# Capital Program Oversight Committee Meeting

**June 2019** 

## **Capital Program Oversight Committee Meeting**

2 Broadway, 20th Floor Board Room New York, NY 10004 Monday, 6/24/2019 2:30 - 3:30 PM ET

#### 1. PUBLIC COMMENTS PERIOD

### 2. APPROVAL OF MINUTES MAY 20, 2019

- Minutes from May '19 - Page 3

#### 3. COMMITTEE WORK PLAN

- 2019-2020 CPOC Committee Work Plan - Page 6

#### 4. NYCT CAPITAL PROGRAM UPDATE

- Update on Signals and Train Control Division Page 8
- IEC Project Review on Signals and Train Control Page 27
- Update on Systems and Security Division Page 41
- IEC Project Review on Bus Radio System Page 63
- IEC Project Review on Bus Command Center Page 66

#### **5. CAPITAL PROGRAM STATUS**

- Commitments, Completions, and Funding Report - Page 70

#### 6. QUARTERLY TRAFFIC LIGHT REPORTS

- First Quarter 2019 Core & Sandy Traffic Light Reports - Page 79

### 7. QUARTERLY CAPITAL CHANGE ORDER REPORT (for information only)

- CPOC Change Order Report - All Agencies - Page 141

Date of next meeting: Monday, July 22, 2019 at 2:30 PM

## MINUTES OF MEETING MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE

May 20, 2019 New York, New York 2:00 P.M.

#### MTA CPOC members present:

Hon. Patrick Foye

Hon. Andrew Albert

Hon. David Jones

Hon. David Mack

Hon. Neal Zuckerman

### MTA CPOC members not present:

Hon. Norman Brown

Hon. Sarah Feinberg

Hon. Michael Lynton

Hon. Susan Metzger

Hon. John Samuelson

Hon. Vincent Tessitore

#### MTA staff present:

Ray Burke

Michael Garner

Ronnie Hakim

Al Putre

Tom Savio

Don Spero

#### MNR staff present:

John Kennard

### LIRR staff present:

Paul Dietlin

#### Independent Engineering Consultant staff present:

Mark Cosmedy

Joe DeVito

Calvin Gordon

Mohammad Mohammadinia

Hassan Tavassoli

\* \* :

Chairman Foye called the May 20, 2019 meeting of the Capital Program Oversight Committee to order at 4:02 P.M.

#### **Public Comments Period**

There were two public speakers in the public comments portion of the meeting: Jason Pineiro and Omar Vera.

#### **Meeting Minutes**

Approval of the minutes to the previous meeting held on April 15, 2019 (with corrections, as requested by Commissioner Albert) was postponed until the following CPOC meeting, in June.

#### **Committee Work Plan**

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

## <u>Update on Minority, Women, Disadvantaged and Service Disabled Veteran-Owned Business</u> Participation Programs

Mr. Burke reported that MTA-Wide DBE awards against an 18% Federal Participation Goal (October 2018 - March 2019) were 20% and, based on payments, the MTA achieved a rate of 27%. With respect to the 15% NYS Participation Goal (April 2018 - March 2019), the MTA achieved the following: a rate of 14% for MBE awards, and 12% MBE payments; and a rate of 8% for WBE awards, and 9% WBE payments. With respect to the 6% NYS SDVOB Participation Goal, the MTA achieved a rate of 3% for awards and 1% based on payments. The Chairman requested that the next presentation by DDCR include a plan for increasing the WBE and SDVOB participation percentages, to which Mr. Garner and Mr. Burke agreed. 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.

#### **Progress Report on OMNY MTA's New Fare Payment System**

Mr. Putre outlined the Phased Approach to project implementation, from the initial launch at select subway stations/buses (which remains scheduled for late May 2019) through project completion (which remains scheduled for July 2023). He then reported that the project budget is \$645 million, and that the project is currently 13.2% complete. In its oral remarks, the IEC stated that the project remains on budget and on schedule. The IEC noted that while there are still variances that must be resolved, the project is continuing to address these variances to enhance system reliability, performance, and functionality. The IEC then reiterated its previous concern that there are inherent risks to reliance on third-party specifications and deliverables when using open payment technology for transit fare payment. These risks include the following: 1) processing times for open payment transactions are sometimes relatively slow, which could cause a problem in high-volume stations or buses during peak hours; and 2) because there are many bankcard manufacturers and personalization bureaus worldwide, a customer's valid bankcard may not be accepted due to OMNY system design variances; and while this is not expected to be a major long-term risk, it could have a negative impact on customer experience during early stages, and therefore, in the opinion of the IEC, robust customer communication and outreach are essential. 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.

#### LIRR Capital Program Update

Mr. Dietlin provided an overview of LIRR's 2018 and 2019 Capital Program Goals, including infrastructure commitment, start, completion and closeout goals, as well as 2019 year-to-date figures. He then outlined the status of several active construction projects, including the Morris Park Locomotive Shop, Mid-Suffolk Yard, and Jamaica Capacity Improvements -- Phases I and II. In its oral remarks on the Morris Park Locomotive Shop, the IEC verified that there is a three-month delay to the project substantial completion due to a change in a key subcontractor. The IEC added that the new subcontractor is working to reduce some of this delay with additional shifts and by scheduling multiple deliveries and testing. While the IEC viewed these mitigation measures as appropriate, noting that they should benefit the project, the IEC also pointed out that the project has consumed all float, and any further delay will impact both beneficial use and substantial completion. With respect to budget, based on the IEC budget review, the percent complete to date compares favorably with total expenditures, remaining contingency and overall budget. In its oral remarks on Jamaica Capacity Improvements Phase 1, the IEC stated that its independent review of the project schedule verifies two months of delay by the contractor to the substantial completion of Platform F. However, the overall project completion is tied to signal procurement, installation, and testing and commissioning, which are on schedule for completion in October 2021. Based on the IEC's review of the project's construction cost, soft costs and project reserves, the IEC verifies that the project is within budget. The IEC then recommended that if the elevator and escalator at Platform F are commissioned by the 4th Quarter of 2019, yet do not go into beneficial use until the 3rd guarter of 2020, as planned, LIRR purchase additional warrantee coverage for a "break-in" period (before

maintenance is turned over to the LIRR). In its oral remarks on the Mid Suffolk Yard, the IEC stated that, based on its review of the current budget, the IEC agrees that the EAC increase cited by LIRR for execution of work associated with PSE&G and the LIRR communications node is necessary. While acknowledging the inherent risks associated with underground utility work, in the IEC's opinion, the project team has managed all known project risks, and therefore, the IEC's independent analysis indicates that the budget increase and the available contingency is sufficient to complete the current project scope. With respect to schedule, the IEC stated that the current estimated 6-month delay notwithstanding, there is still a potential for further delay until the PSE&G work and commissioning activities associated with bringing the new power to the yard are completed; the IEC then added that as a mitigation measure to this (top) risk, LIRR senior management has been involved in discussions with PSE&G. Finally, the IEC offered the following observation: upon review of the project critical path, the IEC notes there is 3<sup>rd</sup> party and force account work necessary in advance of the installation of the mainline track turnouts needed by March 2020 -- which will require careful coordination by the project team. 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.

### **MNR Capital Program Update**

Mr. Kennard cited MNR's 2018 and 2019 Capital Program Goals and progress against these goals through March 31, 2019. He then provided details on the Customer Service Initiatives, the Station Improvement Initiative, the Superstorm Sandy Restoration/Resiliency - Hudson Line Project, as well as the Harmon Shop Replacement Design-Build Phase V Project. With respect to the Hudson Line Sandy Restoration/Resiliency Project, the IEC stated that while there had been no additional delays for an approximately one-year period, the completion date for Phase I is now one month later due to issues with force account availability and a track outage moratorium; Phase II completion is also one month later, as reported by the agency, but the full impact will be better understood once the Phase II baseline schedule is approved and updated. In the IEC's opinion, based on the current and planned productivity, there may be no further delay. In addition, the IEC is forecasting that the budget will need to be increased further to cover additional soft costs due to the extended schedule. In its oral remarks on the Harmon Consist Shop Replacement Phase V Stage 1, the IEC stated that, as reported by MNR, a number of unanticipated issues since the last CPOC presentation have prevented occupancy of the building, the most critical being the completion of the carbon monoxide detection system, which could prevent building occupancy until the 4th quarter of 2019, and which will require MNR to fast-track the design and installation of the carbon monoxide detection system. With respect to budget, the IEC's review indicated that outstanding change order requests, if granted, will exceed the available contingency and additional funding would need to be identified. With respect to Stage 2, the IEC noted that building demolition is being delayed due to the late completion of the Stage 1 buildings (where MNR personnel will be housed during Stage 2 construction). The IEC then added that the design/builder has revised the new building foundation design, and is considering an alternate demolition plan, which should recover some or all of the delay. 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 noted the Capital Program Commitments & Completions and MTA Capital Program Funding Reports in the CPOC Agenda.

#### Adjournment

Upon motion duly made and seconded, Chairman Foye adjourned the May 20, 2019 meeting of the MTA Capital Program Oversight Committee at 5:03 PM.

Respectfully submitted, Michael Jew-Geralds Office of Construction Oversight

## 2019-2020 CPOC Committee Work Plan

### I. Recurring Agenda Items

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

#### II. Specific Agenda Items

### **July**

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

#### September

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

### **October**

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

## **November**

NYCT Capital Program Update Update on New Fare Payment System Update on Minority, Women and Disadvantaged Business Participation Update on Small Business Development Program

#### **December**

MTACC Capital Program Update
Quarterly Change Order Report
Quarterly Traffic Light Reports
Update on Capital Program Security Projects (in Executive Session)

### **January**

NYCT Capital Program Update NYCT Rolling Stock Procurement Program

### **February**

**B&T Capital Program Update** 

### March

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

#### **April**

MTACC Capital Program Update

#### May

LIRR Capital Program Update
MNR Capital Program Update
LIRR and MNR Update on Positive Train Control (PTC)
Update on New Fare Payment System
Update on Minority, Women and Disadvantaged Business Participation

### <u>June</u>

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

# Signals and Train Control Program

Capital Program Oversight Committee

Signals and Train Control Engineering
Pete Tomlin
Vice President



June 2019

## Signals & Train Control Projects

## **Procurement Phase**

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

## **Construction Phase**

- CBTC Queens Blvd Line Design and Install
- CBTC Equipment Supplier Interoperability
- □ ISIM-B: Module 3 Large Scale Display at RCC and Data Warehouse
- □ ISIM-B: Module 3A Renovation of South Side of Operating Theater at RCC
- CBTC Culver Line
- Ultra-Wideband (UWB)-Based Train Control Pilot Program
- Kings Highway Interlocking, Culver Line

## **Closeout Phase**

- CBTC Flushing Line
- 34th Street Interlocking
- W. 4th Street Interlocking



## CBTC 8<sup>th</sup> Ave / 2 Interlockings – 30<sup>th</sup> St. & 42<sup>nd</sup> St.

☐ Projected Award: July 2019

☐ Project Description: 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 to High

Street.

Item	Comments	
Schedule Design Completion: November 2018 (Previously October 20 Currently in the procurement phase.		
Cost Total Project Budget: \$580M		



☐ Awarded: Siemens – Aug 2015

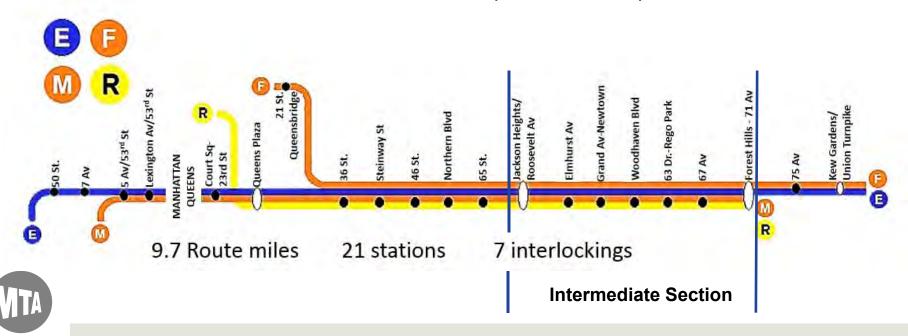
Thales – Aug 2015

LK Comstock - Dec 2016

☐ Project Description: Design and install CBTC from Union

Turnpike (Queens) to 50th St.—8th

Ave. (Manhattan).



## CBTC Queens Blvd. Line Design & Install CBTC Overall Status

overall otatas		
Item	Comments	
CBTC projects - 58% complete. Substantial Completion March 2021* Installation - 37% complete. Substantial Completion July 2022*  *Substantial completion and budget at risk due to late handover to instal Related to coordination with other signal projects in 2017-2018  Recovery solutions are being implemented.		
Cost	CBTC - Within current budget of \$239M* Installation - Within current budget of \$424M*	

## **Highlights**

CBTC Progress	<ul> <li>Delivery of wayside and carborne equipment - 78% complete</li> <li>Suppliers integration testing of CBTC in the lab- complete</li> <li>Carborne installation testing on 124 of 309 units - complete</li> <li>ATS installation testing at RCC - complete</li> <li>DCS installation testing for Intermediate area – commenced</li> </ul>
Installation Progress	<ul> <li>Installation of Intermediate Section wayside equipment is at 95% completion</li> <li>Completed installation of fiber optic cable at Rail Control Center (RCC) and Backup Command Center (BCC).</li> <li>Signal Power Room (SPR) construction is 95% complete.</li> <li>Cable installation for entire project is 95% complete.</li> <li>Installation of CBTC and Auxiliary Wayside Signals (AWS) equipment in Relay Rooms is 90% complete for Intermediate Section.</li> </ul>



## **Highlights**

Item	Comments	
CBTC 180 Day Look Ahead	<ul> <li>Complete interoperability testing between CBTC suppliers in the lab</li> <li>Complete installation testing of CBTC equipment from 71st Ave. to Roosevelt Ave. on Tracks D3/D4 for the Intermediate Cutover</li> <li>Start field testing of CBTC from 71st Ave. to Roosevelt Ave. on express tracks for the Intermediate Section</li> <li>Continue installation and testing of carborne equipment</li> </ul>	
Installation 180 Day Look Ahead	<ul> <li>Complete installation of fiber optic and signal cables for Intermediate Section</li> <li>Complete remaining installation of CBTC and AWS equipment for Intermediate Section</li> <li>Complete AWS testing for Intermediate Section</li> </ul>	



## **Critical Milestones and Issues - CBTC**

Status	Activity	Milestones	Issues
Green	Integration Testing	May 2019	Siemens and Thales lab integration testing completed in April 2019
Green	CBTC Train Operator Simulator Training	June 2019	Delivery of CBTC Train Operator Simulator scheduled for June 2019 to support Intermediate Section training September 2019
Green	CBTC Equipment Installation on R160 Cars	June 2020 (309 units)	Approximately 100 R160 units are required for service in Intermediate Section. Currently, 155 units retrofitted. Remaining units equipment installation on schedule for June 2020.
Yellow	Substantial Completion	March 2021	Substantial completion at risk due to early access issues and recently late delivery of equipment. These issues are now being resolved.

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones	
•	Yellow	mpacts 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.	



## **Critical Milestones and Issues - Installation**

Status	Activity	Milestones	Issues
Green	Construct 3 Signal Power Rooms	Dec 2018 Jul 2019	Civil construction complete Electrical work on schedule
Green	Install all Signaling Equipment in Union Turnpike Signal Room	June 2019	Installation is 90% complete - on schedule.
Yellow	71 <sup>st</sup> Avenue and Roosevelt Avenue Signal Rooms	August 2019	Work 95% complete. December 2018 target not met. However, not expected to impact the overall project schedule.
Green	G.O., Work Train, and Flagging Availability	Now through 2022	No further issues expected

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones	
•	Yellow	npacts 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

☐ Awarded: September 2015

☐ Contractor: Mitsubishi Electrical Power Products

☐ Project Description: Develop and safety certify an

interoperable CBTC system to meet

NYCT's I2S standards and become

the third qualified CBTC supplier



## CBTC Equipment Supplier Interoperability

## **Overall Status**

Item	Comments	
Schedule	60% complete. Substantial Completion April 2020 (Previously October 2019)	
Cost	Within current budget of \$20M	

## **Highlights**

Progress	<ul> <li>□ Lab testing of carborne equipment started January 2019</li> <li>□ Factory testing successfully completed in Japan February 2019</li> <li>□ Carborne equipment installation completed May 2019</li> <li>□ Carbone equipment installation testing started May 2019</li> </ul>	
180 Day Look Ahead	<ul> <li>Continue lab testing</li> <li>Started testing on Culver Test Track June 2019</li> <li>Complete dynamic installation testing at Coney Island Yard to achiev pre-qualification</li> </ul>	



## ISIM-B Module 3: Large Display at RCC and Data Warehouse

☐ Awarded: July 2018

☐ Contractor: ARINC INC

☐ Project Description: Furnish and install large display at

RCC and develop data warehouse.

Provide the RCC with 26 B-Division

workstations

## **Overall Status**

Status Item Comments		Comments
Schedule 10% com		10% complete. Substantial Completion December 2022
Green	Cost	Total project budget - \$103M



# ISIM-B Module 3A: Renovation of South Side of Operating Theater at RCC

☐ Awarded: March 2019

☐ Contractor: PJS Electric, INC

☐ Project Description: To renovate south side of RCC

operation theater. Includes

architectural, structural, mechanical, electrical and communication work to prepare for installation of large display

under ISIM-B Module 3 contract.

## **Overall Status**

Status Item Comments		Comments
	Schedule	3% complete. Substantial Completion June 2021
Green	Cost	Total project budget - \$25M



## **CBTC** Culver Line

☐ Awarded: February 2019

□ Contractor: Tutor Perini Corp

□ Project Description: Modernize Avenue X and Ditmas Ave

Interlockings with Solid State

Interlocking (SSI) Overlay Culver Line

with CBTC from Church Ave to W. 8th

St.

Item	Comments	
Schedule	2% complete. Substantial Completion August 2022	
Cost	Total Budget: \$484M (\$52M increase due to added switch work and a bid that was higher than the budget	



## Ultra-Wideband (UWB)- Pilot Program

☐ Awarded: Siemens – March 2019

(Canarsie Line)

Thales – March 2019

(Flushing Line)

☐ Project Description: Testing and Safety Certification

Evaluation of Ultra-Wideband as

part of a Train Control System.

## **Overall Status**

Item	Comments	
Schedule	15% complete. Substantial Completion December 2019	
Cost	Current budget of \$55M	



## Ultra-Wideband (UWB)- Pilot Program

## **Highlights**

Progress	<ul> <li>March - Project kick-off meetings held</li> <li>March - Joint Surveys of Rail Cars at both ENY and Corona Yards completed</li> <li>April - Project teams mobilized, designs underway</li> <li>April - Schedule baselines submitted</li> <li>Mid May – Wayside surveys at both mainline track locations completed</li> <li>June - Designs complete</li> </ul>		
	Siemens and Thales		
180 Day Look Ahead	<ul> <li>June – Complete Factory Acceptance Test (FAT)</li> <li>August – Complete wayside installation, begin shadow mode data collection, complete train installation 4 of 4</li> <li>November – Complete integrated functional testing</li> </ul>		



## **CBTC Flushing Line**

☐ Awarded: June 2010

☐ Contractor: Thales

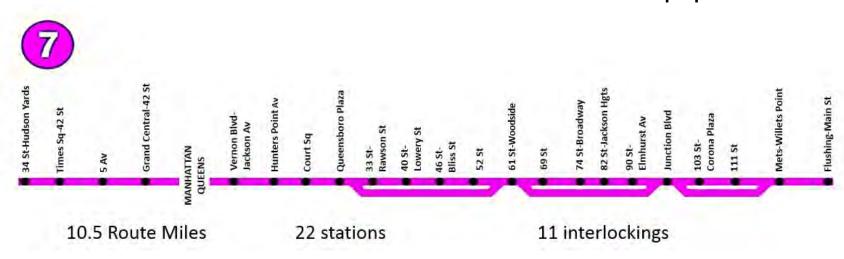
☐ Project Description: Overlay CBTC on Flushing Line

Main St. to 34th St./Hudson Yards.

Modernize 1st Ave. and Times

Square Interlockings and equip fleet

with CBTC carborne equipment.





## CBTC Flushing Line

## **Overall Status**

Item	Comments		
Schedule	96% complete. Substantial Completion declared March 7, 2019 (previously December 2018)		
Cost	Cost Current budget is \$588M. Currently evaluating total estimated need at completion.		

## **Highlights**

Progress	<ul> <li>Achieved full ATO operation May 2019</li> <li>Running 29 trains per hour in ATO in AM and PM peaks</li> <li>Yard Mode in-service in Corona Yard in April 2019</li> <li>CBTC in-service on entire Flushing Line since November 26, 2018</li> <li>Removals of retired signal equipment completed in underground section</li> <li>Automatic Route Setting (ARS) will be implemented to enhance train management function.</li> </ul>
180 Day Look Ahead	<ul> <li>Complete the punch list work</li> <li>Test and Commission remaining software releases</li> <li>Complete all CBTC training courses</li> <li>Complete removals of obsolete signaling equipment</li> </ul>



## CBTC Flushing Line

## **Critical Milestones and Issues**

Status	Status Activity Milestones		Issues	
Green	Removals	'	Removal work started in 2018. Secure TA services to complete by the fourth quarter of 2019.	
Green ATS June 2019		June 2019	Final implementation of all external interfaces is in progress. Full Train Management functionality to support increased line capacity is in progress.	

•	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.				



## Interlockings

Status	Contract No.	Description	Schedule	Budget
Green	S-32764	34 <sup>th</sup> Street	Substantial Completion November 2018	Current Budget: \$176.20M. \$4M decrease in budget is due to a Budget Mod approved in December 2018, which reduced the total budget by \$3.7M (due to savings within the project), and an ISA funds transfer of \$0.25M to West 4th St.
Green	S-32765 West 4 <sup>th</sup> Street Completion December 2018		Completion	Current Budget: \$196.78M. \$22.5M increase in budget is due to a Budget Mod approved in January 2019, which increased the total budget by \$22.4M, and an ISA funds transfer of \$0.25M from 34th St.
Green	S-32176	Kings Highway	Substantial Completion May 2021	Current Budget: \$179.14M



# June 2019 CPOC IEC Project Review

**CBTC NYCT Signals & Train Control Division** 



## IEC Project Review NYCT Signals & Train Control Division

- Communications Based Train Control (CBTC) 8<sup>th</sup> Ave. Line (Risk Assessment)
- CBTC Queens Blvd. Line (QBL)-Design & Furnish
- CBTC Queens Blvd Line (QBL)-Install
- CBTC Equipment Supplier Interoperability
- CBTC Flushing Line



## **CBTC** - 8<sup>th</sup> Ave Contract

- The IEC facilitated a quantitative risk assessment
  - Key risks were identified and discussed with the project team.
  - A formal risk register was developed which will allow for the development of a risk log to monitor project risks.
  - Risk results and identified mitigations are currently under review by both the IEC and Project Team.



## **CBTC-QBL** Design and Furnish Contracts

- Schedule: Substantial Completion is currently scheduled for March 2021.
  - Due to early project delays, the IEC forecasts that substantial completion will be delayed.
  - The project team is taking mitigation measures to maintain the project schedule.
  - The IEC will analyze the mitigations to quantify the reduction in impacts to the project schedule.
- Budget: The IEC verified that the projects are within budget.



## **CBTC-QBL** Design and Furnish Contracts

## IEC Observations

- Installation of phase I carborne equipment by NYCT is progressing on schedule.
- CBTC suppliers improved compliance with the software management process.
- The Project team continues to finalize Interoperability and Interface Specifications (I2S) and the contractors are updating the Integrated Test Facility (ITF) software to reflect I2S changes.
- There has been good cooperation between contractors at various coordination meetings.



## **CBTC-QBL** Design and Furnish Contracts

## IEC Concerns

- Delays in Design Completion and Interim Milestones resulted in less time remaining to conduct testing and commissioning activities.
  - There is a need for adequate testing duration to resolve potential interoperability issues and to stabilize CBTC system performance.
- Although progress was made in the development of an Integrated Program Schedule (IPS), it is still not finalized.
  - A final IPS is critical to properly manage and coordinate program activities.



## **CBTC-QBL Install Contract**

- Schedule: The IEC verified that the Project remains on schedule.
- Budget: The IEC verified that the Project is within budget.
  - The Project team is negotiating pending additional work orders.



## **CBTC-QBL Install Contract**

## ■ IEC Observations

- The contractor is making progress in installation of Auxiliary Wayside Signals (AWS) and CBTC equipment for the Intermediate Section.
- The contractor is taking advantage of available track access independent of cutover sequence, which is helping project progress.
- The contractor continues to encounter unforeseen field conditions.
- Availability of G.O., Work Trains and Flagging remains critical to adherence to the schedule.



## **CBTC-QBL Install Contract**

## IEC Concerns

- Delays in receiving relay rack equipment and interface design from a subcontractor could impact the project schedule.
- There is a risk that the schedule would be extended in the event of delays to the Design and Furnish Contracts.



## **CBTC Equipment Supplier Interoperability Contract**

- Schedule: The Project team is projecting a 6 month delay making Substantial Completion April 2020.
  - The contractor still has not achieved the design completion milestone.
- Budget: On review, the project remains within budget.



# **CBTC Equipment Supplier Interoperability Contract**

#### IEC Observations

- The contractor improved the quality of its design.
- Good results for preliminary testing at the Integrated Test Facility (ITF).

#### IEC Concern

The delays in completion of this project have an adverse impact on the availability of a third source of interoperable CBTC equipment to compete for Capital Signal Projects.



## **CBTC Flushing Line Contract**

- Schedule: NYCT declared substantial completion in March 2019.
  - Remaining work will likely be completed by September 2019.
- **Budget:** Based on the IEC budget review, additional money is required to cover overruns in soft costs and to fund remaining project activities.



## **CBTC Flushing Line Contract**

#### IEC Observations

- System performance has improved.
  - The contractor continues to address technical issues related to Automatic Train Operation (ATO) and Automatic Train Supervision (ATS) – expected to be resolved in upcoming software releases.
- IEC notes that the resolution of the ATO and ATS issues extended beyond Substantial Completion.
- CBTC Supplier is making design and software modifications to resolve remaining communication issues. This will require continuing support from internal NYCT resources.



## **IEC Recommendations – CBTC Program**

- The IEC recommends that NYCT performs a simulation on the Flushing Line to identify bottlenecks & line constraints, and undertake initiatives to enhance line capacity.
  - The Flushing Line is now operating 29 trains per hour during peak service.
  - CBTC can support the operation of additional trains. However, line constraints are limiting capacity.
- The IEC recommends that NYCT clarify the criteria for achieving Substantial Completion for CBTC projects
  - Specific requirements for achieving main CBTC functions should be added to contract special conditions.
  - Will provide leverage to Project Team in dealing with CBTC contractors.



# Systems & Security Program

Capital Program Oversight Committee

Systems & Security
Mark Bienstock, P.E.
Program Executive



June 2019

#### Overview

- The Systems & Security Program designs and builds all major systems, communications, and electronic security projects.
- Projects completed to date include:
  - Countdown clocks in all subway stations
  - Cellular and Wi-Fi Service in all underground subway stations
  - Public Address & Customer Information Screens at 91 B Division subway stations
  - Help Points, On-The-Go, & Passenger Station Local Area Network (PSLAN) at subway stations
  - Digital Customer Information Centers & Advertising Screens
  - Electronic Security Systems



## Countdown Clocks



**B** Division



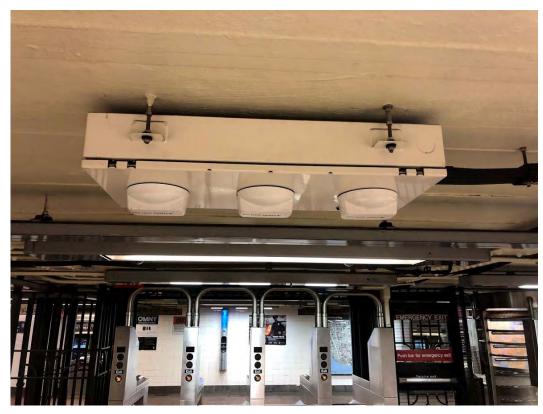
A Division



Flushing Line



## Cellular & Wi-Fi Service



Cellular & Wi-Fi antenna mounted on mezzanine ceiling



Wi-Fi signal strength & signage



### PA & Customer Information Screens



**New Customer Information Screen** 



New speakers on platform



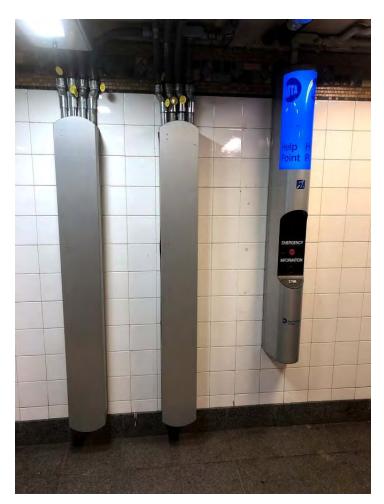


New PA Cabinet in Communications Room

## Help Points, On-the-Go, & PSLAN



Free standing Help Point & On-the-Go Kiosk



PSLAN Access Nodes & Help Point

## Digital CIC & Advertising Screens





Digital Customer Information Centers

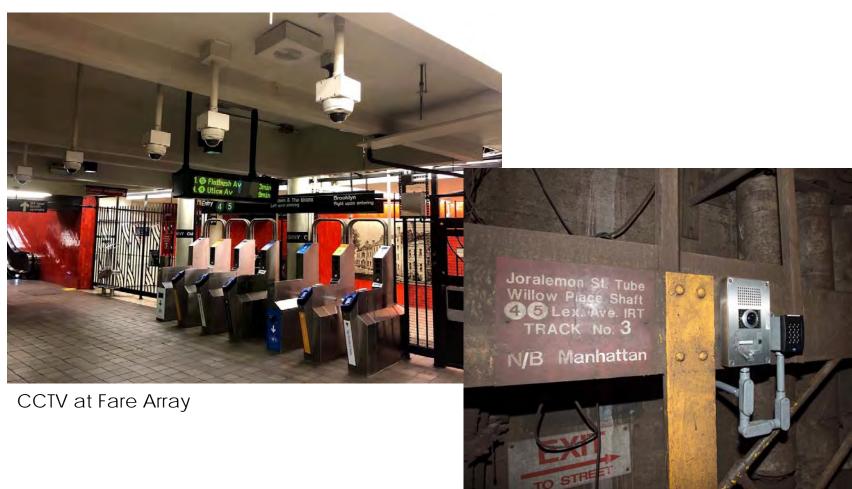




Digital Advertising Screens



## Electronic Security Systems





Access Control at Tunnel Entrance

## Projects

- Flushing Public Address System
- Bus Radio System
- Bus Command Center



## Flushing Line Public Address System

☐ Awarded: December 30, 2016

☐ Contractor: TC Electric

☐ Project Description: Furnish and install new Public

Address and Customer Information Screens with real time train arrival information on the Flushing Line. Relies on Flushing CBTC/ATS for

train tracking and arrival information.



## Flushing Line Public Address System

#### **Overall Status**

Item	Comments
Schedule	Substantial Completion is scheduled for July 2019 (this is a 4 month slip from last report)
Cost	Total Project Budget is \$65.2M

#### **Highlights**

Progress	<ul> <li>Completed PACIS Site Acceptance Test at 20 Stations</li> <li>Placed in Service PACIS equipment at 16 out of 21 stations.</li> </ul>
180 Day Look Ahead	<ul> <li>Complete PACIS Site Acceptance Testing at Queensboro Plaza</li> <li>Integrate 5 remaining stations and place in service</li> <li>Complete HVAC work</li> <li>Removals</li> <li>Final deliverable and training</li> <li>Final inspections &amp; Punchlist work</li> </ul>



## Flushing Line Public Address System



**PA** Cabinet



69th Street Speakers



Willets Point Speakers



**Customer Information Screens** 



☐ Awarded: March 2, 2016

☐ Contractor: Parsons Transportation Group

☐ Project Description: This project will design, furnish, and

install a new digital radio system for

NYCT and MTA Bus as well as a

computer aided dispatch system and

equipment for full operation of the

Bus Command Center.



#### **Overall Status**

Item	Comments	
Schedule	Contractual Substantial Completion is January 2, 2021	
Cost	Within Budget of \$280M	

#### **Highlights**

Progress	<ul> <li>Monopole and communications shelter have been installed at Eltingville, 38 St. Yard, and Charleston Bus Depot sites.</li> <li>Work at 2 Broadway, Eltingville, 38 St. Yard, Charleston, and Transition Center is 80% complete.</li> <li>Topographical and geotechnical work at Todt Hill site were completed.</li> <li>CCTV, electrical, and communication work is ongoing at the new BCC.</li> <li>System Integration Test (SIT) was completed at the Newark Lab.</li> </ul>
180 Day Look Ahead	<ul> <li>Complete construction at Todt Hill and Castleton sites.</li> <li>Continue construction of various systems at the new BCC.</li> <li>Complete the System Verification Review (SVR).</li> <li>Continue surveys and environmental work at the base station sites.</li> </ul>



#### **Critical Milestones and Issues**

Status	Activity	Date Needed	Issues	
Red	Retrofit and Testing of 200 Buses for Staten Island Pilot	October 2019	This milestone was impacted due to a delay in FAA granting approval for the Todt Hill antenna tower location. FAA and DOD approval has now been received for the new Todt Hill antenna tower site plan. We are still waiting for FAA approval to begin site clearing and tower installation activities. This milestone was previously scheduled for August.	
Yellow	Retrofit All Remaining Buses	November 2020	This milestone is dependent on the 200 bus pilot.	
Yellow	Substantial Completion	January 2021	The contractor's latest preliminary schedule is showing a 1 day delay. This schedule has not been accepted by NYC and we are working with the contractor to mitigate any possible delays to the project's completion.	

Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones	
Yellow	mpacts 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.	





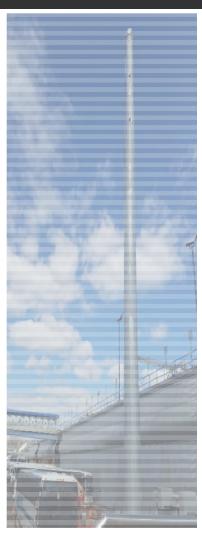
Shelter and monopole at Eltingville Depot



Network Cabinets at BCC



Shelter and monopole at 38 St. Yard



Monopole at Charleston Depot



☐ Awarded: June 26, 2015

☐ Contractor: MPCC Corp.

☐ Project Description: Design and construct a new,

modern, secure command center for

NYCT and MTA Bus operations.



#### **Overall Status**

Item	Comments
Schedule	Substantial Completion forecast is June 30, 2019 (this is a 7 month slip from last report)
Cost	Within budget of \$82.4M (under review)

#### **Highlights**

Progress	<ul> <li>Completed installation of all building components and systems</li> <li>Tested and commissioned all systems</li> </ul>
180 Day Look Ahead	Complete all punch list items



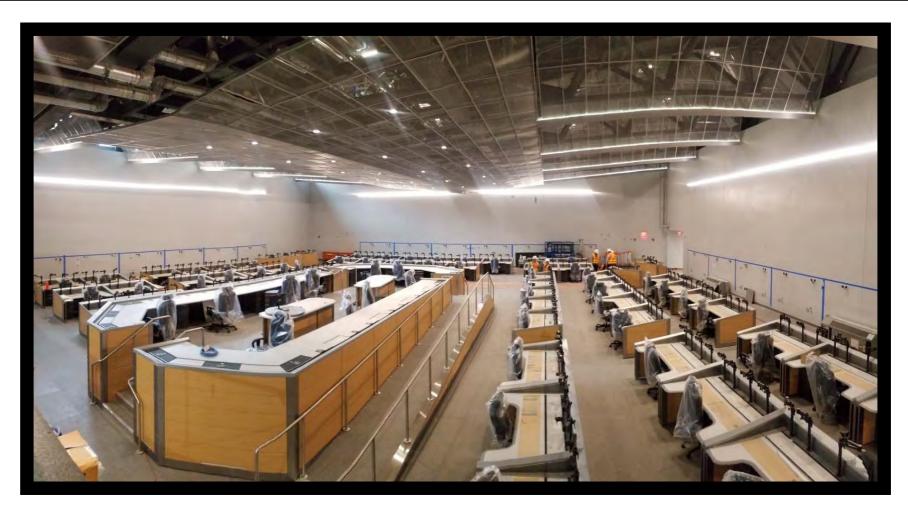
#### **Critical Milestones and Issues**

Status	Activity	Date Needed	Issues
Red	Substantial Completion	June 2019	The forecast Substantial Completion Date is June 30, 2019 due to delays associated with the sewer work and resolving a code compliance issue.

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.	



## Operating Theater





## Exterior View





## Green Roof





# June 2019 CPOC IEC Project Review

**Bus Radio System** 



## **Budget and Schedule Review**

#### Budget:

■ The IEC has verified that the budget of \$280M is sufficient to complete the project at the current Estimate at Completion (EAC).

#### Schedule:

- Approximately 25% progress has been reported to date, while over 65% of total contract time has elapsed.
- The current CPM schedule reflects a month for month delay since the November 2018 report. The IEC forecasts a delay of at least six months to Substantial Completion if progress on all sites is not accelerated.



#### **Observations and Recommendations**

#### Observations

- Differing site conditions and required approvals continue to be risks to Substantial Completion.
- Completion of pilot base stations is critical to the project advancing to rolling out the complete system.
- The IEC notes that design and legal review of the bid documents for the existing East New York tower repair were completed in May 2019.

#### Recommendations

- Implement a recovery schedule to mitigate further delays to Substantial Completion.
- Provide a master defect list to track all hardware and software variances and their dispositions.
- Develop a plan for implementing changes to the system once it is in operational use.



## June 2019 CPOC IEC Project Review

**NYCT - Bus Command Center** 



#### **Schedule Summary:**

- The contract to construct the Bus Command Center was awarded in June 2015 with an original duration of 24 months.
- The IEC has verified that substantial completion has slipped 7 months since the last report.

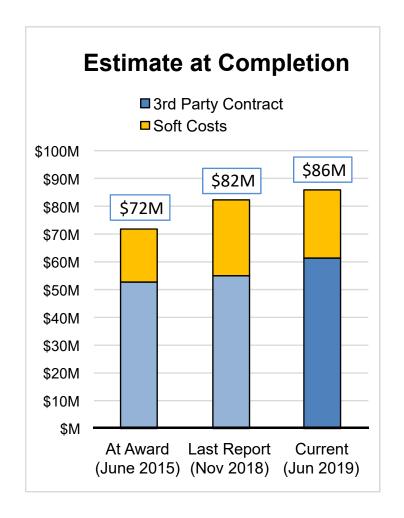
#### **IEC Observation:**

■ If Substantial Completion is granted to the contractor by June 30, 2019, as projected, it will be prior to the issuance of all pending change orders and the final budget being established.



#### **Cost Summary:**

- The project budget of \$82.4M has not changed since last report.
- Due to pending change orders and extended soft costs, the estimated cost at completion is now approximately 4% above budget. Additional funding will be required.





#### **IEC Observations:**

- The Bus Command Center is nearly complete, but delays in completing minor code compliance work is preventing occupancy of the building.
- The permanent Certificate of Occupancy for the Bus Command Center will be issued under the Bus Radio contract.



## MTA Capital Program Commitments & Completions

through May 31, 2019



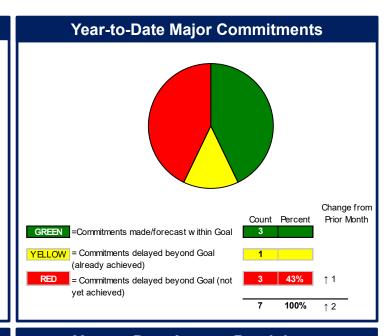
#### **Capital Projects – Major Commitments – May 2019**

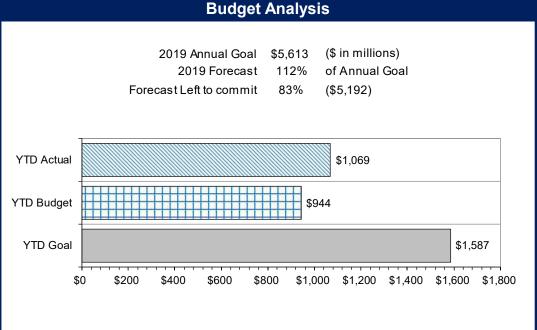
In 2019, agencies have a goal of \$5.6 billion in overall commitments. 37 major commitments are included; nineteen for NYCT, two for LIRR, four for MNR, six for B&T, one for MTACC, two for MTA Bus and three for MTA Police Department.

Through May, agencies have committed \$1.1 billion versus a \$1.6 billion YTD goal. The shortfall is primarily due to delays of non-major commitments, including force account and support costs related to MTACC projects as well as MNR rehabilitation projects. The three major commitment slips explained on the following page account for the remaining total shortfall. The YTD actual is \$125 million higher than the YTD budget mostly due to high bids for NYCT's Overcoating: Broadway Line project and new scope awarded, such as the Ultra-Wideband-Based Train Control Pilot Program (\$58M).

Three other major commitments were made on time or early and one major commitment was delayed but is now committed.

By year-end, the MTA forecasts exceeding its overall \$5.6 billion goal, mainly due to new scope in the NYCT program and milestone payments for accelerated MTACC project delivery.









#### Capital Projects - Major Commitments - May 2019 - Schedule Variances

Project	Commitment	Goal	Forecast
3 All-Agency Red Commitmen	nts (1 New Item)		
NYCT			
Passenger Stations			
Replace 8 Traction Elevators /	Construction Award	May- 19	Aug- 19

Various (New Item) \$57.9 \$67.4

Construction award delayed due to change in procurement strategy. Project cost increased

due to additional scope including expansion of existing elevator machine rooms and new secondary machine rooms, additional access nodes of fiber optics, and an increased construction duration.

#### NYCT

#### Structures

Station and Tunnel Priority Structural	Construction Award	Apr- 19	Jul- 19
Defect Repairs, 1-8 Av/CNR		\$43.8	\$77.8

Bid opening scheduled for May 2019 was postponed to re-examine the scope of work in light of the changed service plan of the Canarsie Tube. Project cost increased due to scope modifications to structural repairs and revised construction support costs.

#### LIRR

#### Rollina Stock

Work Locomotives	Construction Award	Mar- 19	Aug- 19
		\$32.2	\$32.2

An independent firm reviewed the procurement and recommended that work locomotives must not exceed requested braking horsepower in order to deliver the cleanest locomotives. The award was rescheduled for vendors to revise their submissions.



### Capital Projects – Major Commitments – May 2019 – Schedule Variances

Project	Commitment	Goal	Actual
1 All-Agency Yellow Commit	ments		
MNR			
Structures			
Overhead Bridge Program East of	Construction Award	Feb- 19	Mar- 19 (A)
Hudson		\$23.4	\$25.6
Award was delayed to March due to re protracted approval process.	visions made to the notice o	of award which	resulted in a

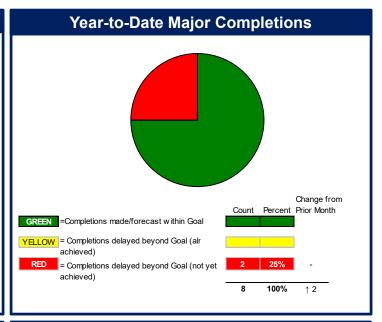


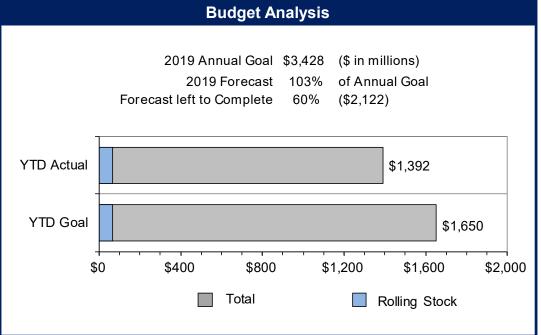
### Capital Projects - Major Completions - May 2019

In 2019, agencies plan for a goal of \$3.4 billion in overall completions. 24 major completions are planned, including 14 for NYCT, four for LIRR, three for MNR, one for B&T, one for MTACC, and one for MTA Bus.

Through May, agencies have completed \$1.4 billion versus a \$1.65 billion YTD goal. The shortfall is mainly due two major completion slips and delays of non-major completions, such as NYCT's Mainline Track Replacement. The two major completion slips are explained on the following page. Six other major completions were made on time or early.

By year-end, the MTA forecasts meeting or exceeding its overall \$3.4 billion completion goal.





### 



### **Capital Projects – Major Completions – May 2019 – Schedule Variances**

Project	Completion	Goal	Forecast

### 2 All-Agency Red Completions

#### NYCT

Passenger Stations

Station Component: 4 Stations /	Construction	Feb- 19	Jun- 19	
Jamaica		\$87.0	\$96.6	

Project extension granted to the contractor to complete additional work. Project cost increased to repair 30 tons of steel after a detailed steel repair survey revealed significant amount of steel deterioration.

#### MNR

#### Stations

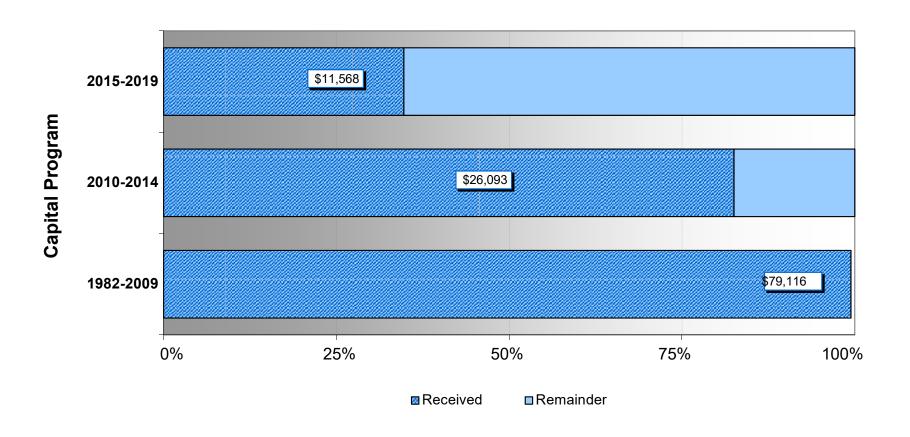
GCT Utilities	Construction	Apr- 19	Aug- 19
		\$44.7	\$510

Field conditions required modification of fire pump controller cabinet. The current forecast for completion has been moved to August 2019. The project cost has increased due in part to the inclusion of additional required fire safety systems.

**Status of MTA Capital Program Funding** 

### **Capital Funding (May 2019)**

\$ in millions



### Capital Funding Detail (May 31, 2019)

\$ in millions

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

Funding Plan		Receipts	
Current	<u>April</u>	This month	Received to date
18,095	18,095	-	18,095
21,668	21,668	-	21,668
24,397	23,962	0.4	23,963

2010-2014 Program
Federal Formula, Flexible, Misc
Federal High Speed Rail
Federal New Start
Federal Security
Federal RRIF Loan
City Capital Funds
State Assistance
MTA Bus Federal and City Match
MTA Bonds (Payroll Mobility Tax)
Other (Including Operating to Capital)
B&T Bonds
Hurricane Sandy Recovery
Insurance Proceeds/Federal Reimbursement
PAYGO
Sandy Recovery MTA Bonds
Sandy Recovery B&T Bonds

	Funding Plan		Receipts	
	<u>Current</u>	<u>April</u>	This month	Received to date
	\$5,853	\$5,839	\$ -	\$5,839
	295	295	-	295
	1,257	1,257	-	1,257
	189	101	-	101
	-	-	-	-
	719	608	-	608
	770	400	-	400
	132	108	-	108
	11,483	9,403	76	9,479
	1,345	1,239	-	1,239
	2,026	1,812	-	1,812
	6,329	4,800	-	4,800
	235	81	-	81
	758	28	27	55
	230	18	-	18
Total	31,620	25,990	103	26,093

201	5-20	19	Prod	gram
	<b>-</b> -			g. w

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

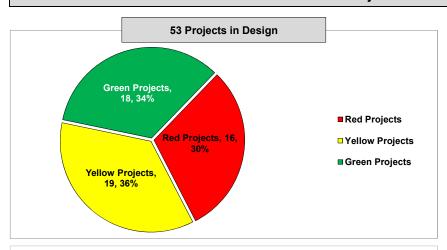
			-	
Ī	Funding Plan		Receipts	
			•	
	<u>Current</u>	<u>April</u>	This month	Received to date
	\$6,704	\$3,084	\$ -	\$3,084
	100	-	-	-
	500	-	-	-
	3	3	-	3
	8,640	979	-	979
	2,667	668	-	668
	7,968	4,116	118	4,234
	1,017	318	-	318
	2,145	1,730	-	1,730
	592	-	-	-
	2,936	553	-	553
al	33,273	11,449	118	11,568

Total



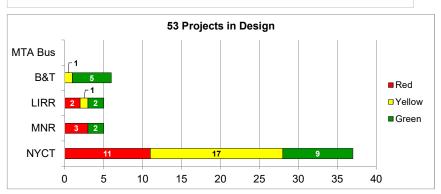
#### 1<sup>st</sup> Quarter 2019 Traffic Light Report on MTA Core Capital Program Projects

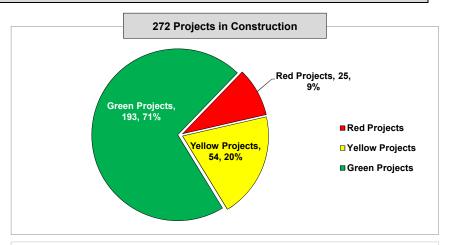
#### A total of 325 Projects were Reviewed for the 1st Quarter 2019



**Projects in Design:** 53 projects were reviewed in the design phase with 18 (34%) projects designated green, 19 (36%) yellow, and 16 (30%) red. This is an decrease of 4 red projects since the 4<sup>th</sup> quarter 2018. Of the 16 red projects, 13 (81%) were red for a schedule variance, 1 for a contingency variance, 1 for both cost and schedule variances and 1 for both contingency and schedule variances. For the 13 projects designated red for schedule, the issues were due in part to additional scope, development of phasing plans, delay in funding approval, need for additional structural surveys, and coordination with other project phases.

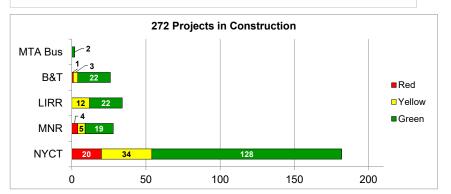
Last Quarter: 59 projects were reviewed in the design phase with 28 (47%) projects designated green, 11 (19%) yellow, and 20 (34%) red





**Projects in Construction:** 272 projects were reviewed in the construction phase with 193 (71%) designated green, 54 (20%) yellow and 25 (9%) red. This is an decrease of 16 red projects since the 4<sup>th</sup> quarter 2018. Of the 25 red projects, 16 (62%) were red for a schedule variance, 5 for a cost variance, 2 for a contingency variance, and 2 for both contingency and schedule variances. For the 16 projects designated red for schedule, the variances ranged from 3 to 9 months. The schedule variances were due in part to the need to address unforeseen structural deficiencies, added scope, reprioritization of in-house workforces, poor fabrication quality and delays associated with the replacement, and limited track access.

**Last Quarter:** 305 projects were reviewed in the construction phase with 223 (73%) designated green, 41 (13%) yellow and 41 (14%) red.



# Terms and Definitions 1<sup>st</sup> Quarter 2019 Traffic Light Report on MTA Core Capital Program Projects

The following Terms and Definitions are used to identify a project's Traffic Light color designation using variances from quarter to quarter and are based on three performance indicators: cost, contingency and schedule. A project is designated a "<u>red light project</u>" when one or more of the three indicators exceed a specified threshold. Agencies are required to produce follow-up variance reports for all qualified red light projects. Included in these reports are one-page agency summaries (on pink paper stock) of issues associated with each project showing a <u>red</u> indicator and how the issues are being resolved. A project is designated a "<u>yellow light project</u>" after one or more performance indicators had triggered a red in a previous quarter. A yellow project may revert back to green after four consecutive quarters if the performance indicators have not worsened. A project is designated a "<u>green light project</u>" when no performance indicator has exceeded the Traffic Light Reports specified thresholds.

#### **Traffic Light Report Project Terms and Definitions**

#### **Projects in Design: 53**

- Green: Indices less than 115% and index movement of less than 15%.
- Red: Cost or Contingency Index: An EAC increase of 15% (or index movement of 15% or more since last Traffic Light Report).
- Red: Schedule Variance: An increase of 3 months or more to substantial completion since last Traffic Light Report.
- Yellow: Previously indicated as **red** with no new substantial change since last

  Traffic Light Report / A project in design that has been designated Yellow may be returned to Green when it has been in compliance with the three performance indicators for (four consecutive quarters) one year.

#### **Projects in Construction: 272**

- Green: Indices less than 110% and index movement of less than 10%. Other indices not exceeding those criteria specified in index formulas and criteria.
- Red: Cost or Contingency Index: An increase of 10% (or index movement of 10% or more since last Traffic Light Report).
- Red: Schedule Variance: An increase of 3 months or more to substantial completion since last Traffic Light Report.
- Yellow: Previously indicated as **red** with no new substantial change since last

  Traffic Light Report / A project in construction that has been designated Yellow may be returned to Green when it has been in compliance with the three performance indicators for (four consecutive quarters) one year.

#### **Report Index Formulas and Criteria:**

- Cost Index = Total Project EAC / Current Approved Budget (Note: Current Budget is not Budget at Award)
- Schedule Variance = Number of months of change in schedule since last Traffic Light Report
- Contingency Index = % Contingency used / % 3rd Party Contract Completion (contingency used includes expended & pending AWOs). Triggered when project has reached 50% or higher. Threshold for NYCT is \$15M or more, other agencies \$5M or more.
- Excludes projects in CPOC's Risk-Based Monitoring Program listed at end of report

#### **Report Index Formulas and Criteria:**

- Only projects with budgets of \$5M or greater are included in the report
- Projects in design must be at a 30% completion level or greater



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

			Total						Schedule		
4050	B	<b>D</b> 1	Project	% Phase	Contingency	Cont.	Cost	Cost	Variance	Sched.	Traffic
ACEP	Description	Phase	W York City	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
	NYCT - AD		ility Progran			uction					
T6041311	ADA Phase 2 at 57 St Station-Broadway Line	Construction	\$35,857,557	28	.00		1.00		0		G
T7041302	ADA: Astoria Blvd AST	Construction	\$41,990,140	9	.55	<b>A</b>	1.00		0		G
T7041302	ADA: Bedford Pk Blvd BXC	Construction	\$34,119,638	19	.00		1.00		0	_	6
			. , ,			_					6
T7041304	ADA: 86 St 4AV	Construction	\$32,279,266	16	2.68	•	1.00		0		G
T7041305	ADA: Gun Hill Road DYR	Construction	\$57,742,837	9	.00	-	.99	-	0	_	
T7041306	ADA: Eastern Pkwy-Bklyn Museum EPK	Construction	\$42,298,636	6	.00	_	1.00	_	0	_	G
T7041308	ADA: Chambers St NAS	Construction	\$47,432,563	8	.72	•	1.00	_	0	_	G
T7041309	ADA: Greenpoint Av XTN	Construction	\$41,345,663	29	.00	_	1.00	_	0	_	G
T7041310	ADA: 59 St 4AV	Construction	\$58,733,105	6	.00	_	1.00	_	0	_	G
T7041311	ADA: Rockaway Parkway CNR	Construction	\$13,003,646	7	.00	_	1.06	_	1	<b>A</b>	G
T7041323	ADA: 57 Street BWY Additional Support Costs	Construction	\$45,737,443	28	.00	_	1.00	_	0	_	G
		All	Other NYCT	Projects							
T5041419	Intermodal Rockaway Pkwy CNR	Construction	\$10,960,869	0	.00	_	.95	_	0	_	G
T5160749	Ulmer Park Depot Mezzanine Extension	Construction	\$8,754,011	70	.00	_	1.12	_	0	_	Y
T5160750	Perimeter Protection Livingston Plaza	Construction	\$7,056,101	12	.00	_	1.00	_	0	_	G
T6030227	On-Board Audio Visual (OBAV) System	Construction	\$11,756,609	46	.00	_	.51	_	0	_	Y
T6040401	MetroCard-Electronic Components Replacement	Construction	\$16,340,035	80	.00	_	1.00	-	0	_	G
T6040712	Replace 1 Hydraulic Elevator at GCT LEX	Construction	\$7,096,785	3	.00	_	1.09	_	2	<b>A</b>	G
T6041260	Components: 4 Stations JAM	Construction	\$95,225,773	83	1.23	<b>A</b>	1.08	_	4	<b>A</b>	R
T60412C4	Components: 3 Locs / 8th Avenue	Construction	\$28,799,229	95	09	_	1.00	_	0	_	G
T60412F2	Components: Ventilators Rehab. 8 Locs Ph 7	Construction	\$9,175,000	98	.00	_	1.00	-	4	<b>A</b>	R
T6041304	Imprve Platfrm Horizntl/Vertical Clearance-Var Loc	Construction	\$11,146,037	52	.00	_	1.00	-	0	_	G
T6060203	Tunnel Lighting:Roosevelt Av-36 St QBL	Construction	\$52,192,907	97	.00	_	1.00		0	_	G
T6070306	Demolish Abandoned Structures	Construction	\$15,116,583	74	.00	_	.99	-	0	_	Y
T6070316	Structural Repairs: 39 St - 60 St 4AV Ph1	Construction	\$31,200,170	51	.00	-	1.00	_	0		G



= Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

				Total						Schedule		
	ACEP	Description	Phase	Project EAC	% Phase Complete	Contingency Index	Cont. Trend	Cost Index	Cost Trend	Variance (Months)	Sched. Trend	Traffic
	ACEP	Description		w York City			rrend	index	Trend	(MOILLIS)	rrend	Light
				Other NYCT		- <u>-                                  </u>						
	T6080601	Fiber Optic Cable Replacement Phase 1	Construction	\$11,987,526	100	.00	_	1.00	_	0	_	G
	T6080606	Portable Radio Unit Replacement	Construction	\$6,719,210	80	.00	-	1.00	_	6	<b>A</b>	Y
	T6100454	207th St. OH Shop: Boiler Upgrades & Site Remed.	Construction	\$10,823,059	13	.00		1.00	_	0	_	G
	T6120436	Replacement of Oil/Water Separators at 4 Locs	Construction	\$19,024,868	48	.16	<b>A</b>	1.00	-	0	_	Y
	T6130202	Purchase 65 Flatcars	Construction	\$47,597,644	22	.00	-	1.04	-	0	_	G
	T6130207	Purchase 3 Vacuum Trains	Construction	\$34,704,131	55	.00	-	.99	_	0	_	Y
	T6160402	NYCT-Wide Storage Area Network/Disaster Recovery	Construction	\$22,268,148	85	.00	-	.99	_	0	_	Y
	T6160607	Groundwater, Soil Remediation	Construction	\$5,738,227	81	1.07	-	1.00	-	-6	▼	Y
	T6160717	Livingston Plaza Repairs	Construction	\$51,513,267	38	-2.91	<b>A</b>	1.00	_	0	_	G
	T7030205	Purchase 15 Artic Electric Buses & Depot Chargers	Construction	\$33,973,842	0	.00	-	1.00	_	0	_	G
	T7030213	Automatic Passenger Counting - Phase 1 Rollout	Construction	\$5,590,885	52	.00	-	1.00	-	9	<b>A</b>	R
	T7030214	Purchase 110 Articulated CNG Buses	Construction	\$107,555,727	100	.00	-	1.01	-	0	_	G
	T7030215	AVLM for Paratransit Vehicles	Construction	\$28,138,276	8	.00	-	1.04	-	0	_	G
	T7030218	Purchase 251 Standard Diesel Buses	Construction	\$161,041,149	1	.00	-	1.00	-	0	_	<b>G</b>
	T7030219	Purchase 367 Diesel and 10 Hybrid Standard Buses	Construction	\$235,733,576	68	.00	-	1.00	_	0	_	G
	T7030220	Purchase 72 Articulated Buses (Nova)	Construction	\$65,606,791	81	.00	-	.99	_	0	_	<b>G</b>
	T7030221	Purchase 108 Articulated Buses (New Flyer)	Construction	\$99,592,763	14	.00	-	1.00	_	0	_	6
	T7040402	AFC Low Turnstile Procurement	Construction	\$11,640,000	81	.00	_	1.00	_	0	_	G
	T7040403	AFC Replacement, Phase 2: Electronic Boards	Construction	\$13,861,520	61	.00	-	1.00	-	0	_	G
	T7040702	Replace 12 Traction Elevators BW7	Construction	\$98,907,454	11	.50	<b>A</b>	1.00	_	0	-	G
	T7040704	Replace 6 Traction Elevators 8AV	Construction	\$43,674,329	3	.00	_	.99	_	0	_	G
	T7040706	Replace 2 Escalators: Grand Central-42 St LEX	Construction	\$22,102,193	4	.00	_	.94	_	0	_	6
	T7041203	Renewal: Astoria-Ditmars Blvd AST	Construction	\$23,988,512	63	.48	-	1.01	-	0	_	<b>G</b>
-	T7041204	Renewal: Astoria Blvd AST	Construction	\$52,721,060	9	.00	-	1.00	-	0	_	G
' [	T7041221	Station Ventilators: Ph 12 - 2 Locations / Bronx	Construction	\$6,958,942	63	.00	-	1.00	-	0		G



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				Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
	ACEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
П				w York City		ogram						
				Other NYCT						_		G
	T7041235	Platform Components: Bedford-Nostrand XTN	Construction	\$10,077,235	33	.00	_	1.05	_	0		
	T7041251	Platform Components: 4 Locs CNR	Construction	\$27,403,161	7	.00		1.01		-2	▼	G
	T7041252	Platform Components: 3 Locs EPK, CLK	Construction	\$15,601,209	0	.00	_	1.00	_	0	_	G
	T7041263	Platform Components: 3 Locs NOS	Construction	\$19,236,236	8	.00	_	1.00	_	-1	▼	G
	T7041292	Enhanced Station Initiative: Pkg 4 - 34 St BW7	Construction	\$30,341,980	86	.00	_	1.01	_	0	_	Y
	T7041293	Enhanced Station Initiative: Pkg 2 - Broadway AST	Construction	\$49,320,442	100	1.01	•	1.00	_	0	_	Y
	T7041294	Enhanced Station Initiative: Pkg 2 - 30 Ave AST	Construction	\$65,318,584	100	1.03	▼	.99	_	0	-	Y
	T7041295	Enhanced Station Initiative: Pkg 2 - 36 Ave AST	Construction	\$64,728,389	100	.88	▼	1.00	_	0	_	Y
	T7041296	Enhanced Station Initiative: Pkg 2 - 39 Ave AST	Construction	\$49,481,281	100	1.04	▼	1.02	_	0	_	Y
	T70412C9	Enhanced Station Initiative: Pkg 4 - 57 St 6AV	Construction	\$49,119,023	95	.00	-	.99	-	0	_	Y
	T70412D1	Enhanced Station Initiative: Pkg 4 - 23 St 6AV	Construction	\$31,255,505	95	.00	_	1.01	_	0	_	Y
	T70412D2	Enhanced Station Initiative: Pkg 4 - 28 St LEX	Construction	\$42,155,185	95	.00	-	1.24	<b>A</b>	0	_	R
	T70412D3	Enhanced Station Initiative: Pkg 4 - 34 St 8AV	Construction	\$26,738,589	95	.00	-	1.03	_	0	_	Y
	T70412E8	Enhanced Stn Init: Pkg 8 - 174-175 Sts BXC	Construction	\$42,915,758	100	.00	-	1.00	-	0	_	G
	T70412E9	Enhanced Stn Init: Pkg 8 - 167 St BXC	Construction	\$44,667,080	100	.00	_	1.03	_	0	_	G
	T70412F1	Enhanced Stn Init: Pkg 8 - 145 St LNX	Construction	\$38,105,245	100	.00	_	.98	_	0	_	G
	T70412I4	Station Ventilators: Ph 11 - 4 Locs / Manhattan	Construction	\$6,650,047	0	.00	_	1.00	_	0	_	G
	T70412I5	Station Ventilators: Ph 13 - 4 Locs / Brooklyn	Construction	\$6,894,231	6	.00	_	1.00	_	0	_	G
	T7041401	Station Signage Improvements	Construction	\$10,225,624	3	.00	-	.94	-	0	_	G
	T7041402	Access Improvements: Grand Central, Phase 2	Construction	\$70,930,600	52	.00	-	1.01	<b>A</b>	0	_	G
	T7041403	Reopen Station Entrance: 8 Av SEA	Construction	\$17,982,458	85	.50	▼	1.10	<b>A</b>	0	_	R
	T7041408	2017 Water Condition Remedy	Construction	\$10,676,029	0	.00	-	1.07	<b>A</b>	7	<b>A</b>	G
	T7041410	Church St Corridor Improvements	Construction	\$30,000,000	99	.00	-	1.00	_	5	<b>A</b>	R
	T7041411	New Street Stairs: 2 Locs CNR	Construction	\$6,984,727	32	1.60	▼	.92	_	0	_	G
I	T7041416	Circulation Improvements: Union Square CNR	Construction	\$17,577,047	30	.00	-	1.00	_	0	-	G



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				Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
	ACEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
				w York City		ogram						
			All	Other NYCT	Projects							
	T7041419	Station Capacity Enhancements: Broadway Jct JAM	Construction	\$9,969,495	90	1.04	▼	.92	▼	0		<b>G</b>
	T7041420	Station Capacity Enhancements: Marcy Avenue JAM	Construction	\$12,935,407	85	.00	_	1.00	_	1	<b>A</b>	6
	T7050204	2018 Mainline Track Repl: Design/Support	Construction	\$6,603,084	60	.00	_	.98	_	0	_	G
	T7050205	2019 Mainline Track Replacement	Construction	\$5,949,818	5	.00	_	.19	_	0	_	G
	T7050210	2018 Continuous Welded Rail	Construction	\$10,898,473	89	.00	_	.84	_	0	-	G
	T7050215	2018 Track Force Account	Construction	\$35,000,000	30	.00	_	1.00	_	0	_	G
	T7050222	2015 Mainline Track Repl: Jerome	Construction	\$8,700,982	100	.00	_	1.00	▼	2	<b>A</b>	Y
	T7050233	2016 Mainline Track Repl: Dyre	Construction	\$13,506,949	99	.00	_	.97	_	3	<b>A</b>	Y
	T7050240	2016 Mainline Track Repl: Canarsie Tube	Construction	\$64,758,007	27	.00	_	.98	_	0	-	G
	T7050245	2016 Mainline Track Repl: Flushing	Construction	\$11,797,649	100	.00	_	1.00	_	0	-	Y
	T7050246	2016 Mainline Track Repl: 8th Avenue	Construction	\$37,855,757	97	.00	-	.94	_	3	<b>A</b>	R
	T7050250	2016 Mainline Track Repl: Jerome	Construction	\$21,436,291	96	.00	_	1.19	<b>A</b>	2	<b>A</b>	R
	T7050256	2017 Mainline Track Repl: Crosstown	Construction	\$19,233,105	62	.00	_	1.00	_	3	<b>A</b>	Y
	T7050259	2017 Mainline Track Repl: Jerome	Construction	\$22,849,946	53	.00	-	.95	_	7	<b>A</b>	R
	T7050260	2017 Mainline Track Repl: Lexington	Construction	\$9,345,501	54	.00	-	1.00	-	0	-	Y
	T7050261	2017 Mainline Track Repl: Pelham	Construction	\$8,375,570	31	.00	-	1.00	-	0	_	Y
	T7050262	2017 Mainline Track Repl: 7th Avenue	Construction	\$5,628,275	60	.00	_	1.00	_	0	_	Y
	T7050266	2017 Mainline Track Repl: Flushing	Construction	\$30,684,237	81	.00	_	1.06	<b>A</b>	1	<b>A</b>	Y
	T7050269	Continuous Welded Rail (SAP)	Construction	\$53,000,000	50	.00	_	1.00	<b>A</b>	0	_	G
	T7050270	2018 Mainline Track Repl: Astoria	Construction	\$16,907,370	97	.00	_	1.25	<b>A</b>	3	<b>A</b>	Y
	T7050271	2018 Mainline Track Repl: Flushing	Construction	\$22,831,725	41	.00	_	1.00	_	8	<b>A</b>	R
	T7050272	2018 Mainline Track Repl: Jamaica	Construction	\$30,270,164	44	.00		.92	_	5	<b>A</b>	R
	T7050275	2018 Mainline Track Repl: Pelham	Construction	\$9,115,175	40	.00	-	1.00	_	4	<b>A</b>	R
	T7050276	2018 Mainline Track Repl: Eastern Parkway	Construction	\$13,213,807	52	.00		1.17	<b>A</b>	5	<b>A</b>	R
	T7050277	2018 Mainline Track Repl: Broadway-7th Avenue	Construction	\$12,168,000	96	.00	_	1.25	_	3	<b>A</b>	R



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			Total			_		_	Schedule		
ACEP	Description	Phase	Project EAC	% Phase Complete	Contingency Index	Cont. Trend	Cost Index	Cost Trend	Variance (Months)	Sched. Trend	Traffic Light
		NYCT - Ne	w York City	Transit Pr	ogram						
		All	Other NYCT	Projects		ı	T			ı	
T7050278	2018 Mainline Track Repl: Canarsie	Construction	\$8,615,368	19	.00	-	1.00	_	8	<b>A</b>	R
T7050279	2018 Mainline Track Repl: Concourse	Construction	\$13,092,700	23	.00	_	1.00	_	0	_	G
T7050280	2018 Mainline Track Repl: 6th Ave/Culver	Construction	\$21,512,343	53	.00	_	.86	_	0	_	G
T7050283	2018 Mainline Track Repl: Archer Ave	Construction	\$10,030,262	29	.00	-	1.00	_	0	_	G
T7050284	2018 Mainline Track Repl: Lenox-White Plains Rd	Construction	\$11,896,699	63	.00	-	.90	_	3	<b>A</b>	R
T7050286	2018 Mainline Track Repl: Times Square Shuttle	Construction	\$5,684,280	3	.00	_	1.00	_	0	_	G
T7050287	2018 Mainline Track Repl: Brighton Line, BMT	Construction	\$10,528,093	54	.00	_	1.00	_	0	_	G
T7050288	2018 Mainline Track Repl: 4th Avenue Line, BMT	Construction	\$14,002,940	21	.00	_	.98	_	0	_	Y
T7050290	2018 Mainline Track Repl: Myrtle	Construction	\$7,465,755	57	.00	_	1.00	_	0	_	G
T7050293	2019 Mainline Track Repl: Astoria	Construction	\$20,967,636	37	.00	_	1.00	_	0	_	G
T7050294	2019 Mainline Track Repl: Flushing	Construction	\$5,300,117	8	.00	_	1.00	_	0	_	G
T7050304	2018 Mainline Switch Repl: Design/Support	Construction	\$9,542,432	60	.00	_	1.00	_	0	_	G
T7050327	2018 Mainline Switch Repl: Jamaica	Construction	\$15,122,608	89	.00	_	.84	•	-7	▼	Y
T7050328	2018 Mainline Switch Repl: Astoria	Construction	\$10,999,135	97	.00	_	1.29		3	•	Y
T7050329	2018 Mainline Switch Repl: Canarsie	Construction	\$7,441,597	92	.00	_	.72	▼	4	<b>A</b>	R
T7050331	2018 Mainline Switch Repl: Lenox-White Plains Rd	Construction	\$14,650,000	97	.00	_	1.01	_	-2	▼	G
T7050332	2018 Mainline Switch Repl: White Plains Rd	Construction	\$7,398,926	0	.00	_	1.00	_	4	<b>A</b>	R
T7050333	2018 Mainline Switch Repl: 4th Avenue Line, BMT	Construction	\$8,767,505	98	.00	_	1.37	_	0	_	Y
T7050334	2018 Mainline Switch Repl: Culver (Ditmas)	Construction	\$8,458,606	80	.00	_	1.00		0	_	G
T7050338	2019 Mainline Switch Repl: Canarsie	Construction	\$10,941,449	91	.00	_	1.00	-	1	•	G
T7060503	Replace Supervisory Vent Controls - Var Locs	Construction	\$29,210,261	0	.00		.93	_	0	_	G
T7060506	Rehab Forsyth St Vent Plant	Construction	\$91,587,785	0	.00	_	1.00	_	0	_	G
T7070303	Struct Rehab: Livonia Yard Overpass & Retain Wall	Construction	\$27,083,332	0	.00	_	1.00	_	0	_	G
T7070307	Rehab Emergency Exits (ICC) - Various Locs	Construction	\$16,997,741	58	.00	_	1.00	_	0	_	G
T7070308	Rehab Emergency Exits (3rd Party) - Var Loc [SBDP]	Construction	\$9,547,692	2	.00	_	1.01	_	0	_	G



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				Total	% Phase	Continuous	Comt	Cost	Cost	Schedule Variance	Sched.	Traffic
	ACEP	Description	Phase	Project EAC	Complete	Contingency Index	Cont. Trend	Index	Trend	(Months)	Trend	Light
				w York City		ogram						
			All	Other NYCT	Projects				l			
	T7070313	Overcoat: 72 St - 104 St FLS	Construction	\$60,965,120	10	.00	_	1.00	_	0	_	G
	T7070316	Overcoat: Broadway - End of Line MYR	Construction	\$58,430,059	3	.00	-	1.00	_	0	_	G
	T7070321	Struct Rehab: 4AV - Ph2	Construction	\$86,455,006	51	.00	-	1.46	<b>A</b>	0	_	R
	T7080307	Interlocking Modernization: Ditmas CUL	Construction	\$134,083,237	1	.00	-	.99	_	0	_	G
	T7080308	Interlocking Modernization: Kings Highway CUL	Construction	\$179,619,498	57	.05	-	1.00	_	0	_	G
'	T7080319	Signal Control Line Modifications, Ph6	Construction	\$33,011,628	100	.00	-	1.00	-	0	_	G
	T7080322	AC to DC Line Relay Upgrade BCT	Construction	\$25,168,851	31	.00	-	1.00	-	0	_	G
	T7080323	Signal Key-By Modifications, Ph4	Construction	\$18,429,499	47	.00	-	1.00	_	0	_	Y
	T7080325	Signal Room Fire Suppression, Phase 2	Construction	\$25,790,288	10	.37	<b>A</b>	1.00	_	0	_	G
	T7080332	CBTC: CUL (Church Av to W8 St)	Construction	\$118,196,765	0	.00	-	1.00	_	0	_	G
	T7080333	Interlocking Modernization: Ave X CUL	Construction	\$200,959,157	1	.00	_	1.00	_	0	_	G
	T7080339	Upgrade/Modernization of Signal Technology (SAP)	Construction	\$96,865,766	10	.00	_	1.00	_	0	_	G
	T7080343	2018 M/L Switch Repl: 7 Switches CBTC CUL	Construction	\$32,479,364	1	.00	-	1.00	-	0	_	G
	T7080602	Upgrade Async Network to SONET, Rings A and C	Construction	\$31,456,812	27	.27	▼	1.00	-	0	_	G
(	T7080603	PBX Upgrade	Construction	\$41,507,342	46	.22	▼	1.00	-	0	_	G
	T7080604	Fiber Optic Cable Replacement Ph2	Construction	\$29,713,921	11	.00	-	1.03	-	0	_	G
	T7080617	LiftNet Transition to Ethernet	Construction	\$16,380,290	10	.00	-	1.02	-	0	_	G
	T7080646	Antenna Cable: Next Generation Pilot & Testing	Construction	\$10,911,976	7	.00	-	1.00	-	0	_	G
	T7090201	Substation Renewal: Burnside Av BXC	Construction	\$23,354,352	6	.00	-	1.00	-	0	_	G
)	T7090202	Substation Renewal: Av Z CUL	Construction	\$32,177,194	0	.00	-	.99	-	0	_	G
	T7090205	Replace 25Hz Freq Converters - Various Locs	Construction	\$19,205,969	31	.00	-	1.00	-	0	_	G
	T7090206	Replace HT Switchgear - Various Locs	Construction	\$32,767,140	0	.00	-	1.09	-	0	_	G
	T7090210	Install Low-Resistance Contact Rail - CNR Tube	Construction	\$28,661,710	32	.01	-	.99	_	0	_	G
	T7090215	Supplemental Negative Cables QBL	Construction	\$53,765,527	12	.00	_	1.00	-	0	_	G
I	T7090218	Install Low-Resistance Contact Rail QBL	Construction	\$48,418,850	12	.00	-	1.00	_	0	_	G



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				Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
A	CEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
				w York City		ogram						
			All	Other NYCT								
T70	090221	New Substation: 14 St-Avenue B CNR	Construction	\$81,798,718	32	.70	•	.99		0	_	6
T70	090222	New Substation: Maspeth Av-Humboldt St CNR	Construction	\$51,494,716	51	.29	_	1.00	_	0	_	6
T70	090223	New Substation: Harrison PI CNR	Construction	\$58,204,402	53	.00	_	.98	_	0	_	G
T70	090401	Rehab CBH # 586 - 18 Av CUL	Construction	\$14,876,498	34	.00	_	1.02	_	0	-	G
T70	090404	Rehab CBH # 86 - Wilson Av CNR	Construction	\$5,578,665	67	.80	<b>A</b>	1.00	_	0	_	G
T70	090406	Rehab CBH # 85 & New Ducts: Bedfrd-N 6 St SS CNR	Construction	\$13,408,815	55	.20	_	1.00	_	0	_	G
T70	090407	Rehab CBH # 5 - 53 St BWY	Construction	\$16,825,352	0	.00	_	1.00	_	0	_	G
T70	090414	Repl Control & Bat Cables: Substation CZs	Construction	\$29,440,563	20	.00	_	1.02	_	0	_	G
T71	100402	207th St Maint & OH Shop Roof & Component Repl	Construction	\$60,111,172	4	.00	_	1.00	_	0	_	G
T71	100403	DCE Shop Components Ph 2: 239 St, Concourse, ENY	Construction	\$45,416,797	3	.00	_	1.00	_	0	_	G
T71	100407	Upgrade Central Electronics Shop: Woodside	Construction	\$16,127,290	57	.70		1.00	_	1	•	G
T71	100409	Heavy Shop Equipment	Construction	\$14,700,000	47	.00	-	1.00	_	0	_	G
T71	100422	Yard Lighting: 207th St Yard	Construction	\$24,991,485	92	06	_	1.00	_	0	_	G
T71	120314	HVAC: Manhattanville Depot	Construction	\$16,433,656	37	.00	-	.99	_	0	_	G
T71	120315	HVAC: Zerega Consolidated Maintenance Facility	Construction	\$8,700,000	0	.00	-	1.02	▼	0	_	G
T71	120408	Elevator Upgrades: JG,GH,MTV,CS,ENY	Construction	\$22,889,295	24	.00	_	1.00	_	0	_	G
T71	120412	Portable Lift Replacement	Construction	\$5,362,025	61	.00	_	1.00	_	0	_	G
T71	120422	Storage Tanks: Jackie Gleason and Castleton Depots	Construction	\$9,330,816	75	.35	•	1.00	_	0	_	Y
T71	130212	Purchase 202 Non-Revenue Vehicles	Construction	\$33,772,829	75	.00	-	.99	_	0	_	Y
T71	160512	Test Pits	Construction	\$10,756,669	29	.00	-	1.00	-	0	_	G
T71	160601	Fire Alarm System Replacement - 3 Locs	Construction	\$19,960,202	27	.00	_	1.00	_	0	_	G
T71	160704	Emp Fac Component Repairs: 10 Locs / Manhattan	Construction	\$9,739,980	92	.00	_	1.00	_	0	_	Y
T71	160714	Livingston Plz Elec, Mechanical, Generator Phase A	Construction	\$33,614,557	5	.00	_	1.05	_	0	_	G
T71	160716	RCC and PCC Power Upgrade	Construction	\$55,470,962	36	.54	-	1.00	_	7	<b>A</b>	G
T71	160721	EDR Rprs: DO #20 - Briarwood-Van Wyck	Construction	\$8,035,914	45	.00	_	1.00		0	_	G



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				Total						Schedule		
Н	ACEP	Paradiation	Phase	Project EAC	% Phase	Contingency	Cont.	Cost	Cost	Variance	Sched.	Traffic
H	ACEP	Description		w York City	Complete Transit Pr	ogram	Trend	Index	Trend	(Months)	Trend	Light
				Other NYCT		o g. a						
	T7040707	Replace 7 Escalators / Various (Bx/M)	Design	\$42,374,461	90	.00	_	1.06	_	1	<b>A</b>	G
	T7040712	Replace 3 Escalators: Main St FLS	Design	\$20,313,388	60	.00	-	1.00	_	0	_	G
	T7040713	Replace 5 Escalators / Various (Bk/M)	Design	\$26,632,509	50	.00	-	1.01	_	0	_	G
	T7041201	Water Remediation - Renewal: Borough Hall LEX	Design	\$48,798,636	60	.00	_	1.12	_	-42	▼	Y
	T7041210	Renewal: 111 St FLS	Design	\$15,832,706	75	.00	-	.45	-	0	_	Y
	T7041211	Renewal: 103 St-Corona Plaza FLS	Design	\$17,536,705	75	.00	-	.70	_	0	_	Y
	T7041212	Renewal: 82 St-Jackson Heights FLS	Design	\$20,838,385	75	.00	_	.85	_	0	_	Y
	T7041217	Renewal: 69 St FLS	Design	\$15,029,176	75	.00	_	.60	_	0	_	Y
	T7041218	Renewal: 61 St-Woodside FLS	Design	\$2,106,741	38	.00	-	.04	_	0	_	G
	T7041219	Renewal: 52 St FLS	Design	\$15,825,836	75	.00	-	.45	_	0	_	Y
	T7041224	Platform Components: 2 Locs JER	Design	\$4,059,165	70	.00	-	.20	_	0	_	Y
	T7041258	Mezz Components: Nevins St EPK [SBDP]	Design	\$6,537,669	45	.00	-	1.00	<b>A</b>	4	_	R
	T7041267	Platform Components: 10 Locs BW7	Design	\$50,108,160	30	.00	_	1.00	_	3	_	R
	T7041286	Station Lighting: 6 Locs 8AV, WPR [SBDP]	Design	\$5,454,971	50	.00	-	.98	-	16	<b>A</b>	R
	T7060505	Rehab Vent Plant Damper System - Var Locs	Design	\$69,595,739	90	.00	-	1.70	_	1	<b>A</b>	Y
	T7070323	LSCRP: Brooklyn (EPK)	Design	\$5,354,676	75	.00	_	1.00	_	0	_	Y
	T7070331	LSCRP: Bronx (BXC)	Design	\$76,579,870	85	.00	-	.99	_	2	<b>A</b>	R
	T7070341	Vents Between Stations: E192 St-E198 St BXC [SBDP]	Design	\$4,980,000	70	.00	_	.99	_	0	_	Y
	T7070342	Vents Between Stations: E198 St-E205 St BXC [SBDP]	Design	\$4,980,000	60	.00	_	.99	_	0	_	Y
	T7080326	Life Cycle Replacement of Code Systems	Design	\$34,151,396	75	.00	-	.96	_	0	_	G
	T7080327	Life Cycle Mod - Speed Enforcement Systems	Design	\$61,227,582	75	.00	_	1.12	<b>A</b>	2	<b>A</b>	G
	T7080607	UHF T-Band Radio System Replacement	Design	\$33,808,200	95	.00	_	.77	_	0	_	Y
	T7090203	Substation Rnwl & New Rectifier: Centrl SS 6AV	Design	\$48,360,753	80	.00	_	1.01	_	0	_	G
	T7090220	New Substation: 28 St 8AV	Design	\$64,931,585	80	.00	-	1.03	-	0	_	Y
' [	T7100406	Rehab Livonia Maintenance Shop, Ph 1	Design	\$55,600,152	50	.00	_	1.01	_	12	<b>A</b>	R



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

ACER	Paradistina	Dhaaa	Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
ACEP	Description	Phase NYCT - Ne	W York City	Complete Transit Pro	Index ogram	Trend	Index	Trend	(Months)	Trend	Light
			Other NYCT		<u> </u>						
T7120306	Generator: Yukon Depot	Design	\$10,390,564	98	.00	_	1.03	_	5	<b>A</b>	R
T7120307	Roof, Office, HVAC: Fresh Pond Depot	Design	\$6,610,121	90	.00	_	.26	_	2	<b>A</b>	Y
T7120316	Roof Topping & Expansion Joints: Kingsbridge Depot	Design	\$5,627,050	60	.00	-	1.06	_	0	_	G
T7120321	Artic Modification Windows/Façade: ENY Depot	Design	\$13,155,000	99	.00	-	1.26	<b>A</b>	3	<b>A</b>	R
T7120419	Queens Depot Property & Environmental Prep	Design	\$40,000,000	90	.00	-	1.00	-	0	_	Y
T7130207	Purchase 27 Refuse Flats	Design	\$24,854,608	99	.00	-	1.00	_	6	<b>A</b>	R
T7130208	Purchase 12 3-Ton Crane Cars	Design	\$28,780,641	65	.00	_	1.00	_	6	<b>A</b>	R
T7130211	Purchase Locomotives	Design	\$130,472,053	95	.00	-	1.00	-	3	<b>A</b>	R
T7160727	Roof Replacement: Tiffany Central Warehouse	Design	\$16,915,864	95	.00		.99	_	5	<b>A</b>	R
T7160729	RTO Facility Repair: 3 Avenue-138 Street PEL	Design	\$5,000,000	35	.00	-	1.00	-	0	_	G
T7160734	Livingston Plz Elec, Mechanical, Generator Phase B	Design	\$55,495,000	60	.00	-	1.63	_	0	_	Y
S7070103	SIR Mainline Track Replacement	Construction	\$48,604,980	0	.00	-	.99	_	0	_	G
S7070105	New Power Substation: Tottenville	Construction	\$27,523,205	51	.05	-	.99	_	0	_	Y
S7070106	New Power Substation: New Dorp	Construction	\$24,256,682	31	.00	_	1.00	_	0	_	G
S7070107	New Power Substation: Clifton	Construction	\$31,210,073	31	.00	_	1.00	-	0	_	G
S7070110	Rehabilitation of Amboy Rd Bridge	Construction	\$8,282,466	37	.00	-	.98	_	0	_	G
S7070111	Relocate HQ to Clifton Shop	Construction	\$9,141,188	24	.22	-	1.00	_	3	<b>A</b>	R
S7070112	Enhanced Stn Init: Richmond Valley SIR [SBDP]	Construction	\$8,145,755	100	.20	▼	.99	_	0	_	G
S7070113	SIR Clifton Yard Track and Switch Replacement	Construction	\$17,706,979	0	.00	-	1.01	-	0	_	G
S7070104	UHF T-Band Radio System Replacement, SIR	Design	\$29,272,765	95	.00	-	1.12	-	0	_	Y
		LIRR - Lor	ng Island Rai	I Road Pro	ogram						
L50206VJ	Station Masters Office	Construction	\$6,021,320	10	.00	-	1.00	_	0	_	G
L50304TQ	MLC-Hicksville North Siding	Construction	\$44,190,617	55	.81	<b>A</b>	1.00	_	0	_	Y
L60502LF	Centralized Train Control - Movement Bureau	Construction	\$17,900,000	92	.28	-	1.00	_	0	_	Y
L60701AR	Replacement of Richmond Hill Substation	Construction	\$16,617,791	7	.00	_	1.00	_	0	_	G



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			Total						Schedule		
ACEP	Description	Phase	Project EAC	% Phase Complete	Contingency Index	Cont. Trend	Cost Index	Cost Trend	Variance (Months)	Sched. Trend	Traffic Light
7.02.			g Island Rai			Hond	III de de	110110	(monaio)	110110	g
L70204UJ	Enhanced Station Initiative: Shared Des & 2 Stns	Construction	\$20,337,937	95	1.02	_	.94	_	0	_	Y
L70204UM	MURRAY HILL STATION - NEW ELEVATORS	Construction	\$11,665,693	30	.16	▼	1.01	_	0	_	Y
L70204UN	Nostrand Ave. Station Rehabilitation	Construction	\$28,158,681	50	.82		1.00	_	0	_	Y
L70204UW	GCT/ESA UNIFIED TRASH FACILITY	Construction	\$11,100,000	15	.00	_	1.00	_	0	_	G
L70204V5	Enhanced Station Initiative: 8 Stations	Construction	\$96,514,499	89	1.07	<b>A</b>	1.02	_	0	_	G
L70204V6	Enhanced Station Initiative: Stewart Manor [SBDP]	Construction	\$5,289,650	75	.95	<b>A</b>	1.00	-	0	_	Y
L70204V9	Enhanced Station Initiative: 6 Stations	Construction	\$27,376,513	53	.77	▼	1.07	-	0	-	Y
L70206VP	Penn Sta Elevator/Escalator Renewal	Construction	\$12,441,500	16	1.14	▼	1.00	-	0	_	G
L70206VS	MOYNIHAN TRAIN HALL	Construction	\$114,032,941	77	.00	-	1.00	-	0	_	G
L70301WE	2019 ANNUAL TRACK PROGRAM	Construction	\$74,079,519	1	.00	-	1.00	▼	0	_	G
L70301WH	Retaining Walls / Right of Way Projects	Construction	\$10,000,000	61	.00	-	1.00	-	0	_	Y
L70304WV	Amtrak Territory Investments	Construction	\$67,500,000	59	.00	-	1.00	-	0	-	G
L70401BS	Bridge Waterproofing	Construction	\$8,048,756	22	.00	-	1.00	-	0	-	G
L70401BT	Removal of Montauk Cut-Off Viaduct	Construction	\$5,700,000	74	.00	_	1.00	_	0	_	G
L70401BU	MENTOR ALLOWANCE - LINE STRUCTURES	Construction	\$17,675,423	8	.00	_	1.00	-	0	_	Y
L70401BV	North Main Street & Accabonac Road	Construction	\$21,080,494	13	.00	-	1.00	-	0	-	Y
L70401BX	Springfield Blvd & Union Tpke	Construction	\$6,743,877	55	.00	-	.91	▼	0	-	Y
L70501SE	Comm. Pole Line	Construction	\$5,700,000	100	.00	_	1.00	_	-23	▼	G
L70501SJ	LIRR PUBLIC ADDRESS SYSTEM	Construction	\$5,000,000	2	.00	_	1.00	-	0	_	G
L70501SN	PENN STA RADIO RETROFIT/ERT ANTENNA	Construction	\$5,155,585	0	.00	_	.79	-	0	_	G
L70502LJ	Signal Normal Replacement Program	Construction	\$30,000,000	51	.00	-	1.00	-	0	-	G
L70502LN	Babylon to Patchogue	Construction	\$47,970,000	2	.00	_	1.04	-	0	_	G
L70502LP	LIGHTNING PROTECTION	Construction	\$5,000,000	17	.00	_	1.00	_	0	_	G
L70601YG	DIESEL LOCOMOTIVE SHOP IMPROVEMENTS	Construction	\$101,965,000	37	.59	_	.99	-	0	_	G
L70701XA	Substation Repl Pkg 1: Constr & 5 Substation: DES	Construction	\$22,895,773	15	.00	_	1.00	_	0	_	Y



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				Total						Schedule		
	ACEP	Description	Phase	Project EAC	% Phase Complete	Contingency Index	Cont. Trend	Cost Index	Cost Trend	Variance (Months)	Sched. Trend	Traffic Light
			LIRR - Lon	g Island Rai	I Road Pr	ogram						
	L70701XB	Substation Components	Construction	\$40,162,855	7	.00	-	1.03	-	0	_	G
	L70701XE	3rd Rail - Protection Board	Construction	\$6,800,000	48	.00	-	1.07	<b>A</b>	0	_	G
	L70701XF	3rd Rail -Composite Rail	Construction	\$11,150,000	64	.00	-	.96	-	0	-	G
	L70701XK	Signal PowerMotor Generator Replacement	Construction	\$6,400,000	37	.00	_	1.00	-	0	_	G
	L70701XP	Atlantic Avenue Tunnel Lighting	Construction	\$5,000,000	40	.00	-	1.00	-	0	_	G
	L70204U9	Jamaica Station - Planning & Engineering	Design	\$10,000,000	32	.00	-	1.00	_	5	<b>A</b>	G
	L70204UA	Station Component Replacement	Design	\$31,408,873	50	.00	-	1.07	-	0	_	G
	L70205V1	PARKING REHABILITATION SBFP	Design	\$5,000,000	50	.00	▼	1.00	-	2	<b>A</b>	Y
	L70206VR	PENN STATION COMPLEX IMPROVEMENTS	Design	\$11,558,500	97	.92	-	1.00	-	3	<b>A</b>	R
	L70401C3	Lynbrook & Rockville Centre Renewals	Design	\$6,000,000	8	.00	_	1.00	_	4	<b>A</b>	R
			MNR - Me	tro-North Ra	ilroad Pro	gram						
	M6020108	GCT Utilities	Construction	\$37,554,561	88	1.09	-	1.00	-	0	-	Y
$\ \cdot\ $	M6020208	Customer Communication / Connectivity Improvements	Construction	\$16,819,045	92	.00	-	.99	▼	0	-	G
	M6030212	Overhead Bridge Program - East of Hudson	Construction	\$19,192,564	65	2.89	<b>A</b>	1.00	-	2	<b>A</b>	R
	M6040102	West of Hudson Signal Improvements	Construction	\$63,917,192	26	.00	-	.94	-	0	_	G
	M6050101	Substation Bridge 23 - Construction	Construction	\$41,452,052	95	.00	-	.99	-	2	<b>A</b>	Y
	M6050103	Harlem & Hudson Lines Power Improvements	Construction	\$41,994,337	80	1.24	▼	.98	▼	7	<b>A</b>	R
	M6030210	Replace / Repair Undergrade Bridges	Design	\$24,619,753	90	2.37	<b>A</b>	.99	-	9	<b>A</b>	R
	M7020104	GCT Fire Protection	Construction	\$13,449,677	88	1.09	_	1.00	-	0	_	Y
	M7020107	GCT PA Head End and VIS Systems	Construction	\$60,139,977	51	.09	-	1.00	-	0	-	G
	M7020207	Customer Communication-Stations	Construction	\$83,573,600	20	-6.88	▼	1.03	<b>A</b>	0	-	G
	M7020210	Enhanced Station Initiative, 5 Stations	Construction	\$12,835,109	39	.00	-	1.00	-	0	_	G
	M7020211	Customer Communication-Systems	Construction	\$12,160,364	30	.00	-	.91	-	0	_	G
	M7020213	Enhanced Station Initiative	Construction	\$116,313,506	39	2.38	▼	.94	-	0	_	G
	M7020214	East of Hudson Station Priority Repairs	Construction	\$6,070,000	0	.00	-	1.00	_	0	_	G
	M7030103	Rock Slope Remediation	Construction	\$16,072,906	45	3.02	-	.86	-	0	_	Y



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				Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
	ACEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
			MNR - Me	tro-North Ra	ilroad Pro	gram			I		I	
	M7030104	Turnouts - Mainline/High Speed	Construction	\$51,321,034	42	.00	_	.99	_	0	_	G
	M7030105	GCT Turnouts/Switch Renewal	Construction	\$24,582,113	66	.00	_	.98	_	12	<b>A</b>	G
	M7030106	Turnouts - Yards/Sidings	Construction	\$5,161,213	32	.00	_	1.00	_	0	_	G
İ	M7030109	Purchase MoW Equipment	Construction	\$22,058,371	34	.00	_	1.00	_	0	_	G
	M7030111	2018 Cyclical Track Program	Construction	\$21,700,000	77	.00	-	1.00	-	0	_	G
	M7030201	Overhead Bridge Program - E of H	Construction	\$63,952,157	25	.00	▼	.96	_	30	<b>A</b>	G
	M7030301	Rock Slope Remediation	Construction	\$12,738,248	60	2.66	-	.92	-	0	_	Y
	M7040101	Network Infrastructure Replacement	Construction	\$43,743,820	30	2.21	<b>A</b>	1.00	_	3	<b>A</b>	R
	M7040102	Harmon to Poughkeepsie SignalSystem	Construction	\$85,296,154	5	19.53	-	.97	_	0	_	G
	M7040111	West of Hudson Signal Improvements	Construction	\$21,079	3	.00	-	.00	▼	0	_	G
	M7040112	Harlem Wayside Comm & Signal Improvements	Construction	\$38,333,890	25	2.06	<b>A</b>	.94	-	0	_	G
	M7050105	Harlem and Hudson Power Improvements	Construction	\$21,804,286	0	.00	-	.87	▼	0	_	G
	M7050113	H&H Power (86th St / 110th St)	Construction	\$9,324,885	80	2.11	-	.93	_	7	<b>A</b>	R
	M7080113	Customer Communication-CM	Construction	\$15,271,613	35	5.58	▼	.96	_	0	_	G
	M7020106	GCT Elevator Improvements - Final Phase	Design	\$7,082,809	50	.00	_	.98	_	1	<b>A</b>	G
	M7020204	Harlem Line Station Improvements	Design	\$20,737,094	80	1.43	<b>A</b>	.26	▼	0	_	R
	M7030107	Rebuild Retaining Walls	Design	\$7,450,999	95	.00	-	.99	_	0	_	G
	M7080109	GCT/ESA Investments	Design	\$32,497,686	60	.00	_	1.25	_	3	<b>A</b>	R
			B&T - Bri	dges and Tu	nnels Pro	gram						
	D604QM30	Tunnel Ventilation Building Electrical Upgrade	Construction	\$55,873,199	97	.58	▼	.99	_	0	_	Y
	D701CB18	CB Scour Protect/Repair/Replace CB/MP Pier Fender	Construction	\$62,523,874	3	.00	_	.94	_	0	_	G
	D701HH89	Skewback Retrofit	Construction	\$98,453,101	49	1.07	▼	.98	_	0	_	G
	D701RK22	Interim Repairs - FDR Ramp	Construction	\$16,294,999	55	2.25	<b>A</b>	.91	_	0	_	G
	D701VN10	Anchorage & Piers Rehabilitation and Sealing	Construction	\$46,219,826	21	.00	-	.94	_	0	_	G
	D701VN34	Main Cable & Suspender Rope Testing - Phase 1	Construction	\$29,998,086	43	.00	-	.97	_	0	_	G
I	D701VN89	Tower Pier Rehab/Construct Mooring Platform	Construction	\$36,137,783	10	.00	_	.95	_	0	_	G



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			Total Project	% Phase	Contingency	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
ACEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light
		B&T - Bri	dges and Tu	nnels Pro	gram	ı	I				
D702RK65	Reconstruct Manhattan Toll Plaza Structure & Ramps	Construction	\$38,347,323	77	1.24	<b>A</b>	.97	_	-2	▼	R
D703BW63	Open Road Tolling Initiative at BWB	Construction	\$47,060,540	6	13.97	<b>A</b>	.98	_	0	_	G
D703CB63	Open Road Tolling Initiative at CBB	Construction	\$21,620,295	90	.85	<b>A</b>	.95	_	0	_	Y
D703HH88	Toll Plazas & Southbound Approach Reconstruction	Construction	\$92,260,070	30	2.33	<b>A</b>	.95	_	0	_	G
D703MP63	Open Road Tolling Initiative at MPP	Construction	\$22,002,517	97	.77	▼	.96	_	-4	▼	Y
D703TN63	Open Road Tolling Initiative at TNB	Construction	\$53,283,799	0	.00	-	.99	-	0	_	G
D704AW67	Overheight Vehicle Detection Systems	Construction	\$11,588,105	15	.00	-	.95	-	0	_	G
D704BW39	Install Electronic Monitoring & Detection Systems	Construction	\$34,705,923	26	1.38	<b>A</b>	.95	-	0	_	G
D704HC07	Rehabilitation of HCT Ventilation Systems	Construction	\$84,355,548	5	.00	-	.95	-	0	_	G
D704HC30	Installation of Smoke Detection/Alarm Systems	Construction	\$11,151,276	10	.00	-	.95	-	0	_	G
D704HC64	Brooklyn Service Building Electrical Rehab.	Construction	\$8,572,439	29	.00	-	.96	-	0	_	G
D704HH13	Replacement of Facility Lighting System	Construction	\$13,485,989	80	.52	▼	.95	-	0	_	G
D704QM81	Rehab of Tunnel Controls & Communication Systems	Construction	\$37,628,136	0	.00	-	.96	_	0	_	G
D704QM91	Installation of Smoke Detection/Alarm Systems	Construction	\$12,204,479	0	.00	-	.96	_	0	_	G
D704RK07	Electrical/Mechanical Rehab of HR Lift Span	Construction	\$34,796,567	28	.00	<b>A</b>	.95	_	0	_	G
D704RK21	Install Fire Standpipe/Upgrade Protection System	Construction	\$21,637,777	46	.00	_	.95	_	0	_	G
D704RK60	Install Electronic Monitoring & Detection Systems	Construction	\$49,080,581	24	1.70	<b>A</b>	.94	-	0	_	G
D704VN30	Elevator Rehabilitation	Construction	\$6,310,455	10	.00	-	.98	-	0	_	G
D707TN49	Painting of Suspended Span	Construction	\$20,440,998	1	.00	-	.95	_	0	_	G
D701RK19	Seismic/Wind Retrofit & Structural Rehab Ph1	Design	\$77,576,926	99	.00	-	1.23	<b>A</b>	0	_	G
D701RK20	Cable Inspection and Rehabilitation	Design	\$15,708,440	99	.00	-	.96	-	0	_	G
D701RK70	Miscellaneous Structural Rehabilitation	Design	\$24,266,847	99	.00	-	.90	•	0	_	G
D702VN11	Brooklyn Approach Reconstruction	Design	\$31,130,375	99	.00	-	.99	_	0	_	Y
D702VN84	Reconstruction of VN Approach Ramps - Phase1	Design	\$249,065,580	84	.00	_	.99	_	0	_	G
D707RK70	Paint Suspended Span/Bronx Truss Steel	Design	\$12,842,083	99	.00	_	.39		0	_	G



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			Total						Schedule				
			Project	% Phase	Contingency	Cont.	Cost	Cost	Variance	Sched.	Traffic		
ACEP	Description	Phase	EAC	Complete	Index	Trend	Index	Trend	(Months)	Trend	Light		
	MTA Bus Program												
U6030226	Bus Radio System	Construction	\$27,820,675	19	.10	•	1.00	_	0	_	G		
U7030211	Bus Radio System - MTA Bus Share	Construction	\$34,500,000	20	.00	_	1.00	_	0	_	G		

### Metropolitan Transportation Authority Summary of Core Traffic Light Report Design Exceptions

(First Quarter 2019 - As of March 31, 2019)

ACEP	Project Name	Index Trigger	EAC	Design Completion Date	Reason for Variance Since Last Quarterly Report	What is Being Done	IEC Comment: All Agency Contractor Evaluation
					NYCT - New York City Transit Program		
T7041258	Mezz Components: Nevins St - Eastern Parkway Line [SBDP]	Schedule	\$6.5M	Aug 2019	During the First Quarter 2019, the forecast Design Completion date slipped 4 months, from April 2019 to August 2019. This was due to the fact that the project was initially designed as one Tier 2 Small Business project, but a decision was made by NYCT to repackage it into two Tier 1 projects; the repackaging has required additional design time.	Design is progressing; the Tier 1 projects have been repackaged for Construction as T7041217 and T7041218.	An Agency ACE evaluation is not required for this project
T7041267	Platform Components: 10 Locations - Broadway / 7th Ave Line	Schedule	\$50.1M	Sep 2019	During the First Quarter 2019, the forecast Design Completion date slipped 3 months, from June 2019 to September 2019. This was due to many deficiencies, discovered during the preliminary survey, which are not part of the approved 2016 master plan. The Station Condition Survey report released at the end of 2017 highlights the additional scope which was considered for inclusion in this project.		An Agency ACE evaluation is not required for this project
T7041286	Station Lighting: 3 Locations - 8th Ave, White Plains Rd Line [SBDP]	Schedule	\$5.4M	Sep 2020	During the First Quarter 2019, the forecast Design Completion date slipped 16 months, from May 2019 to September 2020. The project design was placed on hold because of water leaks discovered in the 50th St Station that will need to be addressed before Construction can proceed.	Various NYCT departments have been made aware of the leak issue and next steps are being discussed.	An Agency ACE evaluation is not required for this project
T7070331	LSCRP: Line Structures Component Repair Project - Bronx Concourse Line	Schedule	\$76.5M	Apr 2019	During the First Quarter 2019, the forecast Design Completion date slipped 2 months, from Feb 2019 to April 2019. Over the past 3 quarters the project has slipped a total of 6 months. This quarter, the design solution for one work area was modified due to unusual tunnel structure and constructability considerations. Additional design time was needed to complete this modification.	anticipated that design completion will be achieved in May 2019, one month later than the reported April	
T7100406	The Livonia Maintenance Shop Rehab/Reconstruction, Phase 1	Schedule	\$55.6M	Jul 2020	During the First Quarter 2019, the forecast Design Completion date slipped 12 months, from July 2019 to July 2020. The Livonia Maintenance Facility Upgrade Phase 2 Capital Profile dictated that the work in Phase 1 needs to be coordinated with Phase 2 work. The scope of work as described in the Phase 2 profile impacts all of the work to be constructed under Phase I, so significant additional time is needed to coordinate the design.	A meeting was held on Feb 11, 2019 with various NYCT departments to discuss the Phase 1 and Phase 2 scope of work issues. As a result of the meeting, the Phase I scope was reduced to address safety concerns. Further scope revisions will be based on the forthcoming outcome and recommendations of the I/E Phase 1 and 2 Coordination Feasibility Study Report for the Livonia Maintenance Shop.	
T7120306	Generator: Yukon Depot	Schedule	\$10.3M	Aug 2019	During the First Quarter 2019, the forecast Design Completion date slipped 5 months, from March 2019 to August 2019. The delay was due to developing a comprehensive phasing plan which will minimize the interruption to depot operations.	The Phasing plan has been finalized and the design in in its final stages. Completion is anticipated in August 2019.	An Agency ACE evaluation is not required for this project
T7120321	Articulated Modification Windows / Façade: East New York Depot Rehabilitation	Cost and Schedule	\$13.5M	May 2019	During the First Quarter 2019, the forecast Design Completion date slipped 3 months, from Feb 2019 to May 2019, in addition to a Cost Variance triggered by an EAC of \$13.5M with a Current Budget of \$10.4M. The delay is due to the need to request additional funding for the asbestos abatement portion of the project through a Budget Modification.	The budget modification is being finalized; Declaring design completion is dependent upon getting the budget modification approved first.	



(First Quarter 2019 - As of March 31, 2019)

ACEP	Project Name	Index Trigger	EAC	Design Completion Date	Reason for Variance Since Last Quarterly Report	What is Being Done	IEC Comment: All Agency Contractor Evaluation
					NYCT - New York City Transit Program		
T7130207	Purchase 27 Refuse Flats	Schedule	\$24.8M	Sep 2019	During the First Quarter 2019, the forecast Design Completion date slipped 6 months, from March 2019 to September 2019. This was due to some of the major specified components being obsolete, such as the couplers. Specified couplers must be used in order for the new refuse flat cars to be able to couple up with existing R127/R134 electric propulsion (EP) Cars (which are prime movers to refuse collection trains).	A management decision was made to defer the R254 refuse flat cars' contract to a future capital plan due to the obsolescence of major components (i.e. couplers). The deferment is needed until both electric propulsion (EP) and refuse flat cars can be procured at the same time.	
T7130208	Purchase 12 3-Ton Crane Cars	Schedule	\$28.7M	Sep 2019	During the First Quarter 2019, the forecast Design Completion date slipped 6 months, from March 2019 to September 2019, due to a delay in funding approval.		An Agency ACE evaluation is not required for this project
T7130211	Purchase 25 Hybrid Locomotives	Schedule	\$130.4M	Jun 2019	During the First Quarter 2019, the forecast Design Completion date slipped 3 months, from March 2019 to June 2019. The design delay is taking longer than anticipated due to high estimates and schedule concerns.	Detailed technical discussions continue and meetings are being scheduled with major system suppliers with the goal of reducing the price and schedule.	An Agency ACE evaluation is not required for this project
T7160727	Roof Replacement: Tiffany Central Warehouse	Schedule	\$16.9M	Sep 2019	During the First Quarter 2019, the forecast Design Completion date slipped 5 months, from April 2019 to September 2019. There are delays in the authorization to merge the Roof project with the Sandy Mitigation project at the Tiffany Central Warehouse. The contract and the design documents for the two projects are being combined.	The combination of the contract and the design documents for the two projects is progressing; design completion is anticipated in September 2019.	
					LIRR - Long Island Rail Road		
L70206VF	Penn Station Complex Improvements	Schedule	\$11.6M	Jun 2019	During the First Quarter 2019, the forecasted Design Completion date slipped three months from March 2019 to June 2019 due to the contract extension given to AECOM for additions to the design scope. The added tasks includes the new Penn Station entrance and associated pedestrian flow.	AECOM expects to complete the design of the new entrance on June 30 per the contract extension issued	
L70401C3	Lynbrook and Rockville Center Viaducts	Schedule	\$6.0M	Jul 2019	During the First Quarter 2019, the forecasted Substantial Completion date slipped four months from March 2019 to July 2019. This slip was due to the need for bid assistance for the Lynbrook Viaducts Renewals Package's # 1 and Package # 2 and the Rockville Centre Viaduct Renewals package.	The design is proceeding and Completion is expected in July 2019.	The overall Contractor/Consultant Performance rating for the current All-Agency Contractor Evaluation (ACE) report for this project is consistent with the IEC's observation of project performance during this reporting period.
	MNR - Metro-North Railroad Program						
M6030210	Replace / Repair Undergrade Bridges (East of Hudson)	Contingency and Schedule	\$24.7M	Dec 2019	During the First Quarter 2019, this project's Contingency Index was 2.37 and the Design Completion Date slipped nine months, from March 2019 to December 2019. Both of these Variances were due in part to the need for additional structural investigation. This was requested due to unforeseen conditions and low load ratings discovered at the Park Avenue Viaduct and at other undergrade bridges. The design consultant is also working on developing the next Capital Program priorities with MNR.	The associated costs of the time extension are under evaluation, however, the expected funding for the additional third party work is available from within the existing project budget and a Budget Modification is not anticipated.	rating for the current All-Agency Contractor Evaluation (ACE) report for this project is



(First Quarter 2019 - As of March 31, 2019)

ACEP	Project Name	Index Trigger	EAC	Design Completion Date	Reason for Variance Since Last Quarterly Report	What is Being Done	IEC Comment: All Agency Contractor Evaluation
					MNR - Metro-North Railroad Program		
M7020204	Harlem Line Station Improvements	Contingency	\$20.7M	Dec 2019	During the First Quarter 2019, the Contingency Index was 1.43. This was due to a modification to the design scope, stemming from a shortage of flagging support for the complete replacement of the stations. The Design Consultant's scope has been revised to provide 100% construction documents for three new elevators and the lifting of the Scarsdale Station overpass. These components were previously designed to 30% level (Design-Build). For the same reason, the drawings and specifications for the SBMP contract at Larchmont Stations were revised to include only repairs to the stairs.	Additional cost was added from within the project contingency and a supplemental agreement has been executed and a Budget Modification is not	Evaluation (ACE) report for this project is
M7080109	GCT/ESA Unified Trash Facility	Schedule	\$32.5M	Jul 2019	During the First Quarter 2019 the forecast Design Completion date slipped 3 months, from April 2019 to July 2019. This was due in part to the project running into difficulties identifying a means of ventilating the facility, during the design process. The consultant was directed in a supplemental agreement to study all means and options available to MNR so that the best path forward may be incorporated into the design. Additional time was spent in a secondary supplemental agreement for studying the options available for modifying building bracings for the T-01 Bridge.	A time extension has been granted to the consultant. 100% design is anticipated to be completed by July 2019.	

IEC Comment: The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Desired Name Comments of Stations Investor	Current Budget: \$87.9M
Project Name: Components - 4 Stations Jamaica Line	Project EAC: \$95.2M
Line	Substantial Completion Date at Award: Feb 2019
Project No: T6041260	Current Substantial Completion Date: Jun 2019
<b>Project Phase: Construction</b>	Phase Complete: 83%

This project will replace the platform edges at the 121<sup>st</sup> Street, 111<sup>th</sup> Street, 104<sup>th</sup> Street and Myrtle Avenue stations. The scope of work also includes the repair of the platform columns at the 121<sup>st</sup> Street and 104<sup>th</sup> Street stations and the replacement of the mezzanine to platform stairs at the 104<sup>th</sup> Street station.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Contingency & Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped four months, from February 2019 to June 2019. The delay is due to the replacement of the 34 track side girders completed under Additional Work Orders (AWOs) #19 and #20.

**Contingency:** During the First Quarter 2019, the contingency index was high due to \$8.25M in approved AWOs compared to a \$8.59M contingency budget at 78% third party contract completion. The high contingency expenditure is because of the \$6M negotiated cost for AWO #20, which was for the replacement of the track side girders.

#### What is Being Done

**Schedule:** AWO #42, requesting an extension of time has been negotiated as part of AWOs #19 and 20 (Track Side Girders Replacement) and the notice to proceed is being issued.

**Contingency:** Funding has already been established for AWOs #19 and 20 through a budget modification and an additional budget modification is being drafted for remaining contingency needs.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.

**All Agency Contractor Evaluation:** The overall Contractor/Consultant Performance rating for the current All-Agency Contractor Evaluation (ACE) Report for this project is consistent with the IEC's observation of project performance, during this reporting period.



MTA Agency: New York City Transit	Status as of March 31, 2019
Desired Name C4-42 or Name411-4 or D1 or 7	Current Budget: \$9.2M
Project Name: Station Ventilators: Phase 7 – 8 Locations / Lower Manhattan	Project EAC: \$9.2M
o Eocations / Lower Mannattan	Substantial Completion Date at Award: May 2016
Project No: T60412F2	Current Substantial Completion Date: May 2019
<b>Project Phase: Construction</b>	Phase Complete: 98%

The objective of this multi-phase project is to rehabilitate all subway ventilators and gratings rated 4.0 or worse, based on NYCT's asset condition survey. Phase 7 will rehabilitate ventilators at seven locations:

- 8th Street NYU / Broadway Line
- Whitehall Street / Broadway Line
- 14th Street / Broadway-7th Ave Line
- Houston Street / Broadway-7th Ave Line
- Spring Street / 8th Avenue Line
- Park Place / Clark St Line
- 33rd Street / Lexington Ave Line

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecast Substantial Completion date slipped four months, from January 2019 to May 2019. This delay was due to direct connect drain issues in three batteries (C, K and L) at 14<sup>th</sup> Street on the 7<sup>th</sup> Avenue line. The direct-connect drains are inoperable.

#### What is Being Done

**Schedule:** Maintenance of Way (MOW) Engineering to inspect and develop a plan to drain these three vent pans to the track trough per the new MOW Vent Drainage Policy. Additional design work is necessary as the vent pans are above the northbound and southbound local tracks.

Subsequent to the reporting period, Substantial Completion has slipped an additional three months to August 31, 2019.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Desired Name Andrew 4's Description Country	Current Budget: \$5.5M
Project Name: Automatic Passenger Counting - Phase 1 Rollout	Project EAC: \$5.5M
Thase I Ronout	Substantial Completion Date at Award: Mar 2019
Project No: T7030213	Current Substantial Completion Date: Dec 2019
<b>Project Phase: Construction</b>	Phase Complete: 52%

This project will develop and furnish an automated passenger counting (APC) system for all buses not replaced before 2022. Video and infra-red sensors will be installed at each door of the bus and passenger data from the sensors will be processed on the existing on-board "Intelligent Vehicle Network" (IVN) to determine passenger load and the number of boardings and alightings at each stop. The APC system will provide NYCT reliable, real-time data to use for bus planning purposes and will potentially reduce the need to have personnel perform manual counts.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped nine months, from March 2019 to December 2019. This was due to a defect in the vendor supplied harnesses. All units which were already on-site had to be rejected and picked up by the vendor. The vendor was required to replace all material at no cost.

### What is Being Done

**Schedule:** The vendor has redesigned the harness, expedited its manufacturing and shipment is expected in May 2019. Installations will resume once materials are back in store rooms with an estimated completion in December 2019.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Desired News Colonia d Cardina Indiada.	Current Budget: \$33.9M
Project Name: Enhanced Station Initiative: Package No. 4 – 28th St / Lexington Line	Project EAC: \$42.1M
1 ackage 110. 4 – 20th 5t / Lexhigton Eme	Substantial Completion Date at Award: Jan 2019
Project No: T70412D2	Current Substantial Completion Date: May 2019
<b>Project Phase: Construction</b>	Phase Complete: 95%

The 28<sup>th</sup> Street Station on the Lexington Line is part of the Enhanced Station Initiative (ESI) project package #4. The total project redesign of five stations in Manhattan, are part of the ESI program which uses revised Station Guidelines to focus on improving the customer experience, providing a state of good repair, and the development of underlying station aesthetics through design innovation.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Cost** 

**Cost:** During the First Quarter 2019, the Estimate At Completion (EAC) exceeded the budget by \$8.2M. This was due to the number of approved and pending Additional Work Orders (AWOs). Major AWOs include:

- Platform edge replacement.
- Additional structure steel repairs, water proofing and side walk replacement.
- Terra cotta wall and ceiling repairs.

#### What is Being Done

**Cost:** A budget modification requesting additional contingency funds of \$8.4M has been approved and the funds have been allocated to the project.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.

**All Agency Contractor Evaluation:** The overall Contractor/Consultant Performance rating for the current All-Agency Contractor Evaluation (ACE) Report for this project is consistent with the IEC's observation of project performance, during this reporting period.



MTA Agency: New York City Transit	Status as of March 31, 2019
Design A Norman Design of C4-42 or Eastern of the	Current Budget: \$16.3M
Project Name: Reopen Station Entrance - 8 <sup>th</sup> Ave / Sea Beach Line	Project EAC: \$17.9M
Ave / Sea Beach Ellie	Substantial Completion Date at Award: Dec 2018
Project No: T7041403	Current Substantial Completion Date: Dec 2019
Project Phase: Construction	Phase Complete: 85%

This project will rehabilitate and reopen the control house and overpass at the 7<sup>th</sup> Avenue end of the 8<sup>th</sup> Avenue station on the Sea Beach Line in Brooklyn. The scope of work includes restoring the platform stairs and the floor, wall, and ceiling finishes throughout the mezzanine.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Cost** 

**Cost:** During the First Quarter 2019, the Estimate at Completion (EAC) exceeded the budget by \$1.6M. This was due to the need for an Additional Work Order (AWO) for structural steel repair and design overruns.

#### What is Being Done

**Cost:** The AWO was negotiated in the amount of \$1.2M. Funds for this AWO and \$0.4M for Design overruns were established through a budget modification.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.

**All Agency Contractor Evaluation:** The overall Contractor/Consultant Performance rating for the current All-Agency Contractor Evaluation (ACE) Report for this project is consistent with the IEC's observation of project performance, during this reporting period.



MTA Agency: New York City Transit	Status as of March 31, 2019
Desired November Change & Compiler	Current Budget: \$30.0M
Project Name: Church Street Corridor Improvements	Project EAC: \$30.0M
improvements	Substantial Completion Date at Award: Jun 2018
Project No: T7041410	Current Substantial Completion Date: Jun 2019
<b>Project Phase: Construction</b>	Phase Complete: 99%

This project will reimburse the Port Authority of New York and New Jersey (PANYNJ) for transportation improvements to the Church Street corridor of the World Trade Center Site located in the borough of Manhattan. This project is part of a larger agreement regarding the reconstruction of the Cortlandt Street Station on the Broadway/7<sup>th</sup> Ave Line, a connection between the World Trade Center E line Terminal and the Cortlandt Street R line station, and shared ADA access to the complex.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped five months, from January 2019 to June 2019. This was due to the addition of 33 communication shop drawings which were not in PANYNJ's original scope of work. These additional drawing were required due to water damage to the existing communication equipment.

#### What is Being Done

**Schedule:** Maintenance Of Way (MOW) Engineering has assigned the additional shop drawings, MOW Drawing Nos. MTACC has completed the field survey and markup of the shop drawings. CPM is currently performing the CADD editing of the communication shop drawings. The drawings are expected to be completed by end of June 2019.

### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Decision National 2016 Mainline Transla	Current Budget: \$40.1M
Project Name: 2016 Mainline Track Replacement - 8 <sup>th</sup> Avenue Line	Project EAC: \$37.8M
Replacement - 6 Avenue Eine	Substantial Completion Date at Award: Jun 2017
Project No: T7050246	Current Substantial Completion Date: Apr 2019
Project Phase: Construction	Phase Complete: 97%

This project will reconstruct segments of mainline tracks on the 8<sup>th</sup> Avenue Line that have reached the end of their useful life. Locations were determined based on the latest track condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rails, running rails, and ballast.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped by three months, from January 2019 to April 2019. The schedule delay was due to a delay in the completion of pre-final and final inspections because of priority station work on the 8<sup>th</sup> Avenue Line.

#### What is Being Done

**Schedule:** Subsequent to the reporting period, the completion of the inspection work was deferred to the First Quarter 2020 when the priority station work will be completed.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
D ' AN COLON ' I' TO I	Current Budget: \$17.8M
Project Name: 2016 Mainline Track Replacement - Jerome Avenue Line	Project EAC: \$21.4M
Replacement - Jerome Avenue Line	Substantial Completion Date at Award: Dec 2018
Project No: T7050250	Current Substantial Completion Date: Apr 2019
Project Phase: Construction	Phase Complete: 96%

This project involves the reconstruction of segments of mainline track on the Jerome Avenue Line that have reached the end of their useful life. The selected track segments were determined by the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Cost** 

**Cost:** During the First Quarter 2019, the Estimate At Completion (EAC) exceeded the current budget by \$3.6M. This was due to 8 additional Type III panels (totaling 312 track-feet) which were installed to appropriately tie in the new panels to the existing panels on the Jerome Line. Additionally, inclement weather conditions, principally rain and high winds, resulted in a significant reduction in the productivity of panel installation. This caused the panel installation's cost per panel to increase and consequently resulted in the project overrun.

#### What is Being Done

Cost: The balance of the funds will come from budget underruns in other projects for the 2015 - 2016 In-house Capital Track and Switch Program.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Decision Name 2017 Mainline Total	Current Budget: \$23.8M
Project Name: 2017 Mainline Track Replacement - Jerome Line	Project EAC: \$22.8M
Replacement - Serome Eline	Substantial Completion Date at Award: May 2018
Project No: T7050259	Current Substantial Completion Date: Oct 2019
Project Phase: Construction	Phase Complete: 53%

This project involves the reconstruction of segments of mainline track on the Jerome Avenue Line that have reached the end of their useful life. The location of the track segments was determined by the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped by seven months, from March 2019 to October 2019. This delay was due to limited track access on the Jerome Line. The limited access is because shutdowns are not permitted on the Jerome Line from the end of March to the end of October due to soccer and baseball games. These shut downs are required for the installation of the Type III Panels.

#### What is Being Done

**Schedule:** The delay in the Substantial Completion date of this project will not result in the overall delay of the 2017 In-house Capital Track and Switch Program, which is forecast to be completed in January 2020.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Flushing Line	Current Budget: \$22.8M
	Project EAC: \$22.8M
	Substantial Completion Date at Award: Dec 2018
Project No: T7050271	Current Substantial Completion Date: Feb 2020
<b>Project Phase: Construction</b>	Phase Complete: 41%

This project involves the reconstruction of segments of mainline track on the Flushing Line that have reached the end of their useful life. The track segment locations were determined by the latest condition survey. The scope of work will include the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped eight months, from June 2019 to February 2020. This was due to limited track access for performing Type II – IIM track reconstruction work at N/O Grand Central, Track C-1 because of Communication Based Train Control (CBTC) work on the Flushing Line. The total scope of the Type II – IIM reconstruction work is 1,960 track feet; as of March 31, 2019, 800 track feet has been completed.

#### What is Being Done

**Schedule:** Track access for the remaining Type II – IIM track reconstruction work at N/O Grand Central will not be available until the Fourth Quarter 2019.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Jamaica Line	Current Budget: \$32.6M
	Project EAC: \$30.2M
	Substantial Completion Date at Award: Dec 2018
Project No: T7050272	Current Substantial Completion Date: Nov 2019
<b>Project Phase: Construction</b>	Phase Complete: 44%

This project involves the reconstruction of segments of mainline track on the Jamaica Line that have reached the end of their useful life. The track segments were determined by the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped five months, from June 2019 to November 2019. This was due to limited track access on the Jamaica Line, while extensive work is underway by the Contractor working on the Canarsie Tube project starting April 2019.

# What is Being Done

**Schedule:** The scope of work for this project is 192 Type III Panels; as of March 31, 2019, 106 Type III panels have been installed on the Jamaica Line. Track access will be available for installing panels on two weekends in May 2019, two weekends in August 2019, two weekends in September 2019, and one weekend in October 2019. The five month project delay will not result in the overall delay of the Substantial Completion date in the 2018 In-house Capital Track and Switch Program, which is forecast to be completed in August 2020.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Pelham Line	Current Budget: \$9.1M
	Project EAC: \$9.1M
	Substantial Completion Date at Award: May 2019
Project No: T7050275	Current Substantial Completion Date: Sep 2019
<b>Project Phase: Construction</b>	Phase Complete: 44%

This project involves the reconstruction of segments of mainline track on the Pelham Line that have reached the end of their useful life. The track segments were determined by the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped four months, from May 2019 to September 2019. This was due to limited track access during this Quarter so that priority projects could progress. Consequently, the installation of Type VI Panels at N/O Hunts Point – S/O Whitlock, Track P-M involving 14 Type VI Panels could not be scheduled during this period.

# What is Being Done

**Schedule:** The above 14 Type VI Panels involving 546 track feet of track reconstruction will be installed in May 2019. This project delay will not result in the overall delay of the Substantial Completion of the Year 2018 in-house Capital Track and Switch Program, which is forecast to be completed in August 2020.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Eastern Parkway Line	Current Budget: \$11.2M
	Project EAC: \$13.2M
	Substantial Completion Date at Award: Nov 2018
Project No: T7050276	Current Substantial Completion Date: Aug 2019
Project Phase: Construction	Phase Complete: 52%

This project involves the reconstruction of segments of mainline track, on the Eastern Parkway Line, that have reached the end of their useful life. The location of track segments were determined by the most recent track condition survey. The scope of work includes the replacement of track, associated equipment, and materials including signals, contact rail, ballast, etc.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Cost** 

**Cost:** During the First Quarter 2019, the Estimate at Completion exceeded the Current Budget by \$2.0M. This was due to overruns in third rail replacement costs, surface costs being higher than estimated, and three weekends of inclement weather causing canceled general orders (GOs) that were not reimbursable.

# What is Being Done

**Cost:** The additional funds required will be funded from within the 2015 – 2019 Track Reserve Funds.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Broadway-7 <sup>th</sup> Avenue Line	Current Budget: \$9.7M
	Project EAC: \$12.1M
	Substantial Completion Date at Award: Dec 2018
Project No: T7050277	Current Substantial Completion Date: Apr 2019
<b>Project Phase: Construction</b>	Phase Complete: 96%

This project will reconstruct segments of mainline tracks on the Broadway-7<sup>th</sup> Avenue Line that have reached the end of their useful life. Locations were determined based on the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, such as signals, contact rails, and ballast, etc.

## **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted date for Substantial Completion slipped three months, from January 2019 to April 2019. This was due to the need for additional General Orders (GOs) to perform completion work at the Harlem River Bridge Track BB-4 and N/O Dyckman Street – S/O 207<sup>th</sup> Street on Track BB-M, after the pre-final inspection was performed on July 10, 2018.

# What is Being Done

**Schedule:** The remaining work at the Harlem River Bridge and the installation of the 3 Type III Panels at N/O Dyckman Street – S/O 207<sup>th</sup> Street was completed in April 2019.

Subsequent to the reporting period, the Substantial Completion date slipped an additional month to May 2019.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Canarsie Line	Current Budget: \$8.6M
	Project EAC: \$8.6M
	Substantial Completion Date at Award: Nov 2018
Project No: T7050278	Current Substantial Completion Date: Dec 2019
<b>Project Phase: Construction</b>	Phase Complete: 19%

This project involves the reconstruction of track segments of mainline tracks that have reached the end of their useful life on the Canarsie Line. The location of track segments was determined by the most recent track condition survey. The scope of work includes the replacement of track, associated equipment, and materials, including signals, contact rails, ballast, etc.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped eight months, from April 2019 to December 2019. This was due to inclement weather on weekends involving cold weather, rain, and snow storms during January and February 2019 and delays in rescheduling. This location at N/O – S/E Wilson Avenue, Track Q-1 is located outdoors and inclement weather impacted the ability to complete the work. In addition, delays occurred while pending the approval of senior management on dates assigned to continue work at N/O – S/E Wilson Ave.

# What is Being Done

**Schedule:** This Type II Ekki Hilti job at N/O – S/E Wilson Avenue Track Q-1 involving 1,279 Track Feet of track reconstruction is currently scheduled to be done during the period July 15, 2019 through October 07, 2019. This project's delay will not result in an overall delay of the Substantial Completion of the 2018 In-House Capital Track and Switch Program, which is forecast to be completed in August 2020.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Track Replacement - Lenox-White Plains Road	Current Budget: \$13.1M
	Project EAC: \$11.8M
	Substantial Completion Date at Award: Apr 2019
Project No: T7050284	Current Substantial Completion Date: Jul 2019
Project Phase: Construction	Phase Complete: 63%

This project involves the reconstruction of segments of mainline track on the Lenox-White Plains Road Line that have reached the end of their useful life. The track segments were determined by the latest condition survey. The scope of work includes the replacement of track and associated equipment and materials, including signals, contact rail, ballast, etc.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped by three months, from April 2019 to July 2019. This was due to the need for three weeks of additional General Orders (GOs) to install the remaining 20 Type III panels at S/E Freeman Street - N/E Simpson Street on Track F-3.

# **What is Being Done**

**Schedule:** The remaining panels at this location will be installed near the end of the Second Quarter or in the beginning of the Third Quarter 2019.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Switch Replacement - Canarsie Line	Current Budget: \$10.2M
	Project EAC: \$7.4M
	Substantial Completion Date at Award: Feb 2019
Project No: T7050329	Current Substantial Completion Date: Jun 2019
<b>Project Phase: Construction</b>	Phase Complete: 92%

This project will replace the mainline switches on the Canarsie Line. Locations will be determined based on the latest condition survey. Work will include, as required, the replacement of existing turnouts, track switches, switch valves, connecting tracks, contact rails, ties, ballasts, signal cables (including positive and negative connections), and any associated signal and equipment tasks.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped four months, from February 2019 to June 2019. This was due to the four Type II – II switches at S/O Bedford Avenue, Track's Q-1 & Q-2 being deferred to 2019 in order to avoid an interference of work between track construction and contractors also working on the Canarsie Line. As a result, the deferred switches at S/O Bedford Avenue were replaced by four Type II – II Switches at N/O 3<sup>rd</sup> Avenue, Track's Q-1 & Q-2 on the Canarsie Line. The switches at N/O 3<sup>rd</sup> Ave were advanced from the 2019 to the 2018 Track and Switch Program.

# What is Being Done

**Schedule:** This switch project for S/O Bedford Avenue on the Canarsie Line started on January 29, 2019 and is in beneficial use. This delay will not result in the overall delay of the Substantial Completion and the closeout of the 2018 In-House Track and Switch Program, which is forecast to be completed in August 2020.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: 2018 Mainline Switch Replacement - White Plains Rd Line	Current Budget: \$7.4M
	Project EAC: \$7.4M
	Substantial Completion Date at Award: Feb 2019
Project No: T7050332	Current Substantial Completion Date: Jan 2020
Project Phase: Construction	Phase Complete: 0%

This project will replace mainline switches on the White Plains Road Line. Locations will be determined based on the latest condition survey. Work will include, as required, the replacement of existing turnouts, track switches, switch valves, connecting tracks, contact rails, ties, ballasts, signal cables (including positive and negative connections), and any associated signal and equipment tasks.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped four months, from September 2019 to January 2020. This was due to the requirement of a minimum of five weekend General Orders (GOs) for the installation of four Type III Switches at N/O 238<sup>th</sup> Street – Nereid Ave. The GOs required to complete the project are not available until September and October 2019.

# What is Being Done

**Schedule:** The track access for the installation of the switches will be available in September and October 2019 and the switches are expected to be installed then. This delay will not result in an overall delay of the Substantial Completion of the 2018 In-House Capital Track and Switch Program, which is forecast to be completed in August 2020.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: Subway Tunnel Structural Rehab - 4 <sup>th</sup> Ave Line – Phase 2	Current Budget: \$59.1M
	Project EAC: \$86.4M
	Substantial Completion Date at Award: Mar 2020
Project No: T7070321	Current Substantial Completion Date: Mar 2020
<b>Project Phase: Construction</b>	Phase Complete: 51%

This project will rehabilitate and repair structural defects in the tunnel structure S/O 36<sup>th</sup> Street to 59<sup>th</sup> Street Station along the 4<sup>th</sup> Avenue Line in Brooklyn. The scope of work will include sealing leaking cracks in walls, ceilings and ventilators, providing fiberglass drip pans and repairing or replacing spalled concrete, ventilator structures, emergency exits, duct benches, handrails, and corroded steel members.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Cost** 

**Cost:** During the First Quarter 2019, the Estimate At Completion (EAC) exceeded the budget by \$27.3M. This was due to additional structural defects which were discovered during construction. These deficiencies require additional column and roof beam repairs.

# What is Being Done

**Cost:** A budget modification was approved and an Additional Work Order was issued to the contractor.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: Reconstruction/Relocation of the Clifton Car Repair Shop	Current Budget: \$9.1M
	Project EAC: \$9.1M
	Substantial Completion Date at Award: Jul 2020
Project No: S7070111	Current Substantial Completion Date: May 2021
<b>Project Phase: Construction</b>	Phase Complete: 24%

This project will develop an effective flood mitigation scheme to protect the Clifton Yard and Shop in the Borough of Staten Island. The goal of the project is to repair previous damage from Superstorm Sandy and fortify the shop assets against flooding and storm surges up to a Category 2 hurricane coupled with high tides. This design-build project also incorporates capital improvements to the Clifton Yard facility which includes the demolition of the existing shop buildings and the construction of a new Clifton Car Repair Shop with new equipment, track realignments in the yard and site drainage improvements. The Sandy Program work, authorized under projects ES070211 and ES070302 and the Capital Program work, authorized under project S7070111 are simultaneously in construction.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped three months, from February 2021 to May 2021. This was due to unforeseen conditions effecting the installation of H-piles, which required more splicing than anticipated by the contractor and pile depths of 58 feet, 85 feet and 107 feet on average. The contractor anticipated all piles would be in the range of 44 to 72 feet. The contractor has filed an Article 8.03 Dispute on Differing Site Conditions for additional pile lengths required due to the soil conditions.

# What is Being Done

**Schedule:** The contractor brought additional pile rigs to the site. A dedicated pile rig was used for battered piles along the perimeter of the building. Depending on work site access, 2 or 3 pile rigs were used to advance the pile work. All piles were completed on March 15, 2019. Resolution of the contractor's building site conditions dispute is ongoing.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: Metro-North Railroad	Status as of March 31, 2019
Project Name: Overhead Bridge Program – East of Hudson	Current Budget: \$19.2M
	Project EAC: \$19.2M
	Substantial Completion Date at Award: Feb 2019
Project No: M6030212	Current Substantial Completion Date: Aug 2019
Project Phase: Construction	Phase Complete: 65%

This project is a continuation of repairs/replacement work to selected overhead bridges located East of Hudson in New York State initiated in the prior Capital Programs. The projects, spanning multiple programs, include the design of five overhead bridges (3<sup>rd</sup>, 6<sup>th</sup>, 10<sup>th</sup>, 14<sup>th</sup>, and Fulton Avenues) in Mount Vernon, third-party construction work on the 14<sup>th</sup> Avenue bridge, c and Force Account construction work on the 3<sup>rd</sup>, 6<sup>th</sup> and 10<sup>th</sup> Avenue bridges and construction on the Fulton Avenue bridge.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Contingency** 

**Contingency:** During the First Quarter 2019, the high contingency index of 2.89 was due to additional work required to strengthen the existing foundation walls of abutments as a result of unforeseen field conditions. During the demolition of the wall, voids and pockets of soil were found and this required a complete redesign of the foundation system. This redesign requires the mobilization of a specialty subcontractor to drill and grout micro-piles down through the existing stone walls.

# What is Being Done

**Contingency:** Multiple change orders have been and are in the process of being executed for the additional work identified above. The additional funding required is available from within the existing project budget and a budget modification is not anticipated.

#### **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: Metro-North Railroad	Status as of March 31, 2019
Project Name: Harlem & Hudson Lines Power Improvements	Current Budget: \$42.6M & \$10.0M
	Project EAC: \$41.9M & \$9.3M
	Substantial Completion Date at Award: Aug 2016
Project No: M6050103 & M7050113	Current Substantial Completion Date: Oct 2019
<b>Project Phase: Construction</b>	Phase Complete: 80% & 80%

The project involves construction of a new 86<sup>th</sup> Street substation. The existing substation is rated at 3.3 Megawatt (MW) and is fed from a single Con-Ed source. The new substation will provide 6.6 MW of power and will utilize two independent feeds from Con-Ed improving the system operational redundancy. The project also involves the replacement of existing negative return reactors at the 110<sup>th</sup> Street substation with larger capacity units.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date, for both projects, slipped seven months from March 2019 to October 2019. This was due to the need to address structural design deficiencies and subsequent modification of the proposed new column, as well as reaching a resolution for the removal method of the existing column at the 86<sup>th</sup> Street Substation platforms.

# What is Being Done

**Schedule:** To mitigate any additional negative schedule impacts to the project, the following actions have been, or are in the process of being taken:

- MNR, the Design Consultant, and the Contractor are meeting to finalize and resolve all questions and issues related to the structural changes and to expedite the approval of submittals and work plans.
- Tracking all Contractor tasks with over 30-day delay and proactively seeking a recovery schedule from the Contractor.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: Metro-North Railroad	Status as of March 31, 2019
Project Name: Network Infrastructure Replacement	Current Budget: 43.5M
	Project EAC: 43.7M
Керіассінен	Substantial Completion Date at Award: Mar 2019
Project No: M7040101	Current Substantial Completion Date: Jun 2019
<b>Project Phase: Construction</b>	Phase Complete: 30%

This project will upgrade the existing fiber optic communication system infrastructure. The scope of work for package 5 includes delivering, furnishing, installing, testing and integrating the replacement and upgrades of 34 Metro-North Railroad node houses, 48 Volt, DC power plants at 33 locations, and removing and disposing of the existing power plants.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule & Contingency** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped three months from March 2019 to June 2019. This schedule slip was due to additional time needed to furnish and install node houses to support the Connecticut Department of Transportation (CDOT) Network Security Project.

**Contingency:** The high Contingency Index of 2.21 was triggered in the First Quarter 2019 due to the reasons identified above.

# What is Being Done

**Schedule:** The equipment and material has been furnished by CDOT, with installation forecast to be completed by June 2019.

**Contingency:** Pending change orders are currently being evaluated and additional funding required is available from within the existing project budget.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: Bridges and Tunnels	Status as of March 31, 2019
<b>Project Name: Reconstruction of the Manhattan</b>	Current Budget: \$39.3M
Toll Plaza Structure & Ramps at the RFK	Project EAC: \$38.3M
Bridge	Substantial Completion Date at Award: May 2019
Project No: D702RK65	Current Substantial Completion Date: Mar 2019
Project Phase: Construction	Phase Complete: 77%

This project involves the restoration of the Manhattan Plaza structure and ramps at the RFK Bridge. The project's scope also includes a feasibility study for the seismic upgrade, roadway light replacement, and scoping for other enabler projects to facilitate the replacement of the Manhattan Plaza. This interim restoration will allow the overall replacement work to be postponed until 2025 or beyond.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Contingency** 

**Contingency:** During the First Quarter 2019, the high contingency index of 1.24 was due to the following:

- The acceleration of the roadway work to minimize further traffic impacts to drivers and to coordinate with ongoing work on the Bruckner Expressway. To minimize the duration of the roadway work, the contractor was authorized to work multiple shifts. As a result of this acceleration, the traffic impacting work was substantially completed by March 31, 2019, two months ahead of schedule.
- A pending change order for miscellaneous electrical work and deck repair work necessary to address issues
  identified during the biennial inspection. This pending change order depleted the projects remaining
  contingency.

# What is Being Done

**Contingency:** A change order has been executed (in May 2019) for the additional work identified as pending above. The additional funding required was available from within the existing project budget and a budget modification is not anticipated.

## **IEC Comment**

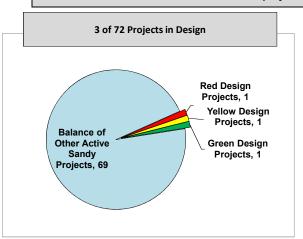
**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



# 1<sup>st</sup> Quarter 2019 Traffic Light Report on MTA SANDY Program

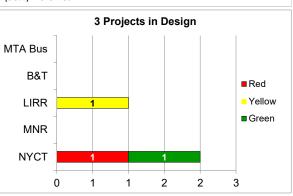
# A total of 72 Active Sandy Projects were Reviewed for the 1st Quarter 2019

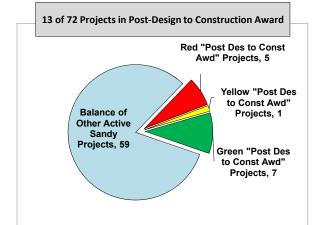
The 72 active projects include 3 projects in Design, 13 in Post-Design to Construction Award, 56 in Construction



Summary of Projects in Design: 3 projects were reviewed in the design phase this quarter with 1 (33%) designated Green, 1 (33%) Yellow and 1 (33%) were Red. The one Red project was for a schedule variance. The variance was due to a change in specifications & the prospective bidders request of a bid extension because of this.

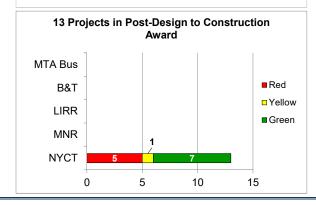
Last Quarter: 4 projects were reviewed in the design phase this quarter with 1 (25%) designated Green, 1 (25%) Yellow and 2 (50%) were Red.

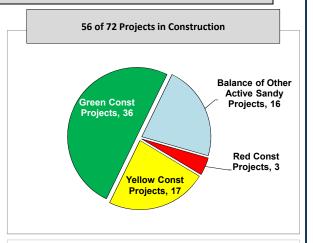




Summary of Projects in Post-Design to Construction Award: 13 projects were reviewed in this phase with 7 (54%) designated green, 1 (8%) and 5 (38%) Red. All 5 of the projects designated Red were for a schedule variance. The schedule variances were due in part to the questionsing of the qualifications of a subcontractor, bids being significantly higher than engineer's estimate, and finalization of key design elements.

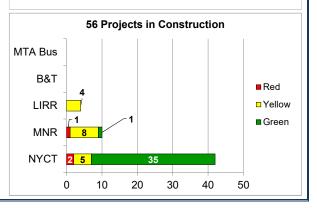
**Last Quarter:** 13 projects were reviewed in this phase with 8 (62%) designated green and 5 (38%) Red.





Summary of Projects in Construction: 56 projects were reviewed in this phase with 36 (64%) designated green, 17 (30%) yellow and 3 (6%) were Red. Of the 3 projects which were designated Red, 2 (66%) were for a schedule variance and 1 was for both contingency and schedule variances. The schedule variances were due in part to the need to modify the scope to enhance the safety and operational efficiency of equipment and unforeseen site conditions.

Last Quarter: 59 projects were reviewed in this phase with 38 (64%) designated green, 11 (19%) yellow and 10 (17%) were Red.



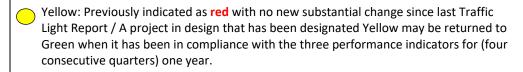
# **MTA Sandy Recovery Projects Terms and Definitions**

# 1<sup>st</sup> Quarter 2019 Traffic Light Report

The following Terms and Definitions used to identify a project's Traffic Light color designation show variances from quarter to quarter and are based on three performance indicators: cost, contingency and schedule. A project is designated a "red light project" when one or more of the three indicators exceed a specified threshold. Agencies are required to produce follow-up variance reports for all qualified red light projects. Included in these reports are agency summaries (on pink paper stock) of issues associated with each project showing a red indicator and how the issues are being resolved. A project is designated a "yellow light project" after one or more performance indicators had triggered a red in a previous quarter. A yellow project may revert back to green after four consecutive quarters if the performance indicators have not worsened. A project is designated a "green light project" when no performance indicator has exceeded the Traffic Light Reports specified thresholds.

# Sandy Recovery Traffic Light Report Project Terms and Definitions

# Projects in Design: 3 Green: Indices less than 115% and index movement less than 15% Red: Cost Index: An EAC increase of 15% (or index movement of 15% or more since last Traffic Light Report) Red: Schedule Variance: An increase of 3 months or more to substantial completion or since last Traffic Light Report



# **Projects in Post Design to Construction Award Phase: 13**

- Green: Phase Duration less than either the default of 128 calendar days for all agencies or the agency entered duration.
- Red: Phase Duration is greater than either the default 128 calendar days or the agency entered duration.
- Yellow: Previously indicated as **red** with no new substantial change since last Traffic Light Report.

# **Projects in Construction: 56**

- Green: Indices less than 110% and index movement less than 10%
  Other indices not exceeding those criteria specified in index formulas and criteria.
- Red: Cost or Contingency Index: An increase of 10% (or index movement of 10% more since last Traffic Light Report)
- Red: Schedule Variance: An increase of 3 months or more to substantial completion or since last Traffic Light Report
- Yellow: Previously indicated as **red** with no new substantial change since last Traffic Light Report / A project in construction that has been designated Yellow may be returned to Green when it has been in compliance with the three performance indicators for (four consecutive quarters) one year.

# **Projects in Planning:**

Projects in Planning are reviewed but not displayed in the TLR until the project reaches the design phase.

# **Projects Completed:**

Projects that were completed in previous quarters are not displayed in the current quarter's TLR, but continue to be maintained in the TLR project database for reporting purposes on the overall Sandy Program.

#### **Report Index Formulas and Criteria:**

- Cost Variance = EAC / Current Project Budget Amount (Note: Current Budget is not Budget at Award)
- ➤ Cost Contingency Index = % Contingency Spent/% 3<sup>rd</sup> Party Contract Completion
  - Contingency used includes expended & pending AWOs.
  - Prompted when project has reached 50% completion or higher.
- Schedule Variance = Number of months of change in schedule since last Traffic Light Report
- Projects with current budgets below \$5M are not displayed in the current quarter's Sandy TLR, but will continue to be maintained in the TLR database for reporting purposes on the overall Sandy Program. If the current budget increases above the \$5M minimum threshold, the projects will return to an active status.



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

				Total	%					Schedule		
			Project	Project	Phase	Cont.	Cont.	Cost	Cost	Variance	Sched.	Traffic
ACEP#	Description	Phase NVCT No	Type	EAC	Complete	Index	Trend	Index	Trend	(Mths)	Trend	Light
				ity Transit S								
		Cone	ey island	Yard Flood I	viitigation							
ET100211	Recovery: Power Cable at Coney Island Yard	Construction	Recovery	\$164,367,005	0	.00	-	1.00	_	0	_	G
ET100307	Mitigation: Long Term Perimeter Protection at Coney Island Yard	Construction	Mitigation	\$349,769,875	5	.04	-	.99	_	0	_	G
			Car	narsie Tube								
ET040222	Recovery: Shaft Excavation - 1 Avenue (Canarsie Tube)	Construction	Recovery	\$17,835,502	94	.21	_	1.00	_	0	_	G
ET050209	Recovery: Mainline Track (Canarsie Tube)	Construction	Recovery	\$33,806,612	33	.00	ı	1.00	_	0	_	G
ET060213	Recovery: Tunnel Lighting (Canarsie Tube)	Construction	Recovery	\$48,831,538	40	.00	I	1.00	-	0	_	G
ET060219	Recovery: Pump Room (Canarsie Tube)	Construction	Recovery	\$18,011,167	12	.55	lacktriangle	1.00	_	0	_	G
ET080211	Recovery: Signals (Canarsie Tube)	Construction	Recovery	\$36,380,305	47	.00		1.00	-	0	_	G
ET090211	Recovery: 2 Circuit Breaker Houses (Canarsie Tube)	Construction	Recovery	\$34,778,677	51	.00	-	.99	-	0	_	G
ET090212	Recovery: Power Cable, Communication Cable and Ducts (Canarsie Tube)	Construction	Recovery	\$275,932,102	32	.22	•	.87	_	0	_	<b>G</b>
ET090309	Mitigation: Power Cable, Communication Cable and Ducts (Canarsie Tube)	Construction	Mitigation	\$100,628,800	29	.00	-	1.00	_	0	_	<b>G</b>
			С	lark Tube								
ET050211	Recovery: Mainline Track (Clark Tube)	Construction	Recovery	\$9,581,139	97	.28	-	1.00	-	0	_	G
ET060226	Recovery: Fan Plant (Clark Tube)	Construction	Recovery	\$7,274,319	88	.16	-	1.38	-	0	_	Y
ET060234	Recovery: Pump Room (Clark Tube)	Construction	Recovery	\$7,988,704	93	.36		1.00	_	0	_	G
ET060324	Mitigation: 3 Pump Rooms (Clark Tube)	Construction	Mitigation	\$6,074,200	94	.35		1.00	_	0	_	G
ET080212	Recovery: Signals (Clark Tube)	Construction	Recovery	\$9,204,970	98	.00	-	1.00	-	0	_	G
ET090224	Recovery: Power and Communication Cables (Clark Street Tube)	Construction	Recovery	\$87,023,097	96	.30	-	1.10	_	0	_	Y
			148th	Street Yard								
ET100209	Recovery: Power Cable at 148 Street Yard	Construction	Recovery	\$14,570,909	8	.21	<b>A</b>	.98	_	0	_	G



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

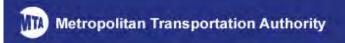
				Total	%					Schedule		
			Project	Project	Phase	Cont.	Cont.	Cost	Cost	Variance	Sched.	Traffic
ACEP#	Description	Phase	Type	EAC	Complete	Index	Trend	Index	Trend	(Mths)	Trend	Light
		NYCI - NE		ity Transit S		gram						
			148tr	Street Yard					l		l	
ET100309	Mitigation: Long Term Perimeter Protection at 148th Street Yard	Construction	Mitigation	\$78,014,529	17	.00	_	1.00	_	0	_	G
ET100311	Mitigation: 148th Street Yard Portal	Construction	Mitigation	\$5,059,135	16	.00	_	1.00	_	0	_	G
				gers Tube						<u> </u>		
ET050210	Recovery: Mainline Track (Rutgers Tube)	Post Des to Const Awd	Recovery	\$8,093,094	100	.00	_	1.00		0	-	G
ET060232	Recovery: 2 Pump Rooms (Rutgers Tube)	Post Des to Const Awd	Recovery	\$6,682,531	100	.00	_	1.00	_	0	_	G
ET080213	Recovery: Signals (Rutgers Tube)	Post Des to Const Awd	Recovery	\$9,964,848	100	.00	_	1.00	_	0	_	<b>G</b>
ET090219	Recovery: Power and Communication Cables (Rutgers Tube)	Post Des to Const Awd	Recovery	\$55,678,402	100	.00	_	1.01	_	0	_	G
			207th	Street Yard	ı							
ET100210	Recovery: Power Cable at 207 Street Yard	Construction	Recovery	\$34,181,008	0	.00	_	1.10	<b>A</b>	0		G
ET100218	Recovery: 207 Street Yard Signal System	Construction	Recovery	\$300,748,443	0	.00	_	1.00	_	0	_	G
ET100219	Recovery: Yard Track (207 Street Yard)	Construction	Recovery	\$61,674,669	0	.00	_	1.00	_	0		G
ET100220	Recovery: Yard Switches (207 Street Yard)	Construction	Recovery	\$50,839,784	0	.00	_	1.00		0		G
21100220	Trocovery. Tura Omnorios (207 Greek Tura)	Construction	rtocovery	φου,σου,τοι	0	.00	N. C.	1.00				
ET100310	Mitigation: Long Term Perimeter Protection at 207th Street Yard	Construction	Mitigation	\$171,230,849	7	.00	_	1.04		0	_	G
ET100312	Mitigation: 207th Street Yard Portal	Construction	Mitigation	\$27,109,514	2	.00	_	1.05		0	_	G
			All Othe	r NYCT Proj	ects							
ET040317	Mitigation: Upgrade Emergency Booth Communication System	Construction	Mitigation	\$78,976,372	15	.00	_	1.00	_	0	_	6
ET040320	Mitigation: Critical Room Resiliency	Construction	Mitigation	\$22,652,684	99	.32		1.00		0	_	Y



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

			Project	Total Project	% Phase	Cont.	Cont.	Cost	Cost	Schedule Variance	Sched.	Traffic
ACEP#	Description	Phase	Туре	EAC	Complete	Index	Trend	Index	Trend	(Mths)	Trend	Light
		NYCT - Ne		ity Transit S		gram						
			All Othe	r NYCT Proj	ects	l	I			1		
ET040322	Mitigation: Street Level Openings	Construction	Mitigation	\$46,699,866	60	.73	▼	1.00	_	0	_	G
ET040323	Mitigation: Upgrade Backup Command Center	Construction	Mitigation	\$9,554,786	0	.00	_	.92	_	0	_	G
ET040324	Mitigation: Internal Station Hardening at 7 Stations	Construction	Mitigation	\$5,191,552	0	.00	_	1.00	_	0	_	G
ET040325	Mitigation: Internal Station Hardening	Construction	Mitigation	\$16,648,706	0	.00	_	1.01	<b>A</b>	0	_	G
ET040327	Mitigation: Street Level Openings at 7 Stations and 1 Fan Plant	Construction	Mitigation	\$68,405,619	38	.11	•	1.00	_	0	_	G
ET040328	Mitigation: Street Level Openings at 9 Stations	Construction	Mitigation	\$60,434,783	50	84	<b>A</b>	.99	_	0	_	G
ET060305	Mitigation: 17 Fan Plants and Adjacent Tunnels	Construction	Mitigation	\$46,439,194	79	1.17	▼	1.00	_	0	_	Y
ET060320	Mitigation: 11 Fan Plants	Construction	Mitigation	\$29,012,172	68	.64	-	1.00	_	0	_	G
ET060321	Mitigation: 4 Fan Plants	Construction	Mitigation	\$34,635,218	61	.50	▼	1.00	_	0	_	G
ET060325	Mitigation: 1 Fan Plant	Construction	Mitigation	\$5,910,130	48	.37	▼	1.00	_	0	_	G
ET070306	Mitigation: Internal Tunnel Sealing for West 4th Street Interlocking	Construction	Mitigation	\$5,284,494	0	.00	_	1.00	_	0	_	G
ET070309	Mitigation: Long Term Flood Protection at Hammels Wye	Construction	Mitigation	\$24,885,606	65	.98	•	1.00	_	0	_	Y
ET120307	Mitigation: Various Bus Depots	Construction	Mitigation	\$26,422,164	4	.00	_	1.00	_	0	_	G
ET060317	Mitigation: Conversion of 2 Pump Trains	Design	Mitigation	\$19,119,839	94	.00	_	1.15	_	6	<b>A</b>	R
ET070209	Recovery: Wrap-up Rockaway Line	Design	Recovery	\$30,909,969	50	.00	_	1.02	_	0	_	G
ET060330	Mitigation: 1 Fan Plant on the Flushing Line	Post Des to Const Awd	Mitigation	\$13,701,539	80	.00	_	.92	•	0	-	0
ET070308	Mitigation: Steinway Portal	Post Des to Const Awd	Mitigation	\$15,064,993	100	.00	_	1.00	_	0	-	G
ET090308	Mitigation: Deployable Substations	Post Des to Const Awd	Mitigation	\$48,280,226	100	.00	_	1.52	_	4	<b>A</b>	R



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

			D	Total	% Discourse	01	01	2	01	Schedule	0.1.1	<b>T.</b> (6)
ACEP#	Description	Phase	Project Type	Project EAC	Phase Complete	Cont. Index	Cont. Trend	Cost Index	Cost Trend	Variance (Mths)	Sched. Trend	Traffic Light
		NYCT - Ne	w York C	ity Transit S	andy Pro	gram						
			All Othe	r NYCT Proj	ects				,			
ET090310	Mitigation: Back-up Power Control Center	Post Des to Const Awd	Mitigation	\$11,907,600	98	.00	•	1.15	_	0	-	<b>G</b>
ET100314	Mitigation: 207th Street Yard Sewers	Post Des to Const Awd	Mitigation	\$146,479,830	100	.00	I	7.92	•	0	_	Y
ET160310	Mitigation: Consolidated Revenue Facility	Post Des to Const Awd	Mitigation	\$16,925,571	100	.00	-	1.47	_	6	•	R
ET160311	Mitigation: Zerega Maintenance Facility	Post Des to Const Awd	Mitigation	\$11,344,441	100	.00	-	1.00	_	3	<b>A</b>	R
ET160312	Mitigation: Tiffany Central Warehouse	Post Des to Const Awd	Mitigation	\$25,624,822	100	.00	-	2.17	_	3	•	R
ES070211	Recovery: Reconstruction of Clifton Car Repair Shop	Construction	Recovery	\$34,890,731	1	36.59	•	.99	_	3	•	R
ES070302	Mitigation: Reconstruction of Clifton Car Repair Shop	Construction	Mitigation	\$167,732,374	18	.12	-	1.00	_	3	<b>A</b>	R
ES070303	Mitigation: St. George Terminal Yard	Post Des to Const Awd	Mitigation	\$51,381,579	100	.00	-	1.00	•	3	•	R
		LIRR - Lo	ng Island	Rail Road S	andy Pro	gram						
			All O	ther Project	<b>S</b>			T			<b>.</b>	
EL0303ZH	Flood and Emergency Management Equipment Mitigation	Construction	Mitigation	\$20,595,053	0	.00	_	1.02	<b>A</b>	0	_	Y
EL0502ZC	Restoration of the Long Beach Branch	Construction	Recovery	\$70,886,202	95	.02	-	1.03	_	0	_	Y
EL0602ZD	West Side Storage Yard Restoration	Construction	Recovery	\$43,512,962	48	.00	-	1.06	_	0	_	Y
EL0602ZL	Long Island City Yard Restoration	Construction	Recovery	\$28,318,222	30	68		1.16	_	0		Y
EL0603ZP	West Side Yard & East River Tunnel Mitigation	Design	Mitigation	\$94,529,494	2	.00	_	1.04	_	0	_	Y
				Railroad S								
	H	udson Line	Ph 1 & 2	Power and	C & S Res	toration	1					
EM040205	Communications & Signal Infrastructure Restoration Phase 1	Construction	Recovery	\$66,181,415	81	1.02	<b>A</b>	.96	_	2	•	Y



▲ = Index increase: Trending indicates condition worsening since last quarterly report

▼ = Index decrease: Trending indicates condition improving since last quarterly report

				Total	%					Schedule		
			Project	Project	Phase	Cont.	Cont.	Cost	Cost	Variance	Sched.	Traffic
ACEP#	Description	Phase	Туре	EAC	Complete	Index	Trend	Index	Trend	(Mths)	Trend	Light
		MNR - M	etro-Norti	n Railroad S	andy Proดู	gram						
		<b>Hudson Line</b>	Ph 1 & 2	Power and	C & S Res	toration	n					
EM040206	Communications & Signal Infrastructure Restoration Phase 2	Construction	Recovery	\$25,649,689	6	151.6 7	•	1.00	<b>A</b>	0	-	Y
EM040301	Power and Signals Mitigation	Construction	Mitigation	\$46,311,088	81	.00	_	.92	_	2	<b>A</b>	Y
EM040302	Hudson Line Power and Signal Resiliency	Construction	Mitigation	\$33,275,430	81	.00	_	1.00	_	2	<b>A</b>	Y
EM050206	Power Infrastructure Restoration Phase 1	Construction	Recovery	\$133,059,268	81	1.14	▼	.97	-	2	<b>A</b>	Y
EM050207	Power Infrastructure Restoration Phase 2	Construction	Recovery	\$41,452,323	7	.00	_	1.00	<b>A</b>	0	_	Y
			All O	ther Project	S							
EM030202	Right of Way Restoration	Construction	Recovery	\$7,635,000	93	.00	_	.95	_	0	_	G
EM030301	Rail Vacuum Mitigation	Construction	Mitigation	\$5,266,037	54	1.20	<b>A</b>	.87	-	6	<b>A</b>	R
EM050208	Power Infrastructure Restoration - Substations	Construction	Recovery	\$45,653,743	89	1.12	_	1.00	_	2	<b>A</b>	Y
EM050209	Power Infrastructure Restoration - Harlem River Lift Bridge	Construction	Recovery	\$7,738,026	67	.00	•	1.00	_	0	-	Y

# Metropolitan Transportation Authority Summary of Sandy Traffic Light Report Design Exceptions

(First Quarter 2019 - As of March 31, 2019)

A	СЕР	Project Name	Index Trigger	EAC	Design Completion Date	Reason for Variance Since Last Quarterly Report	What is Being Done	IEC Comment: All Agency Contractor Evaluation
						NYCT - New York City Transit Program		
ET	060317	Mitigation: Conversion of 2 Pump Trains	Schedule	\$19.1M	Sep 2019	During the First Quarter 2019, the forecasted Design Completion date slipped six months, from March 2019 to September 2019. This was due in part to changes to the technical specification and price schedule documents. The prospective bidders have asked for an extension of time to compose their proposals.	NYCT is answering technical and non-technical questions received from bidders as soon as they come	

IEC Comment: The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: Mitigation - Deployable Substations	Current Budget: \$31.6M
	Project EAC: \$48.2M
Substations	Original Award Date: Jun 2018
Project No: ET090308	Current Award Date: Dec 2019
<b>Project Phase: Post-Design to Construction</b>	Phase Complete: 0%
Award	Thase Complete. 070

This project will procure four Deployable Battery Power Systems (DBPS). The DPBS are designed to be quickly transported and connected to the system when substations are disabled and emergency power needs to be provided. Once deployed to the incident site, the unit will fill the gap between working substations, allowing basic train service to be restored until permanent repairs are complete at the damaged location.

## **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted award date slipped four months, from August 2019 to December 2019. This was due to the result from the hearing conducted on April 29, 2019 regarding a subcontractor having a negative finding during the Request For Proposal (RFP) period regarding their qualifications to participate in the project.

# What is Being Done

**Schedule:** As a result of the hearing, the sub-contractor findings have been reviewed and addressed. Vendor Relations will provide a Significant Adverse Information (S.A.I.) memo in favor of the sub-contractor stating that the issue that prompted the investigation does not pose any risk to the MTA and they are qualified to work with NYCT if chosen for the project. However, the RFP process will start over from the first step of the two-step process and the schedule has been adjusted accordingly.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: Mitigation - Consolidated Revenue Facility	Current Budget: \$11.4M
	Project EAC: \$16.9M
Revenue Pacinty	Original Award Date: Jul 2018
Project No: ET160310	Current Award Date: Dec 2019
Project Phase: Post-Design to Construction Award	Phase Complete: 0%

This project will provide an effective flood mitigation scheme to protect the Consolidated Revenue Facility located in Maspeth, Queens. The project consists of a perimeter flood wall to protect against storm surges, as well as improvements of the drainage system to mitigate effects of heavy rain fall. Deployable flood walls will be used at the facility entrances to maintain access and will be deployed when a storm is forecast to arrive.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted award date slipped six months, from June 2019 to December 2019. Due to significantly high bids received during the initial advertisement, the project is being transferred to the Department of Buses to be repackaged and rescoped. The rescoping will maintain a minimum Design Flood Elevation of FEMA 100 Year Storm Event plus 2 feet and the project will be a stand-alone project for this facility only. The schedule delay will allow for that process to be completed.

# What is Being Done

**Schedule:** The transfer of the project to the Department of Buses has been initiated, scope revisions to the project will soon commence.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019			
D . AN M	Current Budget: \$11.2M			
Project Name: Mitigation - Zerega Maintenance Facility	Project EAC: \$11.3M			
racinty	Original Award Date: Jun 2019			
Project No: ET160311	Current Award Date: Sep 2019			
Project Phase: Post-Design to Construction	Phase Complete: 0%			
Award	1 mase complete. 070			

This project will provide long term flood mitigation to the Zerega Maintenance Facility, located in the Bronx. Resiliency will be achieved by constructing a concrete flood wall around the facility, protecting entrances and the fuel dispensing area with flood panels and stop logs, sealing or relocating mechanical connections/penetrations and installing a backflow prevention system.

#### **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted award date slipped three months, from June 2019 to September 2019. This was due to delays in finalizing the project's design flood elevation to align with the available budget. Based on available budget, the design flood elevation of the flood wall needed to be revised from the Sea Lake Overland Surge from Hurricanes (SLOSH) Category 2 plus 3 feet to SLOSH 2 plus 1 foot. The revised perimeter flood wall will maintain a minimum Design Flood Elevation for a Federal Emergency Management Agency (FEMA) 100 year storm event plus 2 feet.

# What is Being Done

**Schedule:** The contract has been advertised, bid opening day is anticipated in July 2019, and award is anticipated for September 2019.

# **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019
Project Name: Mitigation - Tiffany Central Warehouse	Current Budget: \$11.6M
	Project EAC: \$25.5M
	Original Award Date: Jul 2018
Project No: ET160312	Current Award Date: Sep 2019
Project Phase: Post-Design to Construction Award	Phase Complete: 0%

This project will repair and strengthen the building exterior walls at the Tiffany Central Warehouse, located in the Bronx. The existing walls require repairs and the replacement walls will be built to withstand flood loads from future storm events. Work includes the construction of new foundations, new exterior wall panels, reinforcement of interior columns, new windows, frames, watertight doors, sump pumps and a perimeter drainage system.

## **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted award date slipped six months, from June 2019 to December 2019. Due to the significantly high bids received during the initial advertisement, the project is being transferred to the Department of Buses to be repackaged and rescoped. The schedule delay will allow for that process to be completed. The project is being repackaged to include the roof replacement project at Tiffany Central Warehouse. The exterior walls will be replaced with flood resistant walls for a design flood elevation of the Sea Lake Overland Surge from Hurricanes (SLOSH) Category 2 plus 3 feet. This level of flood protection is above the minimum Design Flood Elevation for a Federal Emergency Management Agency (FEMA) 100 year storm event plus 2 feet.

# What is Being Done

**Schedule:** The transfer of the project to the Department of Buses has been initiated, scope revisions to the project will soon commence.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019				
Desired News Conde Desired AM MA and an	Current Budget: \$35.1M & \$167.7M				
Project Name: Sandy Repair and Mitigation – Clifton Shop	Project EAC: \$34.8M & \$167.7M				
	Substantial Completion Date at Award: Jul 2020				
Project No: ES070211 & ES070302	Current Substantial Completion Date: May 2021				
<b>Project Phase: Construction</b>	Phase Complete: 24% & 19%				

This project will develop an effective flood mitigation scheme to protect the Clifton Yard and Shop in the Borough of Staten Island. The goal of the project is to repair previous damage from Superstorm Sandy and fortify the shop assets against flooding and storm surges up to a Category 2 hurricane coupled with high tides. This design-build project also incorporates capital improvements to the Clifton Yard facility which includes the demolition of the existing shop buildings and the construction of a new Clifton Car Repair Shop with new equipment, track realignments in the yard and site drainage improvements. The Sandy Program work, authorized under projects ES070211 and ES070302 and the Capital Program work, authorized under project S7070111 are simultaneously in construction.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped three months, from February 2021 to May 2021. This was due to unforeseen conditions effecting the installation of H-piles, which required more splicing than anticipated by the contractor and pile depths of 58 feet, 85 feet and 107 feet on average. The contractor anticipated all piles would be in the range of 44 to 72 feet. The contractor has filed an Article 8.03 Dispute on Differing Site Conditions for additional pile lengths required due to the soil conditions.

# What is Being Done

**Schedule:** The contractor brought additional pile rigs to the site. A dedicated pile rig was used for battered piles along the perimeter of the building. Depending on work site access, 2 or 3 pile rigs were used to advance the pile work. All piles were completed on March 15, 2019. Resolution of the contractor's building site conditions dispute is ongoing.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: New York City Transit	Status as of March 31, 2019			
D	Current Budget: \$51.3M			
Project Name: Mitigation - St. George Terminal Yard	Project EAC: \$51.3M			
	Original Award Date: Nov 2018			
Project No: ES070303	Current Award Date: Apr 2019			
Project Phase: Post-Design to Construction Award	Phase Complete: 100%			

This project will implement mitigation initiatives at the St. George Terminal and Yard to prevent future flooding at the NYCT Staten Island Railway. Resiliency will be achieved by installing a perimeter flood wall, deployable stop logs for access points and the adjacent rail tunnel, watertight manholes, a backflow system, and improvements to the drainage and pumping systems.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule** 

**Schedule:** During the First Quarter 2019, the forecasted award date slipped three months, from January 2019 to April 2019. This was due to a delay in the contractor qualification process.

# What is Being Done

**Schedule:** Subsequent to this report, the project was awarded on April 5, 2019.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.



MTA Agency: Metro-North Railroad	Status as of March 31, 2019				
Desired Norman Desired	Current Budget: \$6.0M				
Project Name: Rail Vacuum Mitigation	Project EAC: \$5.3M				
	Substantial Completion Date at Award: Aug 2018				
Project No: EM030301	Current Substantial Completion Date: Aug 2019				
<b>Project Phase: Construction</b>	Phase Complete: 54%				

This project involves the purchase of two Vacuum Trucks and a Continuous Welded Platform (CWP) machine (also known as a slot train) to help expedite repairs and the restoration of passenger service after a storm. The CWP machine is made up of nine connected rail cars with lift attachments utilized to load and unload materials and debris.

One of the key ways to reduce the risk of flooding is to keep the drainage infrastructure clear so that water can drain quickly and efficiently away from the right-of-way. The infrastructure includes culverts under the tracks, drainage facilities, catch basins, etc. The use of Vacuum Trucks and CWP machines provides a highly efficient means to keep these assets clear of silt, obstructions, etc. so that they can function properly.

# **Problem Since Last Quarterly Report**

**Index Trigger(s): Schedule & Contingency** 

**Schedule:** During the First Quarter 2019, the forecasted Substantial Completion date slipped six months from February 2019 to August 2019. This slip was due to time needed to perform various modifications required to enhance the safety and operational efficiency of the CWP equipment that were not in the original scope of work.

**Contingency:** The high Contingency Index of 1.2 was triggered in the First Quarter 2019 due to change orders that were required to modify the equipment identified above.

# What is Being Done

**Schedule:** MNR project management continues to provide oversight and monitoring of the work progress as well as conducting site visits to the vendor as necessary to avoid further project delays. Currently the contractor is completing all modifications at their facility and attempting to schedule delivery of the CWP machine to MNR before the end of June 2019. On-site installation will commence after delivery. Acceptance of the CWP machine is anticipated for December 2019.

**Contingency:** Change orders have been executed and the additional funding required was available from within the existing project budget.

## **IEC Comment**

**Budget and Schedule Performance:** The IEC substantially agrees with the material presented in this report, including the stated problems and actions taken by the Agency.

# **Projects in CPOC's Risk-Based Monitoring Program** (1st Quarter 2019 Traffic Light Report – Period Ending March 31, 2019)

The following projects in CPOC's Risk-based Monitoring Program are currently reported on by the responsible agency in accordance with the CPOC Work Plan schedule, and are continually monitored by the Independent Engineering Consultant. Monitored Capital Program projects are not included in the Quarterly Capital Traffic Light Report. Monitored Sandy Program projects are included in the Quarterly Sandy Traffic Light Report. The program/project list is subject to periodic review and adjustment by the MTA.

# **Projects in CPOC's Risk-Based Monitoring Program**

Capital Program 2010- 2015- 14 19		Agency	Project				
			Capital Construction				
	X	MTACC	Second Avenue Subway Phase 2				
X	X	MTACC	East Side Access & Regional Investments				
	X	MTACC	Penn Station Access				
	X	MTACC	LIRR Expansion Project – Floral Park to Hicksville				
		İ	Signals and Communications				
X	X	LIRR/MNR	Positive Train Control				
	X	NYCT	Communications Based Train Control – 8 <sup>th</sup> Ave Line				
X		NYCT	Communications Based Train Control - Flushing Line				
X		NYCT	Communications Based Train Control - Queens Blvd. West- Phase 1				
	X	NYCT	Communications Based Train Control - Queens Blvd. West-Phase 2				
X	X	NYCT	Beacon Train Arrival System- B Division				
X	X	NYCT	Integrated Service Information and Management B Division				
X	X	NYCT/MTA Bus	Replace Bus Radio System				
X		NYCT/MTA Bus	Construct Bus Operations Command Center				
	X	MNR	Customer Service Initiative - Grand Central Terminal Public Address & Visual Information System				
		Subway C	ar, Bus and Rolling Stock Procurement				
X	X	NYCT	New Subway Car Procurement				
X	X X NYCT New Bus Procurement						

# **Projects in CPOC's Risk-Based Monitoring Program** (1st Quarter 2019 Traffic Light Report – Period Ending March 31, 2019)

Capital Program			Project						
2010- 14	2010- 2015- A								
	Subway Car, Bus and Rolling Stock Procurement (Cont'd)								
X	X	LIRR/MNR	Commuter Rail Road Rolling Stock Procurement						
	Passenger Stations Program								
X		NYCT	Sea Beach Line - Renewal of 9 Stations						
	X	NYCT	ADA Reconstruction Times Square Station						
	X	NYCT	Enhanced Station Initiative						
	X	NYCT/CRR	New Fare Payment System - Phase 2						
			Shops and Yards						
X		MNR	Harmon Shop Replacement Phase V, Stage 1						
	X	MNR	Harmon Shop Replacement Phase V, Stage 2						
X		LIRR	New Mid Suffolk Electric Yard						
	X	LIRR	Morris Park Diesel Locomotive Shop						
			Line Structures and Track						
	X	NYCT	Myrtle Avenue Viaduct Replacement						
X		LIRR	Jamaica Capacity Improvements Phase 1						
X	X	LIRR	Main Line Double Track - Farmingdale to Ronkonkoma						
			Bridges and Tunnels						
X		B&T	RFK Bridge Bronx Toll Plaza Reconstruction						
	X	B&T	Throgs Neck Bridge Replace Suspended Span Deck						
			Sandy Program						
	Sandy Program MNR		Hudson Line Phase 1 & 2 Power and Communication & Signal Restoration						
Pro	andy ogram NYCT Canarsie Tube Restoration and Resiliency		Canarsie Tube Restoration and Resiliency						
Pro	ndy gram	NYCT	Reconstruct Clifton Repair Shop						
	ndy gram	NYCT	Coney Island Yard Long Term Perimeter Protection						
	ndy gram	NYCT	207 <sup>th</sup> Street Yard Long Term Perimeter Protection						

# CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 1st Quarter 2019 (FOR INFORMATION ONLY)

				<u> </u>					
Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
В&Т	RK-75 III	Interim Deck Replacement for the Manhattan Leg of the RI Interchange at the RFK Bridge	\$20,323,000	\$136,410	\$742,357	3.65%	2	01/28/19	Relieving traffic congestion by revising staging, deck replacement area and accelerating work.
B&T	HH-88B-HH- 13A	Reconstruction of Upper and Lower Toll Plaza and Southbound Approach and Lighting Replacement at North and Southbound Henry Hudson Parkways	\$86,068,939	(\$3,612,008)	\$527,836	0.61%	6	01/29/19	Quantity adjustments and extra work as a result of actual field conditions
B&T	RK-22	Interim Repairs to the Ramps at the RFK Bridge	\$12,863,178	\$754,960	\$749,050	5.82%	3	02/08/19	Extra concrete surface parging, ACM removal as a result of unforeseen field conditions
B&T	PSC-16-2996	Design and Construction Support Services for RK-19 RK-70 Wind Retrofits and Miscellaneous Structural Repairs at the RFK Bridge	\$3,427,162	\$4,294,325	\$359,602	10.49%	2	03/07/19	Additional design services including evaluation and testing to determine remaining service life of certain structural elements as well as weigh-in-motion analysis.
B&T	PSC-13-2928	Construction Administration and Inspection Services for Projects RK- 65A, Reconstruction of the Bronx Plaza and RK-75, Interim Repairs to the Manhattan Plaza at the RFK Bridge	\$15,943,224	\$1,492,969	\$269,954	1.69%	6	03/18/19	Additional construction inspection due to amended construction duration and scope.
B&T	QM-40S	Sandy Restoration and Mitigation and QM-40/QM-18 Rehabilitation of the Tunnel and Manhattan Exit Plaza at the Queens Midtown Tunnel	\$236,500,000	\$58,111,870	\$405,309	0.17%	18	03/26/19	Quantity adjustments and extra work.
LIRR	6289	Enhanced Station Project	\$80,350,000	\$81,748,436	\$696,038	0.87%	Mod 6 for CR 9,11,12	01/18/19	Component Design and Construction Changes
LIRR	6241	Morris Park Locomotive Shop & Employee Facility - Design / Build	\$89,859,236	\$807,857	\$441,936	0.49%	Mod 3 for CR 3	01/18/19	Material Power and Trailer Relocations
LIRR	6213	New ADA Improvements at Flushing Main Street Station	\$14,250,000	\$196,040	\$316,090	2.22%	Mod 5 for CR 3,5,6,7,8	02/17/19	Communications Room/ Fire Alarm Installation, Electric and Light, Aditional Conduit
LIRR	6202	Hicksville Station Improvements	\$50,911,200	\$2,125,734	\$723,976	1.42%	Mod 10 for CR 15, ,26, 28, 42, 44, 46, 47	03/11/19	Concrete, Cleaning and Finishes, Exhaust Fan, Expansion Joints
LIRR	6289B	Design Build Svs. For LIRR Enhanced Station Initiatives	\$134,000,000	\$126,789	\$673,157	0.50%	Mod 2 for CR 2	03/08/19	Survey, Internet Services, System Design, Conduit and Cabling, Wi-Fi

# CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 1st Quarter 2019 (FOR INFORMATION ONLY)

				•		<u> </u>			
Agency	Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
MNR	39885	Construction 3 Substations on the Hudson Line, Riverdale, Tarrytown and Croton Harmon and a New Substation at Brewster on the Harlem Line	\$38,325,000	\$2,737,569	\$655,124	1.71%	40	03/22/19	Preliminary Preparation Work for the electrical point of entrtry for new substation at Brewster.
MTACC	C-26009	Second Avenue Subway - Track, Signal, Traction Power, and Communications Systems in the Borough of Manhattan	\$261,900,000	\$33,060,136	\$270,000	0.10%	214	01/29/19	Integrated Electronic Security Systems (IESS) work at 63rd Street
MTACC	C-26009	Second Avenue Subway - Track, Signal, Traction Power, and Communications Systems in the Borough of Manhattan	\$261,900,000	\$34,140,891	\$485,000	0.19%	272	03/25/19	Fire Alarm and Miscellaneous System Changes to Address Punch List Items
MTACC	C-26009	Second Avenue Subway - Track, Signal, Traction Power, and Communications Systems in the Borough of Manhattan	\$261,900,000	\$32,463,914	\$310,000	0.12%	292	01/22/19	Station Service Center glazing replacement at 72nd, 86th and 96th Street stations
MTACC	C-26011	Second Avenue Subway - 72nd Street Station Finishes, Borough of Manhattan	\$258,353,000	\$71,396,592	\$560,000	0.22%	306	02/21/19	Final Restoration NYC DOT changes
MTACC	C-26011	Second Avenue Subway - 72nd Street Station Finishes, Borough of Manhattan	\$258,353,000	\$71,439,092	\$635,000	0.25%	394	01/04/19	Extended Overhead for AWO Work Beyond Substantial Completion
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$37,736,941	\$286,000	0.09%	135	01/28/19	2nd Ave Sidewalk Repair and Street Work
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$45,426,485	\$287,000	0.09%	179	03/12/19	CS084 Remote Control Disconnect Switches
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$35,620,287	\$299,000	0.09%	143	01/09/19	23rd St Concrete Beams and FPSS Floor
MTACC	CM007	GCT Station Caverns and Track for ESA	\$663,077,800	\$2,445,367	\$346,550	0.05%	59	03/05/19	Overhead Drain Line Per RFI 323
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$39,950,658	\$349,285	0.10%	161	01/28/19	44th Non-Existant Vitalink Cable Specified
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$36,447,287	\$371,442	0.11%	146	01/09/19	GCT 3 & 6 Electrical Modifications
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$36,818,729	\$413,000	0.12%	164	01/09/19	55th Street Emergency Power Room Changes
MTACC	CH058A	GCT Station Caverns and Track for ESA	\$60,168,000	\$0	\$450,000	0.75%	1	03/08/19	B-931 Structures Demolition
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$41,155,065	\$505,000	0.15%	176	02/14/19	2nd Ave Discharge, Drainage & Condenser pipes
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$45,883,257	\$526,905	0.16%	180	03/20/19	Cross Flue TVF Power
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$35,919,287	\$528,000	0.16%	144	01/09/19	23rd Street Concrete Repairs
MTACC	CM014B	GCT Concourse and Facilities Fit-Out	\$428,900,000	\$40,834,681	\$567,507	0.13%	204	02/11/19	Additional Gutter Downspouts and Leaders (CPR-128)
MTACC	CM014B	GCT Concourse and Facilities Fit-Out	\$428,900,000	\$38,596,508	\$581,117	0.14%	173	02/11/19	Transformer House 1 Drainage (CPR-039 R6)
MTACC	CM007	GCT Station Caverns and Track for ESA	\$663,077,800	\$1,543,305	\$585,000	0.09%	37	01/23/19	FM200 & Associated Changes
MTACC	CS179	Systems Facilities Package No. 1	\$333,588,000	\$44,353,692	\$612,337	0.18%	154	02/20/19	Alarming Security Related Cabinets

# CPOC COMMITTEE CONTRACT CHANGE ORDER REPORT\* - 1st Quarter 2019 (FOR INFORMATION ONLY)

Contract Number	Contract Description	Base Contract Value**	Prior Modifications Value	Current Change Order Value	Percentage of Current Change Order Value to Base Contract Value	Change Order Number	Date of Change Order Award	Change Order Description
CQ032	Plaza Substation and Queens Structures for the East Side Access Project	\$147,377,000	\$115,559,286	\$648,644	0.44%	92	02/12/19	Amtrak Bridge Grouting
CS179	Systems Facilities Package No. 1	\$333,588,000	\$44,966,029	\$678,728	0.20%	184	02/26/19	CTC Code Charts
CS179	Systems Facilities Package No. 1	\$333,588,000	\$40,437,041	\$718,024	0.22%	174	02/14/19	Replacement of Mechanical Fire Dampers
CQ032	Plaza Substation and Queens Structures for the East Side Access Project	\$147,377,000	\$114,816,701	\$742,585	0.50%	91	02/08/19	Water Infiltration Remediation Launch Block
C-33242-R	Overcoat painting and steel repairs	\$45,446,000	\$0	\$404,924	0.89%	1	01/04/19	10 Additional Type 1 column repairs
C-48507	Long-term flood protection at Hammels Wye, Queens	\$12,797,830	\$13,320	\$310,000	2.42%	2	03/27/19	Construct a concrete flood wall on the south side of Hammels Wye Campus
A-37659	Flood Mitigation/Resiliency at Nine Stations and One Fan Plant	\$37,966,000	\$50,227	\$260,500	0.69%	4	02/21/19	Retrofitting the stairwell flood protection device for stair S5 at Canal Street station
C-82004	Design and Construction of Clifton Shop in the borough of Staten Island	\$163,750,000	\$128,700	\$311,000	0.19%	4	02/28/19	Disposal of lead hazardous soil
S-48005	Installation of CBTC System on Queens Boulevard Line (West)	\$223,300,000	\$1,232,500	\$490,000	0.22%	13	02/06/19	Furnish and install Vortok transponder brackets in selected locations
S-32765	West 4th Street interlocking signal system modernization	\$89,500,000	\$381,292	\$324,000	0.36%	14	01/14/19	Additional route request push buttons (RTO)
A-36622B	ESI Package 2 for Design and Construction of Improvements at the 30th Avenue, Broadway, 36th Avenue, and 39th Avenue stations along the Astoria Line	\$149,680,000	\$16,661,963	\$506,800	0.34%	17	01/23/19	Changes to windscreen framing components at all stations
P-36437	Canarsie Tunnel Rehabilitation and Core Capacity Improvements	\$477,000,000	\$1,013,442	\$487,000	0.10%	23	02/28/19	Replace loose ties on existing tracks
C-48702	Viaduct and Bridge Replacement on the Myrtle Line in the Boroughs of Brooklyn and Queens	\$80,680,000	\$2,088,926	\$325,000	0.40%	42	01/04/19	Viaduct lubrication system modifications
B-31153	Purchase 120 high floor 45-foot Clean Diesel Over-the-Road Express Buses	\$45,198,840	\$473,135,876	\$637,590	1.41%	52	01/29/19	Incorporate language for the repair of Over-the-Road Express buses
	Number  CQ032  CS179  CS179  CS179  CQ032  C-33242-R  C-48507  A-37659  C-82004  S-48005  S-32765  A-36622B  P-36437  C-48702	Number  Contract Description  Plaza Substation and Queens Structures for the East Side Access Project  CS179  Systems Facilities Package No. 1  CS179  Systems Facilities Package No. 1  Plaza Substation and Queens Structures for the East Side Access Project  C-33242-R  Overcoat painting and steel repairs  C-48507  Long-term flood protection at Hammels Wye, Queens  A-37659  Flood Mitigation/Resiliency at Nine Stations and One Fan Plant  C-82004  Design and Construction of Clifton Shop in the borough of Staten Island  S-48005  Installation of CBTC System on Queens Boulevard Line (West)  S-32765  West 4th Street interlocking signal system modernization  ESI Package 2 for Design and Construction of Improvements at the 30th Avenue, Broadway, 36th Avenue, and 39th Avenue stations along the Astoria Line  P-36437  Canarsie Tunnel Rehabilitation and Core Capacity Improvements  Viaduct and Bridge Replacement on the Myrtle Line in the Boroughs of Brooklyn and Queens  Purchase 120 high floor 45-foot Clean	Number Contract Description Base Contract Value**  Plaza Substation and Queens Structures for the East Side Access Project  CS179 Systems Facilities Package No. 1 \$333,588,000  CS179 Systems Facilities Package No. 1 \$333,588,000  Plaza Substation and Queens Structures for the East Side Access Project  C-33242-R Overcoat painting and steel repairs \$45,446,000  C-48507 Long-term flood protection at Hammels Wye, Queens \$112,797,830  A-37659 Flood Mitigation/Resiliency at Nine Stations and One Fan Plant  C-82004 Design and Construction of Clifton Shop in the borough of Staten Island  S-48005 Installation of CBTC System on Queens Boulevard Line (West)  S-32765 West 4th Street interlocking signal system modernization  ESI Package 2 for Design and Construction of Improvements at the 30th Avenue, Broadway, 36th Avenue, and 39th Avenue stations along the Astoria Line  P-36437 Canarsie Tunnel Rehabilitation and Core Capacity Improvements  Viaduct and Bridge Replacement on the Myrtle Line in the Boroughs of Brooklyn and Queens  Purchase 120 high floor 45-foot Clean  Purchase 120 high floor 45-foot Clean	Number         Contract Description         Base Contract Value         Value           CQ032         Plaza Substation and Queens Structures for the East Side Access Project         \$147,377,000         \$115,559,286           CS179         Systems Facilities Package No. 1         \$333,588,000         \$44,966,029           CS179         Systems Facilities Package No. 1         \$333,588,000         \$40,437,041           CS179         Systems Facilities Package No. 1         \$333,588,000         \$40,437,041           CQ032         Plaza Substation and Queens Structures for the East Side Access Project         \$147,377,000         \$114,816,701           C-33242-R         Overcoat painting and steel repairs         \$45,446,000         \$0           C-48507         Long-term flood protection at Hammels Wye, Queens         \$12,797,830         \$13,320           A-37659         Flood Mitigation/Resiliency at Nine Stations and One Fan Plant         \$37,966,000         \$50,227           C-82004         Design and Construction of Clifton Shop in the borough of Staten Island         \$163,750,000         \$128,700           S-48005         Installation of CBTC System on Queens Boulevard Line (West)         \$223,300,000         \$1,232,500           S-32765         West 4th Street interlocking signal system modernization         \$89,500,000         \$381,292           A-36622B	Number         Contract Description         Base Contract Value**         Value         Order Value           CQ032         Plaza Substation and Queens Structures for the East Side Access Project         \$147,377,000         \$115,559,286         \$648,644           CS179         Systems Facilities Package No. 1         \$333,588,000         \$44,966,029         \$678,728           CS179         Systems Facilities Package No. 1         \$333,588,000         \$40,437,041         \$718,024           CQ032         Plaza Substation and Queens Structures for the East Side Access Project         \$147,377,000         \$114,816,701         \$742,585           C-33242-R         Overcoat painting and steel repairs         \$45,446,000         \$0         \$404,924           C-48507         Long-term flood protection at Hammels Wye, Queens         \$12,797,830         \$13,320         \$310,000           A-37659         Flood Mitigation/Resiliency at Nine Stations and One Fan Plant         \$37,966,000         \$50,227         \$260,500           C-82004         Design and Construction of Clifton Shop in the borough of Staten Island         \$163,750,000         \$128,700         \$311,000           S-48005         Installation of CBTC System on Queens Boulevard Line (West)         \$223,300,000         \$1,232,500         \$490,000           S-32765         West 4th Street interlocking signal system modern	Contract Number   Contract Description   Base Contract Value*   Prior Modifications   Current Change Order Value to Base Contract Value*   Change Order Value to Base Contract Value*   Change Order Value to Base Contract Value*   Contract Value*	Contract Number         Contract Description         Base Contract Value*         Prior Modifications Value         Current Change Order Value to Base Contract Value*         Change Order Value Order Number           CO032         Plaza Substation and Queens Structures for the East Side Access Project         \$114,377,000         \$115,559,286         \$648,644         0.44%         92           CS179         Systems Facilities Package No. 1         \$333,588,000         \$44,966,029         \$676,728         0.20%         184           CS179         Systems Facilities Package No. 1         \$333,588,000         \$40,437,041         \$718,024         0.22%         174           CQ032         Plaza Substation and Queens Structures for the East Side Access Project         \$147,377,000         \$114,816,701         \$742,585         0.50%         91           C-33242-R         Overcoat painting and steel repairs         \$45,446,000         \$0         \$404,924         0.89%         1           C-48507         Long-term flood protection at Hammels Wye, Queens         \$12,797,830         \$13,320         \$310,000         2.42%         2           A-37659         Flood Mitigation/Resiliency at Nine Stations and One Fan Plant         \$37,966,000         \$50,227         \$260,500         0.69%         4           C-82004         Design and Construction of Clifton Shop in the boroug	Contract Number   Contract Description   Base Contract Value*   Prior Modifications   Contract Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Value   Change Order Award   Change Order Award   Change Order Award   Change Order Value   Change Order Award   Change Order Value   Change Order Award   Change Order Award   Change Order Award   Change Order Award   Change Order Value   Change Order Award   Change Order Value   Change Order Value   Change Order Award   Change Order Value   Change Order Award   Change Order Value   Change Order Value   Change Order Value   Change Order Award   Change Order Value   Change Or

\*Capital change order value \$250,000 to \$750,000, and change orders from \$50,000 to \$250,000 but over 15% of the adjusted contract amount
\*\* Including any exercised options