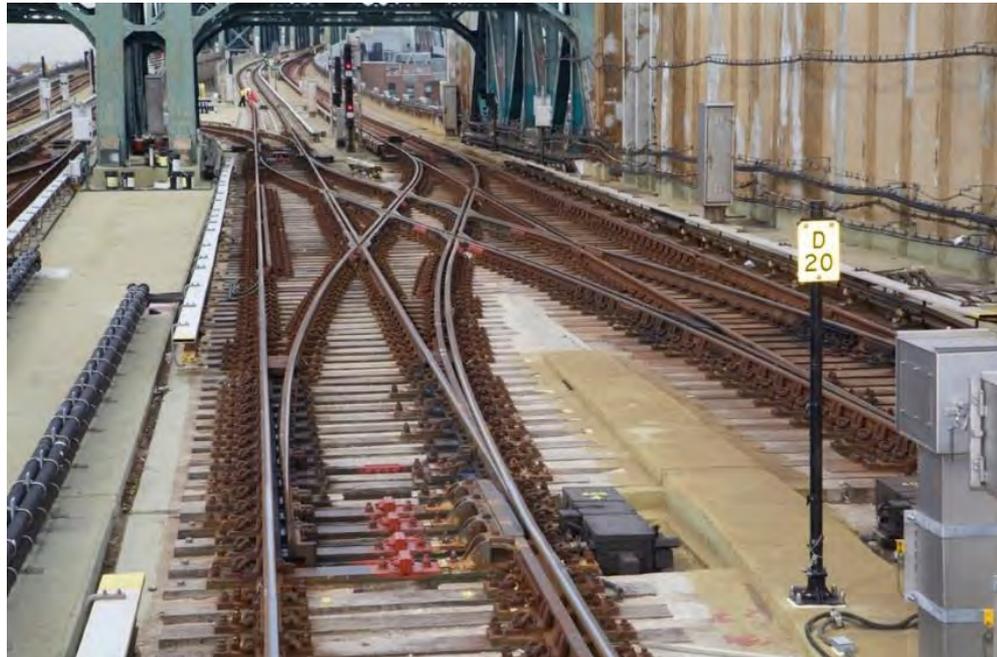
2017 Capital Mainline Track & Switch Program

Project Type	Goals	Completed to Date
Mainline Track Reconstruction	10 miles	3.7 miles
Mainline Switch Reconstruction	27	6
Yard Track	*	*
Yard Switches	4	0
CWR Initiative	0 miles	2.7 miles

*The 2015 – 2019 Yard Track Program Goal was accomplished by 2016.



Mainline Switch work at Smith and 9th Street on the G and F Lines





Continuous Welded Rail Installed in Greenpoint Tube





Project Selection Process

- **Quadrennial Condition Survey Priorities**
- **Track Geometry Car Findings**
- **Track Maintenance Inspections – Field/Visual**
- **Track Access**



Challenges/Strategies/New Technologies

- Coordinating with other Capital Work and Schedules
- The work is labor intensive
- Continued use of Mechanized Equipment
 - Tie Remover / Inserter
 - Rail Grinder
 - Robotic Hammering Machine
 - Rail TRT (Tracked Rail Transposer) Machine “Critter”
 - Mini-meter SpikeFast Delivery System



Tie Remover / Inserter



- Construction equipment used to remove and insert ties in ballast tracks.
 - ❖ Tie and ballast renewal makes the tracks safer for travel and assists with drainage in the area.



Rail Grinder



- Train car based high power grinding modules with a patented control system.
 - ❖ Used to grind rail to control the effects of rolling contact fatigue, to restore profile and to maximize the value from the rail asset.



Robotic Hammering Machine



- A high-powered hammer secured to a remote controlled robotic arm and base.
- ❖ Used to chip out large portions of concrete invert in preparation to install new track components and pour a new concrete invert.



Rail TRT (Tracked Rail Transposer) Machine “Critter”



- A set of two machines that are remote controlled with technology to move Continuous Welded Rail “C.W.R.”.
- ❖ Used to move (remove and install) C.W.R. in a safe and efficient manner.



Mini-meter SpikeFast Delivery System



- A SpikeFast (epoxy) delivery system that sits on top of a customized dolly system.
 - ❖ Used to apply SpikeFast on a large scale to remediate wood ties usually during plate renewal projects.

MTA Capital Program Commitments & Completions

through June 30, 2017

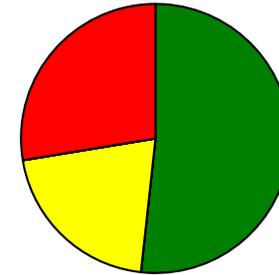
Capital Projects – Major Commitments – June 2017

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

Through June, agencies committed \$2.2 billion versus a \$4.8 billion YTD goal. Fifteen major commitments were made on time or early, six were delayed, but have now been committed and eight other major commitments remain delayed. All delays are explained on the following pages. The shortfall is primarily due to delays of the R211 fleet and New Fare Payment System.

The MTA forecasts meeting 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.

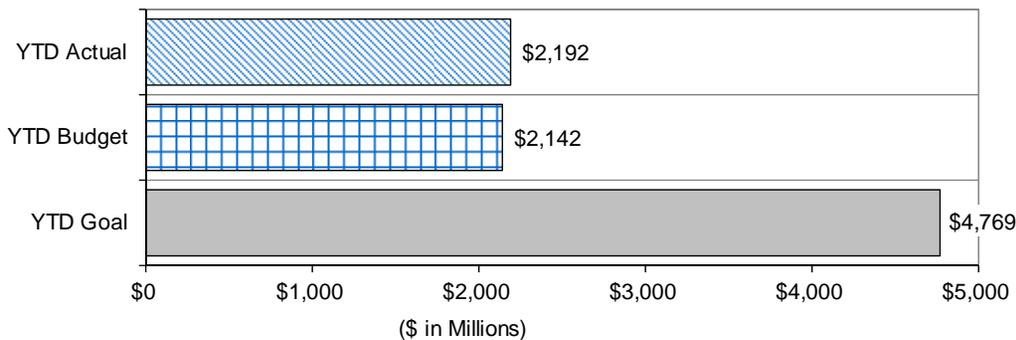
Year-to-Date Major Commitments



	Count	Percent	Change from Prior Month
GREEN = Commitments made/forecast within Goal	15	52%	↑ 1
YELLOW = Commitments delayed beyond Goal (already achieved)	6	21%	↑ 1
RED = Commitments delayed beyond Goal (not yet achieved)	8	28%	↑ 3
Total	29	100%	↑ 5

Budget Analysis

2017 Annual Goal	\$7,280	(\$ in millions)
2017 Forecast	102%	of Annual Goal
Forecast left to Commit	71%	(\$5,241)



Year-to-Date Agency Breakdown

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

Capital Projects – Major Commitments – June 2017 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
8 All-Agency Red Commitments (4 new this month)							
NYCT				MTA CC			
<i>Signals & Communications</i>				<i>East Side Access</i>			
B- Division Beacon Train Arrival System, Phase 2	Construction Award	Feb- 17 \$70.0M	Jul- 17 \$70.0M	48th Street Entrance (New Item)	Construction Award	Jun- 17 \$36.0M	Jul- 17 \$36.0M
Delayed pending funding allocation approval. The project has been delayed an additional two months since April's monthly report.				Additional time is required to review potential impacts of new zoning.			
<i>Traction Power</i>				Systems Package 2 : Installation of Signals (New Item)			
New Substation & 2 CBHs - Maspeth Av- Humboldt St/CNR	Construction Award	Apr- 17 \$76.7M	Jul- 17 \$67.6M	Construction Award	Jun- 17 \$44.9M	Dec- 17 \$44.9M	
Delayed advertisement due to an extended approval process by NYCT stakeholders. Lower than expected bid received in May.				Additional time required for extended review process.			
<i>Subway Cars</i>							
Purchase 425 R211 Cars & 10 Open Gangway (New Item)	Construction Award	Jun- 17 \$1534.5M	Sep- 17 \$1534.5M				
Award of the contact is delayed to September because proposals are still under review.							
<i>Passenger Stations</i>							
New Fare Payment System (New Item)	Construction Award	Jun- 17 \$525.9M	Oct- 17 \$523.8M				
Award schedule delayed due to scope addition incorporating, as part of this project, a full NFPS treatment for MTA Long Island Railroad and MTA Metro- North Railroad.							
LIRR							
<i>Communications and Signals</i>							
Positive Train Control	Force Account	Feb- 17 \$49.1M	Nov- 17 \$49.1M				
\$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>Station and Buildings</i>							
Murray Hill Station Elevators	Construction Award	May- 17 \$12.6M	Jul- 17 \$12.6M				
Reflects anticipated timeframe for Legal to complete their review of contract documents.							

Capital Projects – Major Commitments – June 2017 – Schedule Variances

Project	Commitment	Goal	Actual
---------	------------	------	--------

6 All-Agency Yellow Commitments (1 new this month)

NYCT

Line Structures

Structural Repairs / 4th Ave	Construction Award	Feb- 17 \$84.4M	May- 17 (A) \$87.2M
The project award was delayed due to higher than expected bid..			

Track

Mainline Track & Switch Program (18 Projects) - 1st Qtr	Construction Award	Mar- 17 \$217.8M	May- 17 (A) \$218.6M
The 2017 Yard Track & Switch projects were delayed due to attention to other track work priorities and inclement weather.			

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.			
Main Line Double Track Phase 2- Track & Systems (New Item)	Construction Award	Apr- 17 \$52.0M	Jun- 17 (A) \$52.0M
Bid opening delayed due to time extension requests from prospective contractors to secure pricing from their subcontractors. This contract was awarded in June.			

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.			

B&T

Structures

Henry Hudson Skewback Retrofit	Construction Award	Apr- 17 \$83.7M	May- 17 (A) \$85.7M
Delay due to contract and Insurance issues which took longer than anticipated to resolve.			

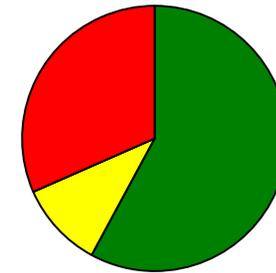
Capital Projects – Major Completions – June 2017

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

Through June, agencies have completed \$1.4 billion versus a \$2.4 billion YTD goal. Eleven major completions were achieved on time or early. Two major completion is delayed but has now been completed, and six major completions remain delayed and are responsible for the \$1 billion shortfall. All delays are explained on the following pages. Offsetting the impact of these delays, B&T had \$389 million in earlier than expected completions at the Verrazano Narrows Bridge.

By year-end, the MTA forecasts meeting or exceeding its \$5.0 billion goal.

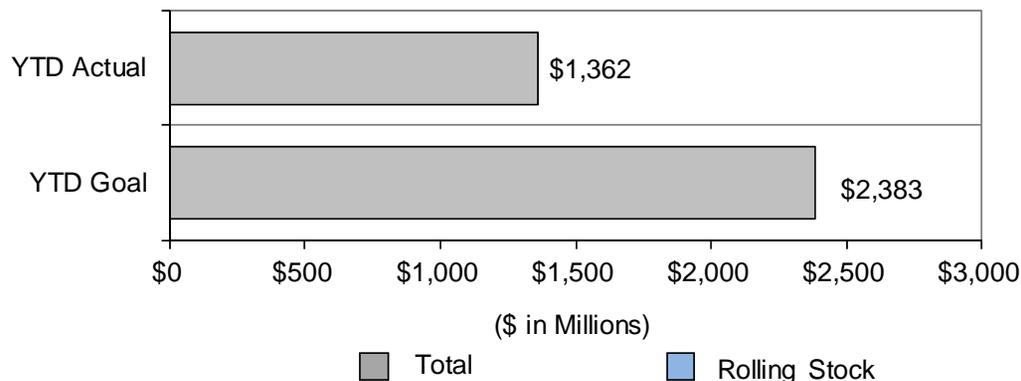
Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
GREEN = Completions made/forecast within Goal	11	58%	↑ 2
YELLOW = Completions delayed beyond Goal (already achieved)	2	11%	↑ 1
RED = Completions delayed beyond Goal (not yet achieved)	6	32%	↑ 2
Total	19	100%	↑ 5

Budget Analysis

2017 Annual Goal	\$4,970	(\$ in millions)
2017 Forecast	101%	of Annual Goal
Forecast left to Complete	73%	(\$3,651)



Year-to-Date Agency Breakdown

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

Capital Projects – Major Completions – June 2017 – Schedule Variances

Project	Completion	Goal	Forecast
6 All-Agency Red Completions (3 new this month)			
NYCT			
<i>Sandy</i>			
Sandy: 53rd St Tube	Construction	Apr-17 \$92.6M	Jul-17 \$92.6M
Delay due to the the removal of the underperforming subcontractor. In addition, ConEd's schedule for inspections did not fit in the milestone dates that was previously forecasted.			
Sandy: Cranberry Tube	Construction	May-17 \$101.9M	Aug-17 \$102.9M
Delay due to issues encountered during signal testing which resulted in additional signal cut over work required.			
Sandy: Joralemon Tube (New Item)	Construction	Jun-17 \$113.8M	Aug-17 \$110.2M
Completion was delayed due to lack of available weeknight GOs. Only two weeks of night GOs available in July and the remaining are scheduled in August			
<i>Passenger Stations</i>			
Station Renewal: 7 Stations / New Lots (New Item)	Construction	Jun-17 \$80.7M	Aug-17 \$101.7M
Project schedule delayed due to significant increases in the quantity of platform girder repairs identified during condition survey prior to award. Project cost increased mainly due to additional work such as Canopy column repair and additional TA Labor support costs.			
LIRR			
<i>Sandy</i>			
Wreck Lead Bridge Systems Restoration	Construction	Apr-17 \$14.9M	Sep-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.			
MTA CC			
<i>East Side Access</i>			
Manhattan Northern Structures (New Item)	Construction	Jun-17 \$361.6M	Sep-17 \$361.6M
Delay is due to slower than expected completion of contract work and administrative requirements.			

Capital Projects – Major Completions– June 2017 – Schedule Variances

Project	Completion	Goal	Actual
2 All-Agency Yellow Completions (1 new this month)			
LIRR			
<i>Stations</i>			
Escalator Replacement Program	Construction	Mar- 17 \$11.2M	Apr- 17 (A) \$11.2M
An escalator testing issue at Baldwin station has caused the delay.			
MNR			
<i>Stations</i>			
GCT Elevator Rehab Phase 4 (New Item)	Construction	May- 17 \$9.6M	Jun- 17 (A) \$9.8M
The completion has been delayed one month due to design issues that were associated with the A- Car elevator rail backing installation.			

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

Prior Years' Major Commitments – Quarterly Update: June 2017

The status of 2014, 2015 and 2016 major commitments delayed beyond 2016 are tracked until committed and reported to CPOC quarterly.

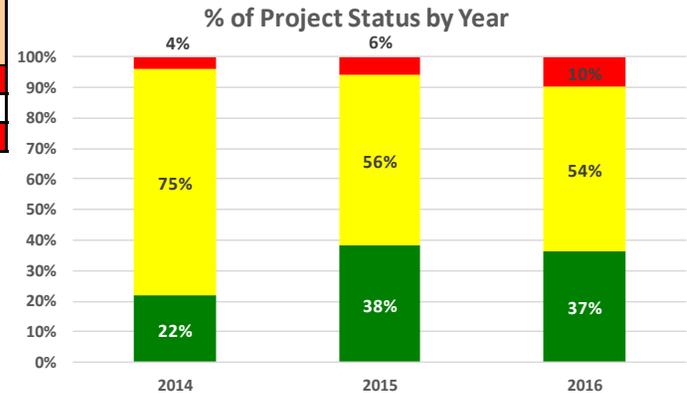
In 2014, agencies set an overall MTA commitments goal of \$6.5 billion including 55 major commitments. In 2014, \$5.8 billion was committed, including 39 major commitments. Of the 16 major commitments that slipped from 2014, nine were made in 2015 and seven slipped beyond 2015. Five of these commitments were made in 2016. The remaining two projects will continue to be tracked as part of this report. To date, \$7.1 billion has been committed against the original \$6.5 billion goal.

In 2015, agencies set an overall MTA commitments goal of \$3.2 billion including 34 major commitments. In 2015, 25 major commitments totaling \$2.9 billion were made. Nine major commitments slipped beyond 2015 and seven achieved in 2016. Two remain delayed and are forecast for award in 2017. To date, \$3.1 billion has been committed against the original \$3.2 billion goal.

In 2016, agencies set an overall MTA commitments goal of \$6.6 billion including 41 major commitments. In 2016, 27 major commitments totaling \$5.0 billion were made. Fourteen major commitments are now forecast for 2017 and 2018 with ten achieved so far in 2017. To date, \$6.3 billion has now been committed.

Actual		MTA-Wide Prior Years' Major Commitments														Post 2017
Goal	Total	On Time	Achieved Late	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Post 2017
2014	55	12	41										1			1
2015	34	13	19												2	
2016	41	15	12	1	1	2	3	2	1				1		2	1

This chart tracks when all major commitments are forecast/achieved versus original goal, starting with those that were committed within 2014, 2015 and 2016, followed by those that slipped beyond 2016. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been committed, and red represents projects that are still delayed. Projects that are red will become yellow when they are committed.



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

Prior Year Major Commitments – June 2017– Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast
8 All-Agency Red Commitments			
NYCT			
<i>Stations</i>			
ADA: Phase 2: 57 Street - 7 Avenue / Broadway	Construction Award	Nov-14 \$35.9M	Oct-17 \$87.5M
Project schedule slipped due to existing ducts in the vicinity of excavation which impact design completion schedule. The design schedule was further delayed due to the need to study alternatives for providing ADA access to the 57th Street Station. Design of new scheme started in September 2015. Project cost increased reflecting estimates of the new design scheme.			
ADA: 68 St- Hunter College / Lexington	Construction Award	Sep-16 \$66.8M	Dec-17 \$116.3M
Award Schedule impacted pending resolution of Real estate issues. Project cost increased due additional scope that resulted in additional architectural , structural, electrical and utility relocation work.			
Renew Five Astoria Line Stations	Construction Award	Dec-16 \$71.5M	Oct-17 \$22.8M
Four of the stations are combined into package #2 of the Enhanced Stations Initiative and will be reported in the ESI program. The remaining station is scheduled for award in June.			
<i>Sandy Recovery & Mitigation</i>			
Sandy: 148th Yard Long- Term Perimeter Protection & Power Cable	Construction Award	Dec-16 \$135.1M	Dec-17 \$137.7M
Delayed from Aug to Dec 2017 due to delay in obtaining the necessary easement agreement which prevents us from advertising the project. Negotiations with property owner, Esplanade Gardens, concluded and an agreement was reached. Cost increased reflecting revised RTA.			
Sandy Repairs: Rutgers and Cranberry Tubes	Construction Award	Jun-14 \$154.M	Feb-22 \$165.M
Award of the tubes is done via separate contracts. The Cranberry tube contract awarded in December 2014 while the Rutgers tube was rescheduled to 2022 due to construction sequencing of the tubes. Project cost increased reflecting unfavorable bids received for Cranberry contract.			

Project	Commitment	Goal	Forecast
NYCT (Continued)			
Sandy: 207th Yard Perimeter Protection & Power Cable	Construction Award	Oct-16 \$222.7M	Mar-18 \$756.4M
Delayed from Dec 2017 to Mar 2018 due to the need to redesign the perimeter wall to address a DEP concern, which is to avoid interferences with a major water main. Also, CPM is combining the signal and track work which was prepared as a separate project with the perimeter wall and portal work to make it all one project. Cost reflects combined projects including Signals, Track & Switches			
<i>Work Equipment</i>			
Work Train & Special Equipment: 54 Flat Cars	Purchase Award	Dec-15 \$33.5M	Dec-17 \$33.5M
Award re- scheduled to December 2017 due to funding constrains. This project was not considered for priority funding in the first half of 2016. Procurement Staff Summary was approved to cancel the RFP and issue an Immediate Operating Need as a means to expedite the procurement process going forward.			
MTA PD			
<i>Communications</i>			
Penn Station / Atlantic Tunnel Radio Upgrade	Construction Award	Dec-16 \$25.0M	Dec-17 \$25.0M
The schedule delay is due to ongoing MOU negotiations between users of the radio system as well as for considerations of other possible upcoming construction work at Penn Station external to this project.			

Prior Year Major Commitments – June 2017– Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Actual
10 All-Agency Yellow Commitments (5 new this quarter)			
NYCT			
<i>Sandy Recovery & Mitigation</i>			
Sandy Mitigation: 7 Stations (8 Stns M/Q/Bx Initiative)	Construction Award	May-16 \$96.3M	Apr-17 (A) \$47.7M
Scope includes Internal Station Hardening. Delayed advertisement resulted in delayed bid opening. Bids received on January 25th. Bid protest was submitted but denied on 2/24. Project awarded in April and Cost reflects favorable bid.			
Sandy Canarsie Tube Restoration & Core Capacity Improvements (New Item)	Construction Award	Nov-16 \$883.3M	Apr-17 (A) \$670.M
Project delayed to April to seek Board approval for the award. Project cost does reflect only partial funding for support costs. Full funding will be reported upon agreement on allocations of Sandy and Core projects			
Sandy Mitigation: 9 Stations (9 Stns BK/Q Initiative)	Construction Award	Jun-16 \$100.7M	Mar-17 (A) \$52.8M
Delay in advertisement postponed award. This was the result of additional time required for design phase drawing, spec and contract document approvals.			
<i>Power</i>			
Power Upgrade: RCC, PCC	Construction Award	Jul-16 \$50.2M	Jan-17 (A) \$55.5M
Project awarded in January. Project cost increased reflecting unfavorable bid			
LIRR			
<i>Stations</i>			
Nostrand Avenue Station (New Item)	Construction Award	Nov-16 \$21.0M	Jun-17 (A) \$21.0M
The project was initially delayed due to an extended design process prior to advertisement. A further delay to award resulted from coordination of final award from key stakeholders.			

Project	Commitment	Goal	Actual
MNR			
<i>Track</i>			
Rock Slope Remediation (West of Hudson)	Construction Award	Dec-16 \$15.0M	Feb-17 (A) \$10.0M
Due to a protracted procurement the construction award was delayed until February 2017. Actual commitment is lower than the forecasted due to a favorable low competitive bid for construction.			
<i>Signals & Communications</i>			
Positive Train Control (New Item)	Construction Award	Dec-16 \$57.0M	May-17 (A) \$57.5M
The design of the radio communications was delayed due to radio coverage issues therefore delaying the installation construction which which was rescheduled to be awarded in March 2017. Due to an unfavorable bid the contract was re-bid; an award was executed in May 2017.			
Positive Train Control (New Item)	Construction Award	Dec-16 \$45.3M	May-17 (A) \$34.8M
The design of the radio communications was delayed due to radio coverage issues therefore delaying the installation construction which which was rescheduled to be awarded in March 2017. Due to an unfavorable bid the contract was re-bid; an award was executed in May 2017. Actual commitment is lower than the forecasted due to an adjustment for CDOT funding.			
MTACC			
<i>East Side Access</i>			
Mid-Day Storage Yard - CQ033 (New Item)	Construction Award	Nov-16 \$266.0M	Apr-17 (A) \$300.8M
Additional time required for extended review process and delay in completion of design documents. Budget updated to reflect award value.			
B&T			
Installation of Fire Standpipe and Upgrade of Fire Protection System	Construction Award	Dec-16 \$17.0M	Mar-17 (A) \$19.4M
The delay was attributable to previously outstanding compliance with reporting obligations which have since been resolved.			

Prior Years' Major Completions – Quarterly Update: June 2017

The status of 2014, 2015 and 2016 major completions delayed beyond 2016 are tracked until achieved and are reported to CPOC quarterly.

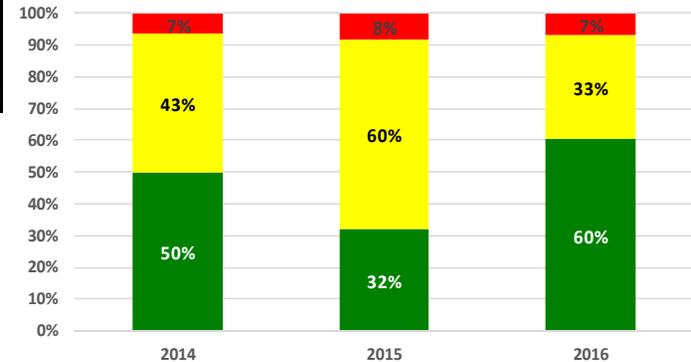
In 2014, agencies set an overall MTA completions goal of \$5.7 billion including 46 major completions. In 2014, \$4.5 billion was completed, including 28 major completions. Of the 18 major completions that slipped from 2014, nine were made in 2015 and nine slipped beyond 2015. Since 2015, six of these completions were achieved in 2016. The remaining three projects are forecast for completion in 2017 and 2018. To date, \$6.4 billion has been completed against the original \$5.7 billion goal.

In 2015, agencies set an overall MTA completions goal of \$2.6 billion including 25 major completions. In 2015, 19 major completions totaling \$2.1 billion were made. The remaining six major completions slipped beyond 2015 and four of the six were achieved in 2016. Two remain delayed and are forecast beyond 2017. To date, \$2.2 billion has been completed against the original \$2.6 billion goal.

In 2016, agencies set an overall MTA completions goal of \$4.6 billion including 43 major completions. In 2016, 36 major completions were made including several MTACC contracts associated with 2nd Ave Subway Phase 1 which achieved beneficial use in December 2016. The seven remaining major completions are forecast for 2017 with four achieved so far in 2017. To date, over \$4.1 billion has been completed.

Actual Goal	MTA-Wide Prior Years' Major Completions														Post 2017	
	On Time	Achieved Late	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17		
Total	114															
2014	46	23	20								1			1	1	
2015	25	8	15												2	
2016	43	26	10	1	1		1		1		2	1				

% of Project Status by Year



This chart tracks when all major completions are forecast/achieved versus original goal, starting with those that were completed within 2014, 2015 and 2016, followed by those that slipped beyond 2016. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been completed, and red represents projects that are still delayed. Projects that are red will become yellow when completed.

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

Prior Year Major Completions – June 2017– Schedule Variances

Project	Completion	Goal	Forecast	Project	Completion	Goal	Forecast
8 All-Agency Red Completions				MNR			
NYCT				Grand Central Terminal			
Stations				GCT Leaks Remediation	Construction Completion	Dec-16	Oct-17
ADA & Station Renewal at Ozone Park- Lefferts Blvd/ LIB	Construction Completion	Aug-16	Sep-17			\$18.6M	\$18.6M
		\$23.9M	\$23.8M	Due to unforeseen deteriorated structural steel and existing conditions that differ from the contract drawings the project completion has been rescheduled for June 2017.			
Recent delay due to additional scope items added to the contract. The contractor submitted time extension request being reviewed by NYCT. Earlier delays due Gutter Support Design Modification at the East End. Contractor has requested time extension for this work.							
Depots / Rolling Stock				MTACC			
				East Side Access			
AVLM: Paratransit - 2,273 Vehicle	Purchase	Dec-14	Dec-17	Plaza Substation and Structures (CQ032)	Construction Completion	Aug-16	Sep-17
		\$35.8M	\$37.0M			\$250.2M	\$257.7M
Java software testing has not begun, due to servers for the migration are behind firewalls, and we are working with MTA- IT to open the specific port and name resolution for servers need to be corrected. As the software design-build commenced for modification #3, the contractor's software team came to the determination that it's best to host these deliverables on new				Substantial completion date delayed to reflect additional Con Ed utility work at the yard services building and associated as-builts required.			
Signals and Communications				GCT Councourse Finishes Early Work	Construction Completion	Apr-14	Sep-17
PA/CIS at 45 Stations - Install Cable	Construction Completion	Dec-15	Jan-18			\$56.7M	\$58.0M
		\$56.1M	\$56.1M	Delay due to substantial SCADA (supervisory control and data acquisition) redesign work. Delays in the delivery of the medium voltage switchgear has delayed forecasted substantial completion. Additionally, a facility control room leak has developed and mitigation is required. Current delay due to productivity being lower than expected.			
Project delayed to 2018 due to slow progress of work. In-house forces were diverted to address other safety sensitive projects.							
LIRR							
Signals and Communications							
Centralized Traffic Control	Construction Completion	Jun-15	May-18				
		\$12.9M	\$12.9M				
As a result of a re- evaluation of the Theater Operations, it was determined that a re- design of the Theater is necessary.							
Power							
F Circuit Breaker House	Purchase	Oct-14	Feb-18				
		\$7.2M	\$7.2M				
Project on- hold pending power load study							

Prior Year Major Completions – June 2017– Schedule Variances

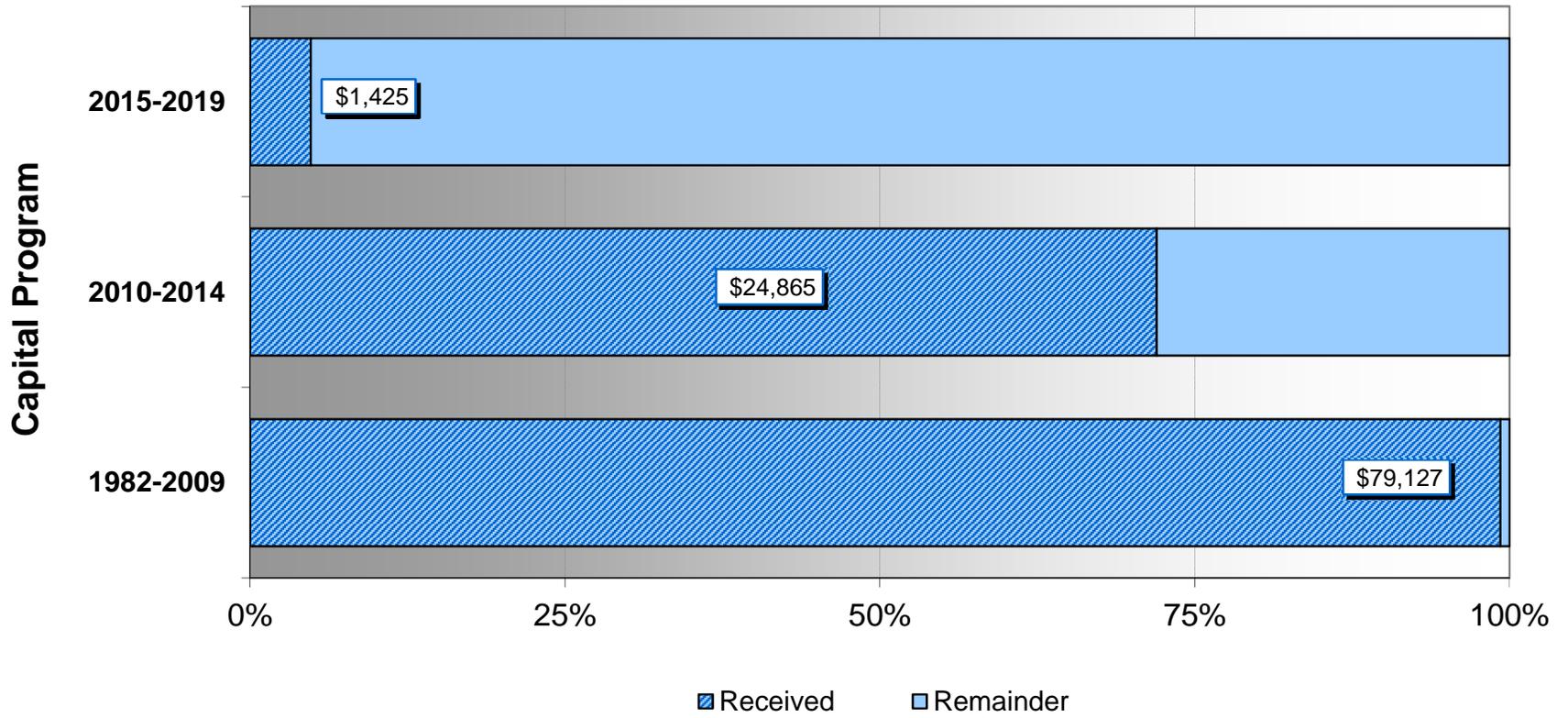
Actual Results Shaded

Project	Completion	Goal	Actual
4 All-Agency Yellow Completions (2 new this quarter)			
NYCT			
<i>Stations</i>			
Replace 11 Hydraulic Elevators	Construction Completion	Aug-16 \$24.M	Feb-17 (A) \$24.1M
Project completion was delayed due to scope changes including the redesign of the electrical distribution room (EDR), exterior wall panel, ramp work, and various communications issues.			
SIR: Station Construction Arthur Kill (New Item)	Construction Completion	Aug-16 \$23.2M	Jun-17 (A) \$24.M
Project completed. The current delay is for the demolition of the adjacent Nassau and Atlantic Stations which will be replaced by Arthur Kill. The platforms will be removed under upcoming weekend GOs. Substantial Completion will be declared after this is complete.			
<i>Track</i>			
2016 Annual Track Program	Construction Completion	Dec-16 \$17.6M	Jan-17 (A) \$17.6M
Completion delayed due to December snowstorm that prevented completion of the final crossing.			
MTA Bus			
<i>Bus Company Projects</i>			
Security Upgrades - Rockaway and Baisley Park (New Item)	Construction Completion	Sep-16 \$9.9M	Apr-17 (A) \$9.9M
Delay was due to negotiations for remaining additional work orders (AWOs).			

Status of MTA Capital Program Funding

Capital Funding (June 30, 2017)

\$ in millions



Capital Funding Detail (June 30, 2017)

\$ in millions

1992-1999 Program
2000-2004 Program
2005-2009 Program

Funding Plan	Receipts		
Current	Thru May	This month	Received to date
18,109	18,109	0	18,109
21,702	21,702	0	21,702
24,495	23,909	13	23,922

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		
Current	Thru May	This month	Received to date
\$5,827	\$5,614	\$ -	\$5,614
295	295	-	295
221	100	-	100
-	-	-	-
762	607	-	607
770	400	-	400
148	103	-	103
12,675	10,754	-	10,754
1,483	1,432	-	1,432
2,018	1,916	-	1,916
9,115	3,474	-	3,474
235	81	-	81
758	-	-	-
230	89	-	89
Total 34,537	24,865	-	24,865

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		
Current	Thru May	This month	Received to date
\$6,275	\$163	\$ -	\$163
100	-	-	-
500	-	-	-
8,336	-	-	-
2,492	120	-	120
5,929	12	-	12
600	-	-	-
1,925	1,094	-	1,094
568	36	-	36
2,940	-	-	-
Total 29,665	1,425	-	1,425