Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

June 2021

Committee Members

P. Foye, Chair
N. Zuckerman, Vice Chair
A. Albert
J. Barbas
N. Brown
M. Fleischer
R. Glucksman
R. Herman
D. Jones
K. Law
R. Linn
D. Mack
J. Samuelsen
V. Tessitore

Capital Program Oversight Committee Meeting

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

Wednesday, 6/23/2021
10:00 AM - 5:00 PM ET

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES MAY 26, 2021

CPOC Committee Minutes - Page 3

3. COMMITTEE WORK PLAN

2021 CPOC Committee Work Plan - Page 4

4. NYCT / LIRR CAPITAL PROGRAM UPDATE

NYCT Subway Car Program Update - Page 6
IEC Project Review on R211 Railcar Procurement - Page 17
LIRR M-9 Railcar Procurement Update - Page 23
IEC Project Review on M-9 Railcar Procurement - Page 34
NYCT/DOB & MTA Bus Co. New Bus Program Mid-Year 2021 - Page 40
IEC Project Review on Bus Procurement - Page 66

5. UPDATE ON OMNY, MTA's NEW FARE PAYMENT SYSTEM

MTA Update on OMNY - Page 71
IEC Project Review on OMNY - Page 80

6. CAPITAL PROGRAM STATUS

Commitments, Completions, and Funding Report - Page 88

7. QUARTERLY TRAFFIC LIGHT REPORTS

First Quarter 2021 Core & Sandy Traffic Light Reports - Page 105

MINUTES OF MEETING

MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE

May 26, 2021

New York, New York

10:00 A.M.

Because of the ongoing COVID-19 public health crisis, the MTA Chairman convened a one-day, virtual Board and Committee meeting session on May 26, 2021, which included the following committees:

- Long Island Rail Road and Metro-North Railroad;
- New York City Transit;
- MTA Bridges and Tunnels;
- Finance;
- Capital Program Oversight;
- Audit;
- Diversity.

To see a summary of the CPOC Committee meeting, please refer to the May 26, 2021 Board minutes in the June Board Book available here on the Board materials website:
https://new.mta.info/transparency/board-and-committee-meetings/june-2021

Metropolitan Transportation Authority

2021- 2022 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
Overall Capital Program
- Stations

September
Overall Capital Program
- Railroads

Quarterly Traffic Light Report

October
Overall Capital Program
- Infrastructure

November
Overall Capital Program
- Signals and Train Control

Minority, Women and Disadvantaged Business Participation
Small Business Development Program

December
Overall Capital Program
- Integrated Megaprojects

OMNY
Quarterly Traffic Light Report

January
Overall Capital Program
- Stations

February
Overall Capital Program
- B&T
- Railroads

March
Overall Capital Program
- Infrastructure

Quarterly Traffic Light Report

April
Overall Capital Program
- Signals and Train Control

Minority, Women and Disadvantaged Business Participation
Security Projects

May
Overall Capital Program
- Integrated Megaprojects

June
Overall Capital Program
Rolling Stock
OMNY
Quarterly Traffic Light Report

NYCT Subway Car Program

James Maciag, P.E.
Assistant Chief Mechanical Officer, Car Equipment Engineering
Department of Subways

NYCT Subway Car Program
Overall Goals

Maintaining State of Good Repair

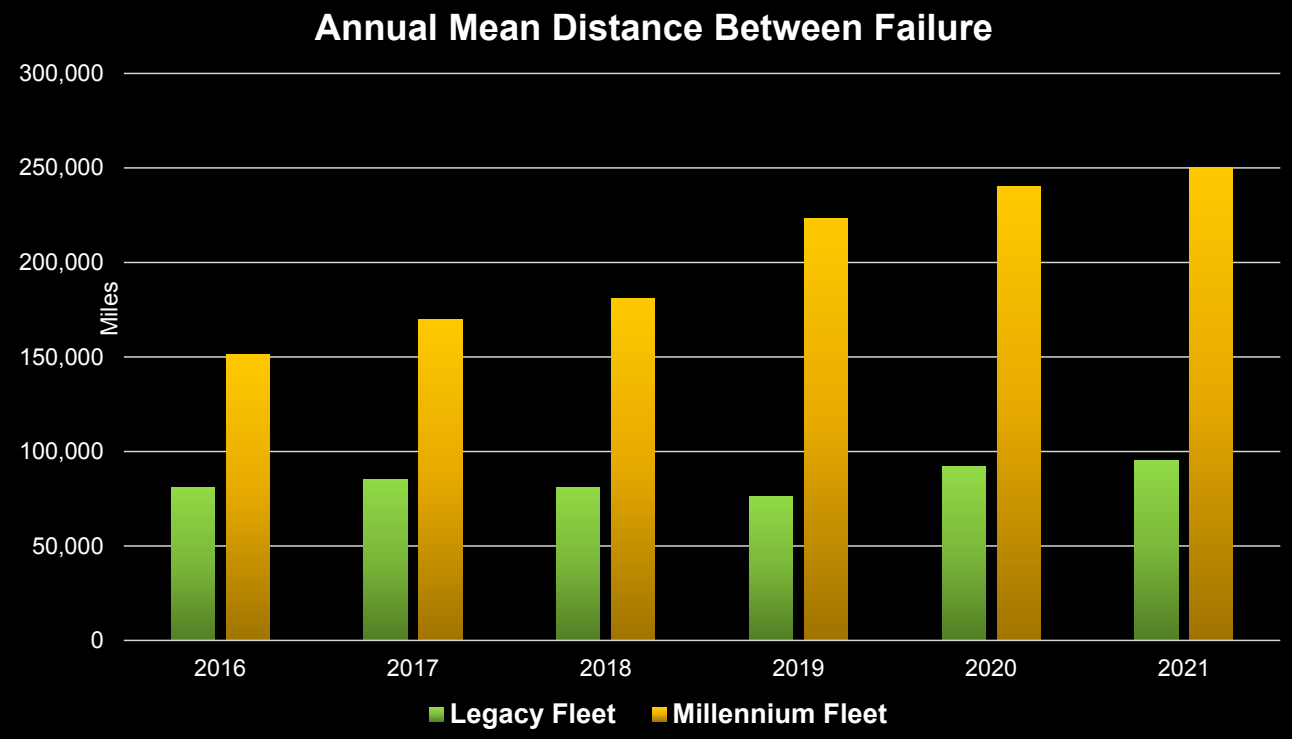
- Ensuring a safe, reliable, twenty-first century fleet
- Achieved through regular maintenance programs and replacement of subway cars upon the end of their useful lives

Supporting Signal System Modernization

- The latest car signaling / communication technology requires installation of communications equipment directly on our subway cars
  - New subway cars must be designed to accommodate latest signal technology
  - Retrofit existing subway cars to accommodate this equipment

NYCT Subway Car Program

Maintaining State of Good Repair



Reliability of millennium fleet (cars purchased since 2000) has increased

60%

since 2016 and exceeds legacy fleet by

2.5x

*** 2021 = 12 Mo. Moving Avg. through April 2021**

R211
Project Objectives

Maintaining State of Good Repair
- Replaces 40+ year old NYCT R46 and SIR R44 fleets

Supporting Modernized Signals
- Increases CBTC-equipped subway car fleet to enable expansion of CBTC on the B-Division, including the ongoing installation on the 8 Av ACE Line

R211
Project Overview

- Awarded to Kawasaki in February 2018
- Up to 1,612 cars for NYCT and SIR
- Base Order (535 cars):
  - Base Order budget $1.75 billion
  - 440 Standard ‘R211A’ cars
  - 75 Staten Island Railway ‘R211S’ cars
  - 20 Open Gangway Test ‘R211T’ cars

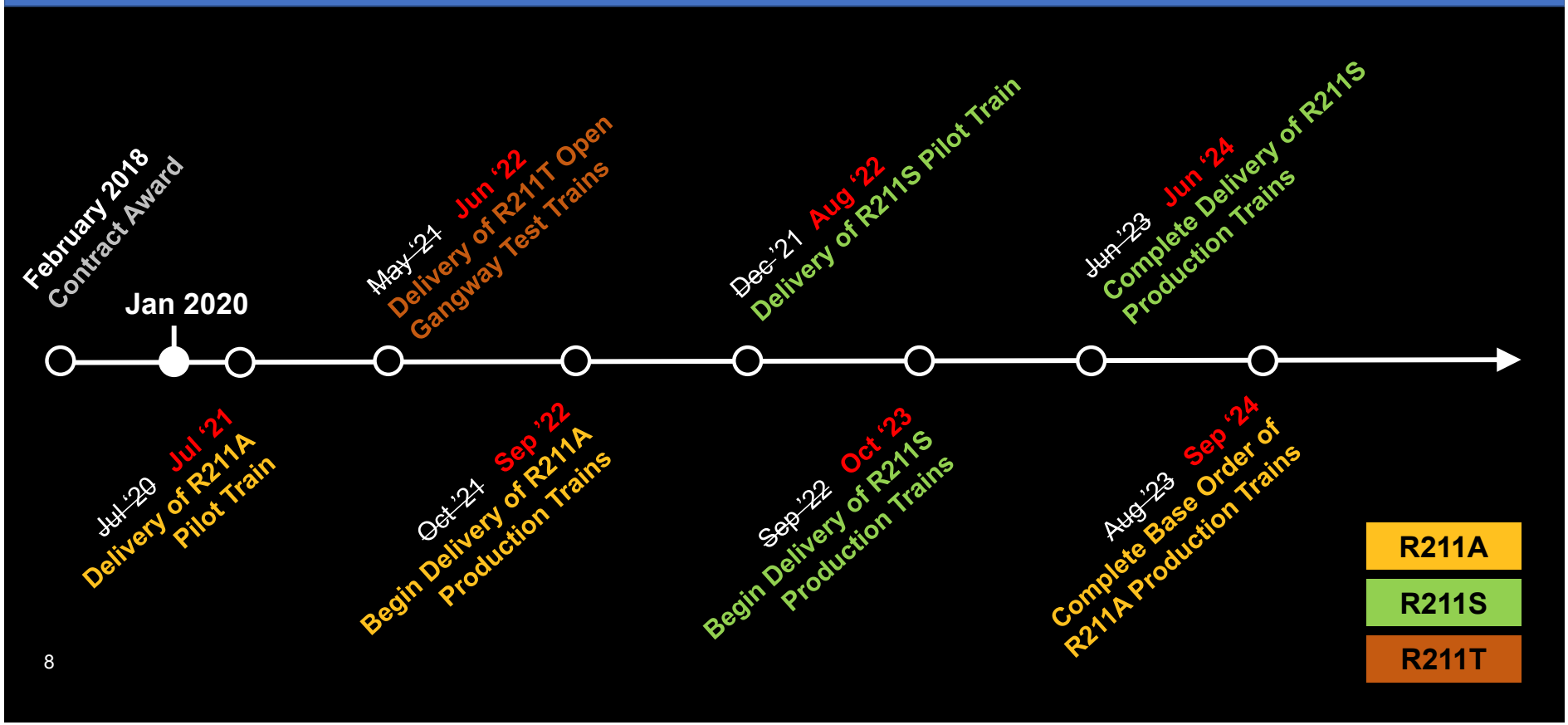
R211
Progress to Date

- R211 project continues to advance in light of the challenges faced with the COVID-19 pandemic. These challenges include those faced by Kawasaki, suppliers, and the global supply chain.
- Kawasaki has communicated estimated delays on the contractual delivery dates for the various R211 trains due to COVID-19.
  - *NYCT is currently reviewing details of the schedule and cause of delays (including the impact of the pandemic)*
- The R211A pilot train is nearing completion in Nebraska.
- The R211T Open Gangway pilot train production is underway.

R211
Schedule Impacts

- **R211A Pilot Train** – projected to be delivered July 2021 (12 months late). The April 2021 delivery date was revised to July 2021 due to additional time required for Kawasaki to complete contractually obligated testing at its manufacturing facility.
  - Current project activities include system qualification testing on brakes and auxiliary power. The pilot train will undergo extensive qualification testing in anticipation of production car deliveries beginning in September 2022.
- **R211T Open Gangway test trains** – projected delivery in June 2022 (13 months late)
- **R211S Staten Island Railway Cars -** test train projected for delivery in Aug 2022 (8 months late); production cars projected start delivery in Oct 2023 (12 months late)
- **R211A Base Order** – projected for completion in Sept 2024 (13 months late)

R211
Latest Kawasaki Schedule – Under Review



R211A
Production in Lincoln, Nebraska

R211A 5-car unit in final stages of production

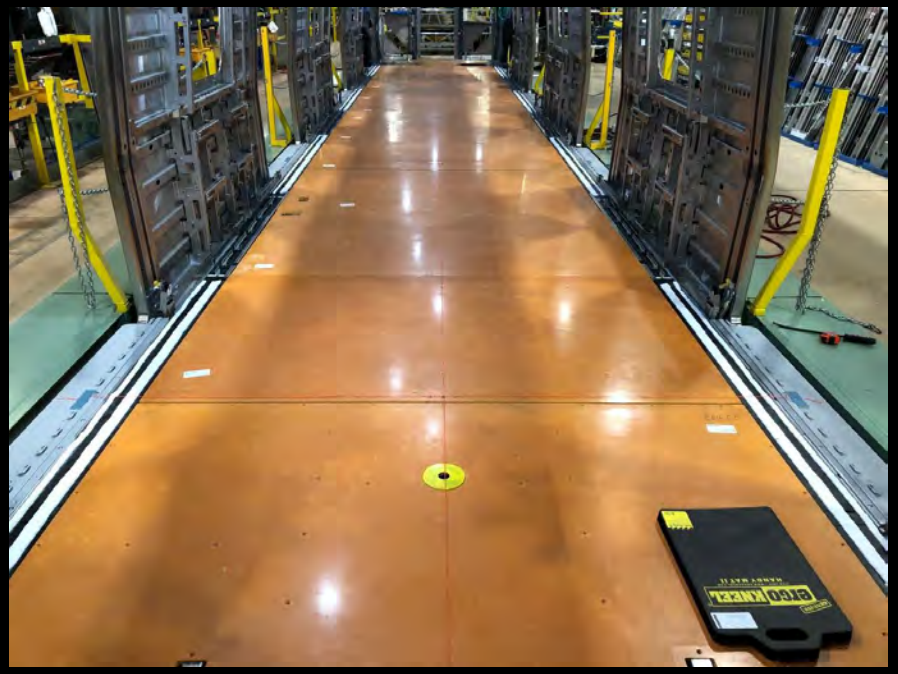
R211A
Production In Lincoln, Nebraska

Completed R211A interior

R211A Cab

R211T
Production in Lincoln, Nebraska

R211T Open Gangway exterior



R211T Open Gangway interior

June 2021 CPOC
Independent Engineering Consultant
Project Review

R211 Vehicle Procurement

McKissack

MTA Independent Engineering Consultant

R211 Vehicle Procurement

Project Scope

- The R211 project 535-car base order was awarded to Kawasaki in February 2018 for $1.8B, provided for in the 2015-2019 Capital Program.
- The contract has three vehicle sub-classes: R211A, R211S, and R211T:
  - 440-R211A cars to partially replace 748 B-Division R46 vehicles.
    - Of these,10 pilot cars are scheduled to be delivered in July 2021 demonstrating vehicle performance and reliability
  - 75-R211S cars to replace the R44 fleet on the Staten Island Railway.
  - 20-R211T open gangway prototype cars. The R211T open gangway test trains will prove the feasibility of this design.

R211 Vehicle Procurement

Schedule

- As described in earlier reports, the project has had significant delays, but has stabilized in the last few months.
  - HVAC frame cracks and several technical factors have contributed to these delays.

Kawasaki Proposed Project Schedule			
Milestone	**Base Contract Date**	**Latest Schedule Update**	**Delay**
R211A Pilot Car Delivery	7/2020	7/2021	12 mo.
1st Production Unit Delivery to NYCT (R211A)	10 /2021	9/2022	11 mo.
R211A Last production car delivery	8 /2023	9/2024	13 mo.
R211S Pilot Car Delivery	12/2021	8/2022	8 mo.
R211S Last Production Car Delivery	6 /2023	6/2024	12 mo.
R211T Pilot Car Delivery	5/2021	6/2022	13 mo.

- The July 2021 R211A pilot car delivery date has not changed since last report of January 2021. The R211A has open items remaining on the First Article Inspection (FAI) which could add further to the delay.
- Kawasaki is advancing production car work, where possible, to limit the risk of further delay to the project completion.

R211 Vehicle Procurement

Budget

- The project budget and agency's EAC of $1.8B have not changed since last report (January 2021).
- The IEC forecasts the project will exceed the original $17M contingency resulting in an EAC increase of $9.8M to $1.81B. This is based on:
  - Executed, pending and potential change orders are $7.8M.
  - $12.3M in additional cost due to the 15-month delay.
  - The cost of risk for remaining work $6.7M.

R211 Vehicle Procurement

Observations

- IEC analysis indicates it is likely pilot car delivery will be completed later than July 2021, given the status of the FAI issues:
  - There is a risk of further delay due to the shortage of key car components.
  - The current staffing levels are impacting production at Kawasaki Nebraska.
  - NYCT has advised Kawasaki that all critical items impacting NYCT operations must be adequately addressed prior to car shipment. The IEC concurs with NYCT on this point.
- Project team needs to ensure vehicle availability is coordinated with the 8th Ave. CBTC project to avoid schedule impact to that project. R211 vehicles are needed for testing by the project no later than November 2023.

Recommendation

- Prior to beginning full production, Kawasaki should meet with their sub suppliers and NYCT to review the manufacturing processes used on pilot cars and ensure lessons learned are applied on production vehicles. Specifically, attention should be paid to resolving quality, parts shortages and other open items.

R211 Recommendations Log

Recommendations (January 2021)	Agency Response/ Action	Status
Sub-suppliers are failing to meet the pilot car parts delivery schedule due to several major components failing acceptance tests, resulting in program delays. The IEC recommends that following failure determination and correction, NYCT require Kawasaki develop a realistic delivery plan and integrate it with their pilot car delivery schedule.	All meetings with Kawasaki and their suppliers are tracked by Memorandum of Conference (MOC) and action items are reviewed and assigned prior to the close of meetings. Open items are tracked and reviewed for status and progress toward final resolution.	Ongoing
During monthly project updates, not all required Kawasaki departments are present at meetings resulting in coordination issues. The IEC recommends NYCT ensure Kawasaki provide the proper representation to cover all scheduled meetings.	NYCT addressed this issue with senior Kawasaki management.	Closed
The LIRR M9 project, also awarded to Kawasaki, is experiencing significant quality issues. The IEC recommends NYCT direct and work with Kawasaki to apply lessons learned from the M9 project to avoid transference of issues and prevent unnecessary delays.	NYCT continues to meet with Kawasaki and LIRR on identifying and implementing lessons learned.	Closed

LIRR M-9 Railcar Procurement
CPOC Briefing
June 2021

LIRR M-9 Railcar Procurement Update

- **Car Quantity**
  - Base Cars: 92 (Order Completed)
  - Option Cars: 110

Total M-9 Cars: 202 (M-3 Replacement & Ridership Growth)

Budget	Base Order (92)	Option Cars (110)	Total (202)
Project Budget:	$406.4M	$327.2M	$733.6M
Current EAC:	$406.4M	$320.4M	$726.8M
Contingency:	$0	$ 6.8M	$ 6.8M

M9 Car Update

- The first 8 car passenger service train served the morning rush hour on September 11, 2019.
- 92 Cars have been accepted and are operating successfully in passenger service throughout LIRR's electric territory. This completes the Base Order.
- 16 Cars are on-site at LIRR for 1,000-mile Operational Testing.
- 24 cars are at Arch Street (LIRR Facility leased to Kawasaki) being prepared for Operational Testing.
- 26 Cars are at Kawasaki, Yonkers NY facility (KRC) for final assembly.
- The 202nd carshell has commenced Fabrication at Kawasaki's Lincoln, NE plant (KMM).

LIRR M-9 Oversight

- LIRR continues to perform rigorous oversight in testing and acceptance to ensure that rolling stock placed in passenger service are safe, reliable and provide our riders the quality they deserve.
- As a result, the Mean Distance Between Failure (MDBF) for rolling stock accepted to date is far exceeding the required 150,000 miles during the past 12 months of passenger service
- LIRR continues to hold Kawasaki accountable for workmanship issues identified demanding appropriate quality oversight by Kawasaki managers prior to acceptance.
- Costs for all additional measures necessary to accept rolling stock to be borne by Kawasaki.

Kawasaki Quality & Workmanship

Major items identified by LIRR requiring Kawasaki actions as part of acceptance:

- **Kawasaki to improve Workmanship on:**
  - Toilet Waste Tank Valves - Misalignment of Pipes
  - Loop Steps – Manufacturing defect

- **Identified System Design Improvements Include:**
  - Door locking device – requires switch replacement
  - Observers Seat Cracking– requires root cause analysis, prior to design fix

LIRR M-9 Actions

To ensure quality, reliability and safety prior to acceptance and to ensure Kawasaki workmanship issues, LIRR continues to perform the following:

- Chairs daily "Failure Review Board" meetings with Kawasaki and subcontractors to discuss all issues identified during Operational Testing over the previous 24 hours.
- Requires that all testing issues be resolved prior to any car being Conditionally Accepted (CA) via:
  - Final resolution by Kawasaki prior to CA
  - LIRR approved interim fix implemented before CA
  - Ok to accept and repair as necessary as a warranty repair, but final resolution required at future modification Program (FMI)
- Assigns "tiger teams" of subject matter experts to tackle each major issue upon discovery, through investigation of root cause determination, to a resolution approved by LIRR (repair or design change).
- Maintain additional LIRR oversight inspectors at Hillside and Arch Street to witness and inspect Kawasaki's required rework.

LIRR M-9 Actions

- Developed and implemented with Kawasaki a detailed toilet waste valve inspection and repair procedure
- Cars at Hillside and Arch Street must have the approved temporary repair implemented prior to receiving acceptance
- Cars in Passenger service are inspected during PI and repaired if found to be leaking or out of acceptable tolerances
- Loop steps are inspected and replaced as required, prior to a Car receiving acceptance
- Passenger Service Cars are inspected during PI and loop steps replaced, if required
- Required Kawasaki to send experienced Engineers from KHI Japan, to assist with remaining engineering issues occurring during testing

LIRR M-9 Actions

- Maintains our teams of Resident Inspectors (RIs) at KMM (NE) and KRC (NY) to work with Kawasaki to verify that items requiring attention are correctly reworked and to add additional inspection for the ongoing manufacturing of subsequent cars to verify that Kawasaki workmanship is addressed at its source prior to advancing to the next stage of build.

- Required Kawasaki to increase the ratio of QA supervision to technicians performing the work where we found to be deficient.

- Works each shift daily, side by side with Kawasaki, riding in the cars during Operational Testing to identify, troubleshoot and resolve technical issues to ensure MDBF requirements can be met or exceeded.

- Participates in MTA all-agency meetings with Kawasaki to discuss the various issues identified including workmanship, subcontractor management, plant capacity, labor resources and schedules.

- Maintains logs and records of LIRR's costs to due to Kawasaki's issues and inefficiencies to hold Kawasaki accountable. This includes accruing liquidated damages.

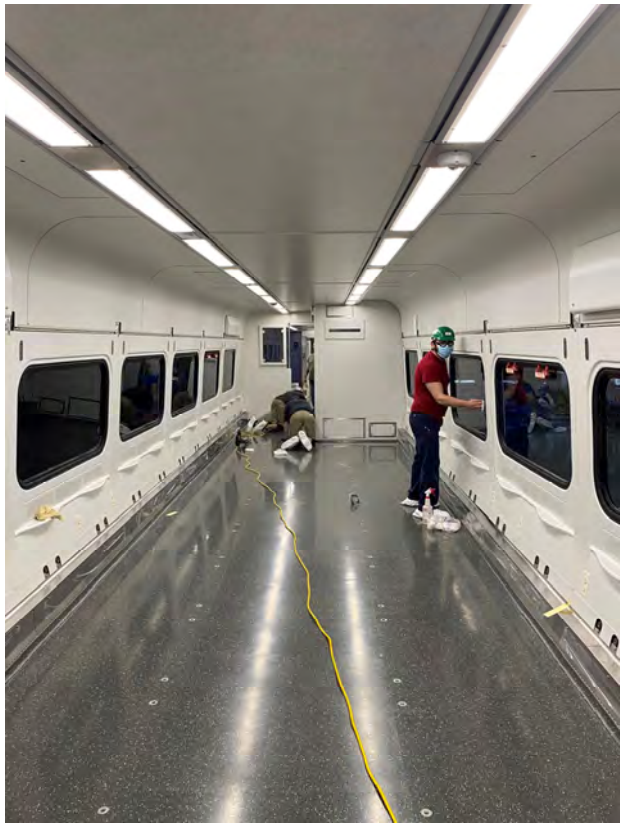
M-9 Railcar Procurement
Major Milestone Summary

Milestone	Current Schedule	Approximate Shift from January 2020
202 Cars - Conditional Acceptance (92 Base Order + 110 Option Cars)	Sept 2019 - April 2022	No change

- Kawasaki incurred delays affecting delivery schedule due to several workmanship issues and failures discovered during on-site testing at LIRR.
- These issues require adjustments, repairs or complete parts and system replacement prior to LIRR granting a car a Conditional Acceptance.
- The ongoing COVID-19 pandemic has also contributed to issues and delays in the schedule.
- LIRR oversight has resulted in MDBF on revenue fleet accepted to date far exceeding the contract requirement of 150,000 miles.

M-9 Production Car

Kawasaki Motors Manufacturing (KMM), Lincoln Nebraska



M-9 Final Assembly

Kawasaki Rail Car (KRC), Yonkers New York

- Underfloor Equipment
- Underfloor Wiring
- Coupler
- Luggage Rack
- Seating
- Truck
- Function Test

June 2021 CPOC
Independent Engineering Consultant
Project Review

LIRR M-9 Procurement

McKissack

MTA Independent Engineering Consultant

LIRR M-9

Project Scope

- In September 2013, Kawasaki was awarded the M-9 vehicle procurement consisting of a 92-car base order and in January 2019, a 110-car option order. The M-9 is a PTC-ready, electric multiple unit (EMU) vehicle for use on LIRR's electrified territory. They replace the M-3 railcar fleet built during the early 1980's (which are nearing the end of their useful life) and allow for ridership growth.

LIRR M-9

Schedule

- The project completion date of April 2022 has not changed since our last report (January 2021). This is a 13-month delay from the current contractual completion date. The main areas contributing to this delay have been Kawasaki's (KRC):
  - Failure to meet quality standards
  - Failure to train and maintain appropriate staffing levels in order to meet schedule
  - Repair efforts needing excessive rework
- KRC's schedule shows the 202-car order to be accepted by April 2022.
  - As of May 2021, LIRR has accepted 92 vehicles, behind the planned 117 vehicles.
  - For KRC to achieve an April 2022 completion, an acceptance rate of 11 cars per month is required.
  - Due to outstanding quality issues on delivered vehicles, LIRR is accepting less than the required amount to maintain schedule.
- The IEC forecasts the acceptance of the remaining 110 cars could extend to October 2022.
  - This assumes a more reasonable average acceptance rate of 7 cars per month for the remainder of the contract, requiring immediate performance improvement.

LIRR M-9

Budget

- The LIRR's current M-9 budget and Estimate at Completion (EAC) of $733.6M has not changed since our last report.
  - The IEC forecasted schedule delay costs could account for up to an additional $6.6M to the EAC.
  - The current project contingency is sufficient to cover these costs.

LIRR M-9

Observations

- Both Kawasaki and LTK inspectors have failed to control, and continue to experience, repetitive quality issues and testing problems resulting in rework and schedule delays. While LIRR has addressed these issues, additional actions are warranted.
- Although the project has seen numerous quality issues, they will be resolved through the acceptance process. While further schedule impact is possible, past-history has demonstrated that ultimately, these vehicles will meet with LIRR's high quality standards, contract requirements and performance specifications.

Recommendation

- In order to limit further delays, the IEC recommends Kawasaki and LTK inspectors provide improvement plans, as soon as possible, which address quality management, inspector training and test verification procedures.

LIRR M-9 Recommendations Log

Recommendation (January 2021)	Agency Response/ Action	Status
Kawasaki has encountered difficulty in having qualified and experienced resources available. While they continue to seek the proper resources, LIRR should require that Kawasaki provide technical experts to supervise their personnel at their US production facilities. These experts should be on site until LIRR is satisfied that the expected level of product quality has been both achieved and will be maintained for the duration of the project.	LIRR Required Kawasaki to send experienced Engineers from KHI Japan, to assist with remaining engineering issues occurring during testing Required Kawasaki to increase the ratio of QA supervision to technicians performing the work where we found resources to be deficient Maintain LIRR's teams of Resident Inspectors (RIs) at KMM (NE) and KRC (NY) to work with Kawasaki to verify that items requiring attention are correctly reworked and to add additional inspection for the ongoing manufacturing of subsequent cars to verify that Kawasaki workmanship is addressed at its source prior to advancing to the next stage of build LIRR has added its own Quality Inspectors to oversee work being performed by Kawasaki at the Arch Street facility	Ongoing

New Bus Program Mid-Year 2021 Update

Bus Operations
Frank Annicaro
Chief Officer, NYCT/DOB & MTA Bus Company

Agenda

- Technology & Operations Safety Improvements
- Customer Amenities & Accessibility
- Reduced and Zero-Emissions Program
- Bus Contracts Overview
- Appendix

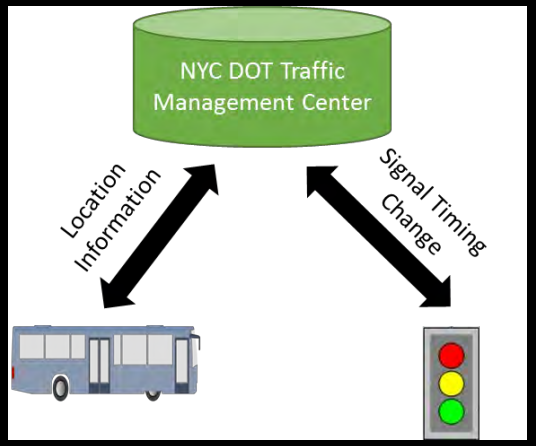
Using Technology to Drive Service Reliability

Automatic Bus Lane Enforcement (ABLE)

- Partnership with NYCDOT and NYCDOF to ticket vehicles in the bus lanes
- The system is on 123 buses and operating on 7 routes in Manhattan and Brooklyn
- To date, more than 80,000 violations and warnings have been issued
- **Successful in broadening the vendor pool - this will facilitate better competition for expanded deployment of the system starting 2022**

Transit Signal Priority (TSP)

- Communicates with NYC traffic center to shorten red or extend green lights to allow buses to travel without stopping
- 2700 buses equipped deployed across 7 routes
- 648 new intersections were added in 2020
- 200 new intersections have been added thus far in 2021
- To date, TSP is operating on over 1,700 intersections



Safety Improvements

Advanced Camera Systems

- Interior and exterior cameras improve situational awareness for incident investigations
- Approximately 4,200 buses currently equipped with cameras
- All new buses come equipped

Advanced Camera System

Back-Up Cameras

- Provide added visibility and safety for operators while backing up
- More than 120 buses are currently equipped with back- up cameras
- All new buses will come equipped

Back-Up Camera

Safety Improvements

Pedestrian Turn Warning (PTW)
- Audible announcement outside the bus when the bus makes a turn
- Approximately 1,300 buses are currently equipped with PTW
- All new buses come equipped

High Visibility (Hi-Vis) Windows
- Structural changes reduce obscuration by ~50%
- Approximately 1,800 buses currently have Hi-Vis Windows
- All new buses come equipped

Bus Operator Barriers
- Barriers are installed fleet-wide
- All local buses are equipped with barriers that have been retrofitted with a poly-carbonate slider, thus providing further protections for our operators
- All new buses come equipped

Pedestrian Turn Warning

Bus Operator Barriers

New Hi-Vis Window

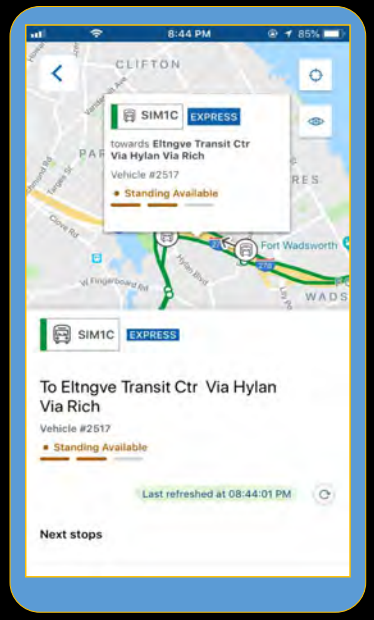
Customer Amenities

Automatic Passenger Counters (APC)

- Launched on SI express service in 2018, allowing customers to see if a seat is available on the next bus
- Expanded to all boroughs in July 2020 to support public loading information during COVID-19
- Approximately 2,500 buses are currently equipped with APC
- All new buses come equipped

Digital Information Screens (DIS)

- Provide customers with a new level of "next stop" information, as well as service alerts, and other digital content
- Approximately 2,800 buses are currently equipped with DIS
- All new buses come equipped



Automatic Passenger Counter
Real Time Seat Availability

Digital Information Screens

Accessibility Enhancements

Developing accessibility enhancements with the System Wide Accessibility Group

- Improved seating configuration by providing additional flip up seats for flexible seating options (e.g., walkers, strollers, etc.), and new longitudinal seats
- Wider ramp with improved visible delineation (Ramp widened from 30 inches to 32 inches)
- Wider rear door allows ease in egress with improved access to handrails (Door width increased from 30 inches to 40 inches)
- All new buses will be equipped with these changes
- Deliveries of new buses began in March 2021

Wider Ramp with Stripe

New Longitudinal Alternating flip up seats

Wider Rear Door

Accessibility Enhancements

Hearing Induction Loop Proof-of-Concept

- Enhances announcements
- Pairs with digital information screens
- Implemented a proof-of-concept to test functionality and performance

Quantum Automatic Wheelchair Securement Station

- Minimal driver assist, self securing system for wheelchair passengers using a Federally compliant rear-facing configuration
- Proof-of-concept to test functionality and performance will be installed Q3 2021

Quantum - Automatic Wheelchair Securement Station

Moving Towards a Zero-Emissions Fleet

10 bus pilot

- Leased standard electric buses starting in 2018 (5 New Flyer and 5 Proterra)

15 articulated buses

- 1st MTA electric bus purchase (New Flyer)
- Began operation late in 2019

Purchase of 60 standard All Electric Buses

- Solicitation released in April 2021
- Planned award for December 2021

Alternate Partial or Zero Emissions Bus technologies

- Research into hydrogen fuel cell buses
- Test and evaluate the new Allison E-Gen Flex hybrid propulsion system
- Test BAE Arrive-and-Go partial zero-emissions propulsion system

On street rapid charger at 43rd St & Pier 83

Rooftop chargers at MJ Quill depot to support the 15 artics

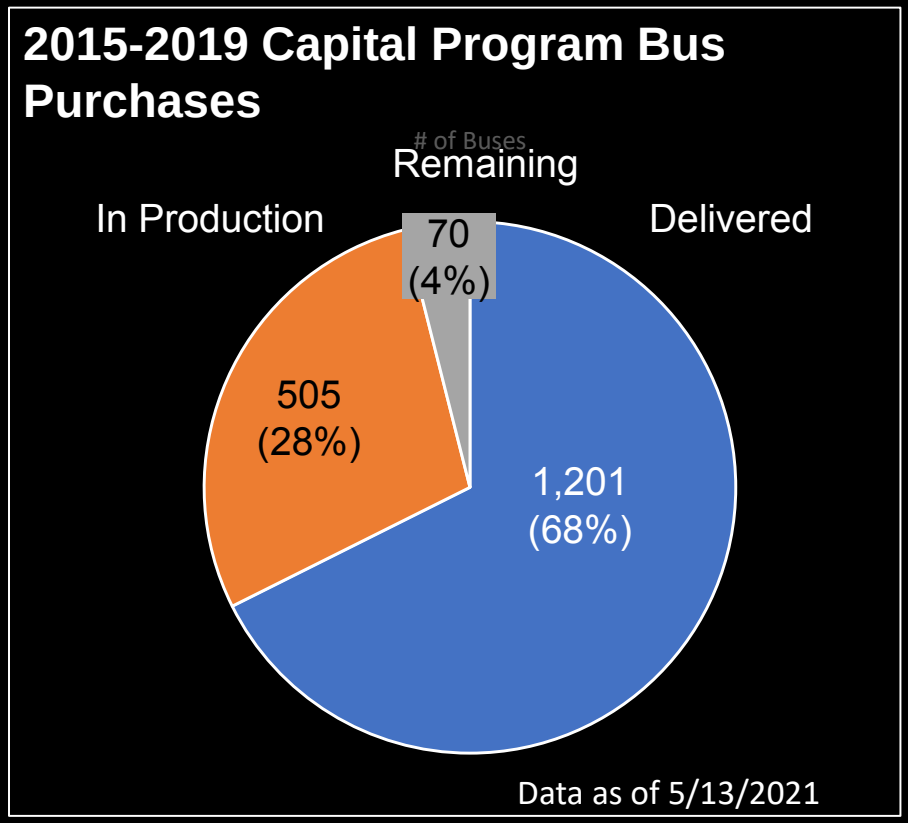
Converting to All-Electric

- Requires 100% of new bus purchases to be all-electric starting in 2028
- Estimated need for an additional 300 to 500 MegaWatts of power supply system-wide
- All 28 depots must be retrofitted to provide charging infrastructure for the fleet of 5,800 buses
- Complete transformation of depot operations, service planning, and maintenance practices
- Solicitation for a full fleet transition study planned for release in 2021
- NYPA awarded a contract on 3/29/2021 for the purchase and installation of various depot charging equipment and infrastructure work.

Mid-Year 2021 Bus Procurements Update

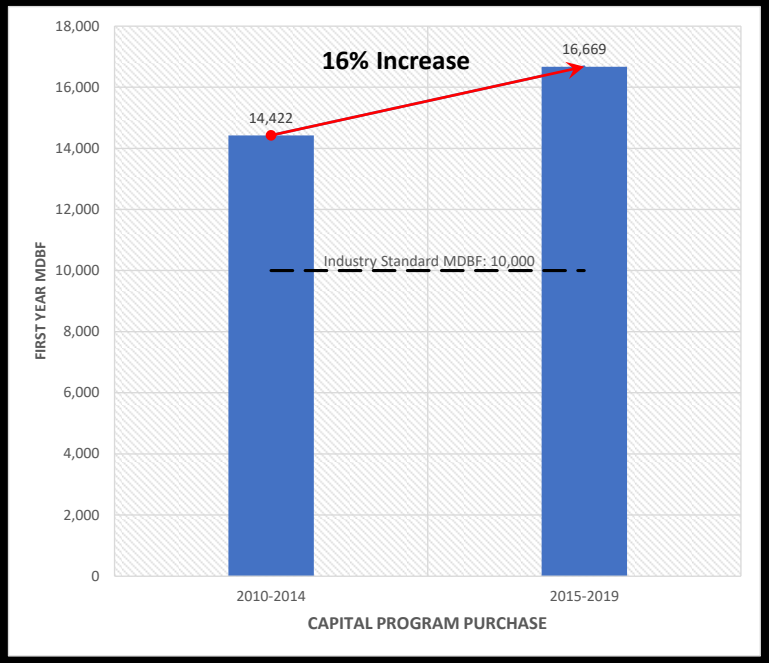
2015-2019 Program (1,776 buses)

- Remaining 25 standard Clean-Diesels: solicitation was released in April 2021. Planned award for December 2021.
- Purchase of 45 standard All Electric Buses: solicitation released in April 2021. Planned award for December 2021.
- Production is underway for 4 contracts: 257 Prevost express (MTA Bus), 50 Prevost express, 110 New Flyer standard hybrid, and 165 Nova standard hybrid



Bus Performance Improvements in the 2015-2019 Capital Program

Mean Distance Between Failure (MDBF)
(1st year of operation)



Performance improvements are due to:

- Applying lessons learned
- Ensuring adherence to our technical bus specifications
- Rigorous evaluation and testing requirements
- Monitoring fleet performance on new buses

Highlights of 2020 – 2024 Capital Program

Supports transition to a zero-emission fleet

- New buses and depot infrastructure upgrades to gain critical experience
- Development of a long-term transition plan to reach 100% zero-emissions by 2040

Updates since last CPOC

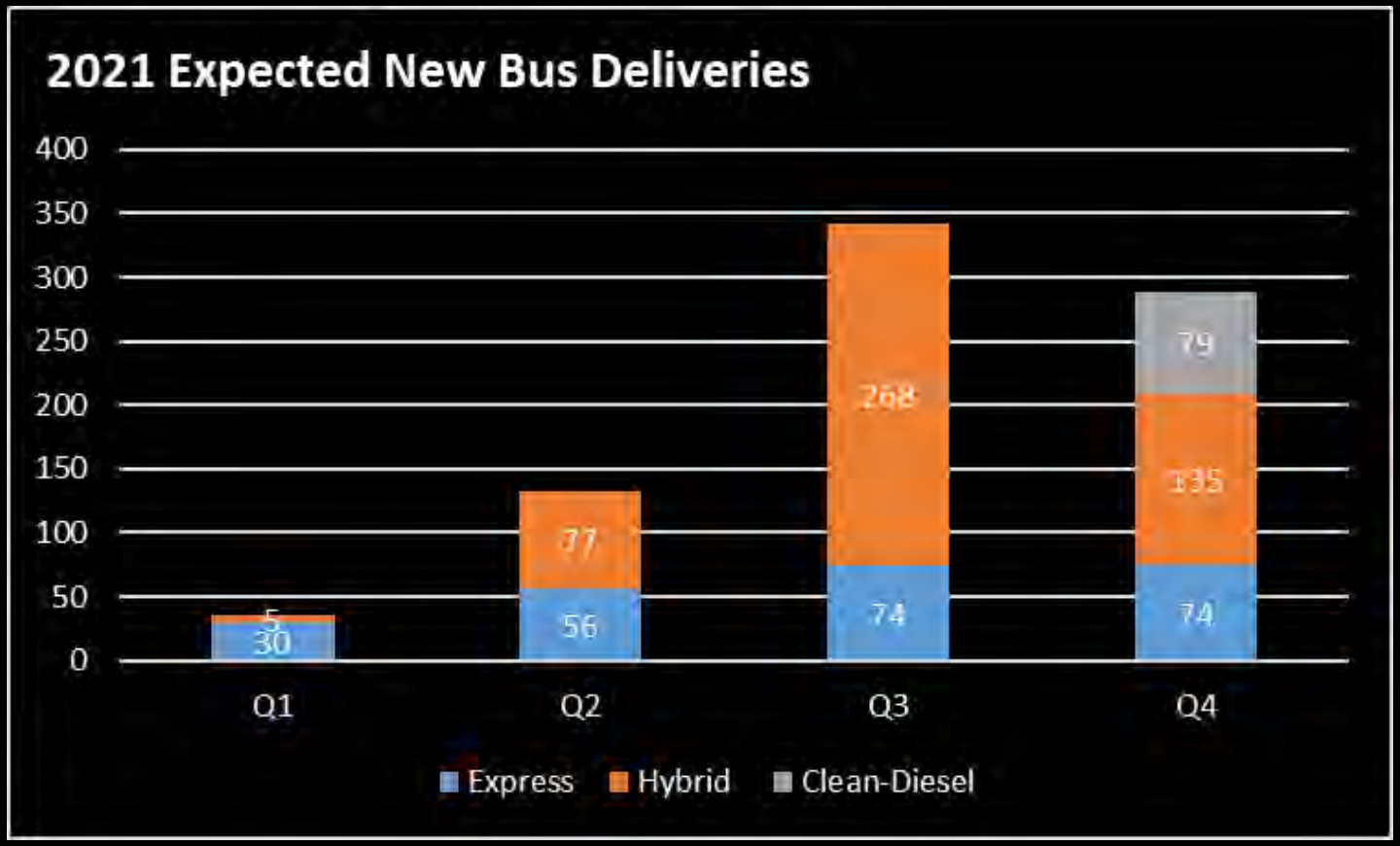
- 15 All-Electric Buses added to the procurement for 45 AEBs from 2015-2019 Capital Program
- Exercised options for 223 New Flyer standard buses (84 hybrid, 139 Clean-Diesel)
- Production of 335 Nova standard buses (126 hybrid, 209 Clean-Diesel) to begin Q3 and Q4 2021, respectively
- Soliciting up to 110 standard buses for MTA Bus fleet replacement

New buses

- Replaces the oldest buses throughout the network
- Planned purchases to include alternative fuel vehicles
- Expansion of new technology systems: bus lane enforcement cameras, digital screens, passenger counters, and TSP

Capital Program is progressing in phases

Expected Delivery of more than 750 Buses in 2021



APPENDIX

Current Fleet

	NYCT DOB	MTA Bus	Total
Standard 40’	2,955	660	3,615
Clean-Diesel	1,648	45	1,693
CNG	410	216	626
Hybrid	887	399	1,286
All Electric*	10	0	10
Articulated 60’	1,027	141	1,168
Clean-Diesel	903	141	1,044
CNG	109	0	109
All Electric	15	0	15
Express 45’	498	505	1,003
TOTAL	4,480	1,306	5,786

** Leased buses*

Above figures based on Spring 2021 Bus Assignment

2015-2019 Capital Program Deliveries Since Last CPOC Presentation

Contract	Fleet	Agency	Delivered	Status	Completion Date	Current Budget ($million)	Current Expenditures ($million)	% Expended
B40668	257 Prevost	MTA Bus	29	In Production	March 2022	$166.7 million	$17.5 million	10%
B40665	50 Prevost	NYCT	21	In Production	April 2022	$33.9 million	$11.7 million	35%
B40666-1	165 Nova Standard Hybrids	NYCT	27	In Production	September 2021	$150.7 million	$18.8 million	12%
B40666-2	110 New Flyer Standard Hybrids	NYCT	0	In Production	November 2021	$99.3 million	$1.2 million	1%
	Total		77					

Remaining Procurements for 2015-2019 Capital Program

Fleet	Type	Agency	Total Order	Status
Prevost 45-ft Coach	Express	MTA Bus	257	In Production
Prevost 45-ft Coach	Express	NYCT	50	In Production
Nova 40-ft Hybrid	Standard	NYCT	165	In Production
New Flyer 40-ft Hybrid	Standard	NYCT	110	In Production
40-ft All-Electric Bus	Standard	NYCT	45	Out for Solicitation
40-ft Clean Diesel	Standard	MTA Bus	25	Out for Solicitation
Total			652	

Ongoing Bus Deliveries

257 Prevost 45-ft coaches (MTA Bus)

- Awarded November 2019
- $166.7 million budget (on budget)

Highlights:

- Production is underway.
- 29 buses accepted.
- Complete delivery is planned for March 2022.

Ongoing Bus Deliveries

50 Prevost 45-ft coaches (NYCT-DOB)

- Awarded November 2019
- $33.9 million budget (on budget)

Highlights:

- Production is underway.
- 21 buses accepted.
- Complete delivery is planned for April 2022.

Ongoing Bus Deliveries

165 Nova Hybrid 40-ft Standards (NYCT-DOB)

- Awarded December 2019
- $150.7 million budget (on budget)

Highlights:

- Production is underway.
- 27 buses accepted.
- Complete delivery was planned to be August 2021. The recovery schedule has complete delivery planned for September 2021.

Ongoing Bus Deliveries

126 Nova Hybrid 40-ft Standards (NYCT-DOB)

- Awarded February 2020
- $107.9 million budget (on budget)

Note: Bus shown is a prototype for this order

Highlights:

- Will replace older buses in the Bronx and Manhattan.
- Complete delivery was planned to be September 2021. The recovery schedule has complete delivery planned for Q4 2021.
- Production will begin in June 2021.

Ongoing Bus Deliveries

110 New Flyer Hybrid 40-ft Standards (NYCT-DOB)

- Awarded December 2019
- $99.3 million budget (on budget)

Highlights:

- In-service evaluation on two pilot buses was completed in April 2021.
- Complete delivery planned to be October 2021.
- Production is underway.

Ongoing Bus Deliveries

84 New Flyer Hybrid 40-ft Standards (NYCT-DOB)

- Awarded March 2021
- $71.2 million budget (on budget)

Note: Bus shown is a prototype for this order

Highlights:

- Will replace older buses in Manhattan.
- Complete delivery of was planned to be December 2021. The recovery schedule has complete delivery planned for January 2022.
- Production will begin in September 2021.

Ongoing Bus Deliveries

209 Nova Clean-Diesel 40-ft Standards (NYCT-DOB)

- Awarded February 2020
- $141.2 million budget (on budget)

Highlights:

- In-Service Evaluation is underway.
- Complete delivery was planned to be February 2022. The recovery schedule has complete delivery planned for March 2022.

Ongoing Bus Deliveries

139 New Flyer Clean-Diesel 40-ft Standards (NYCT-DOB)

- Awarded March 2021
- $98.8 million budget (on budget)

Highlights:

- Will replace older buses in Brooklyn.
- Complete delivery is planned for July 2022.
- Production of the pilot buses is underway.

June 2021 CPOC
Independent Engineering Consultant Project Review

Bus Procurements

McKissack

MTA Independent Engineering Consultant

Bus Procurements

Scope of Work

- There are ten active bus contracts totaling 1,235 vehicles at a cost of $957.2M.
- NYCT is committed to advancing its zero-emissions electric bus program. There are 25 electric buses in operation. MTA is supporting this strategy by balancing the all-electric bus procurements and facility modifications with available funding.
  - The 25 electric buses are currently servicing Manhattan, Brooklyn and Queens routes.
  - Maintenance facility upgrades are keeping pace with the need to support vehicle procurement.

Bus Procurements

Budget

Description	Vendor	Award Date	Budget	EAC
257 Diesel Express Buses	Prevost	19-Nov	$166.7M	$166.6M
50 Diesel Express Buses	Prevost	19-Nov	$33.9M	$34M
165 Hybrid Buses (Base Order)	NOVA	19-Dec	$150.7M	$145.9.1M
126 Hybrid Buses (Option)	NOVA	21-Feb	$107.9M	$107.9M
209 Clean Diesel Standard Buses (Option)	NOVA	21-Feb	$141.2M	$141.2M
110 Hybrid Electric Buses (Base Order)	New Flyer	19-Dec	$99.3M	$99.2M
139 Std Clean Diesel Buses (Option)	New Flyer	21-Mar	$98.8M	$95.9M
84 Hybrid Electric Buses (Option)	New Flyer	21-Mar	$71.2M	$71.2M
60 All Electric Buses		Award Anticipated 21-Dec	$54.5M	
50 Diesel Buses		Award Anticipated 21-Dec	$33M	

- The Department Of Buses (DOB) has ten active vehicle procurements with a total budgeted cost of $957.2M.
  - Two procurements are pending award December 2021.
    - 60 All Electric Buses, budgeted for $54.5M
    - 50 Diesel Buses, budgeted for $33M
- An IEC cost review of the active projects finds the overall budget and EAC have not changed since last report of January 2021.

Bus Procurements

Schedule

Description	Vendor	Delivery Start Dates	Buses Delivered	Current Delivery Completion	Adjustment due to Covid-19
257 Diesel Express Buses	Prevost	20-Dec	29	22-Mar	No Change
50 Diesel Express Buses	Prevost	21-Mar	21	22-Apr	No Change
165 Hybrid Buses (Base)	NOVA	21-Mar	27	21-Sep	1 Mo.
126 Hybrid Buses (Option)	NOVA	21-Jun	0	21-Q4	3 Mo.
209 Clean Diesel Standard Buses (Option)	NOVA	21-Nov	0	22-Mar	1 Mo.
110 Hybrid Electric Buses (Base)	New Flyer	21-Jun	0	21-Oct	No Change
139 Clean Diesel Standard Buses (Option)	New Flyer	21-Nov	0	22-Jul	No Change
84 Hybrid Electric Buses (Option)	New Flyer	21-Sep	0	22-Jan	No Change
60 All Electric Buses	Award Anticipated 21-Dec				
50 Diesel Buses	Award Anticipated 21-Dec				

- Schedule delivery adjustments are attributable to COVID-19 impacts and technical issues. The bus manufacturers have submitted new delivery schedules where needed, which have been accepted by the Department of Buses (DOB).
- The Nova Hybrid Standard bus delivery completion dates in 2021 have experienced minor slips since last report. Based on the current bus delivery rate, the IEC is concerned with the manufacturer's ability to maintain the current contract completion dates.

Bus Procurements

Observation

- New Flyer has identified root causes to several technical issues and is working to develop and implement solutions on current procurements. The DOB is tracking the progress to ensure the issues are satisfactorily resolved.
  - The IEC concurs with the DOB strategy being used in this instance; however, it should be noted that there is a potential of a schedule impact due to the time needed for corrective action.
- In the Jan 2020 report, the IEC suggested a comprehensive performance and cost analysis be conducted to properly assess the program and its future transition to zero emissions fleet. The IEC is encouraged that DOB is scheduled to have a solicitation for a fleet transition study in 2021.

OMNY
MTA's New Fare Payment System

June 2021 Update
Capital Program Oversight Committee Briefing

Wayne R. Lydon
OMNY / MTA Fare Payment Programs, Director

Photo by M. Hermann, MTA NYCT

Executive Summary

OMNY expansion continues

- Rollout of all features supporting NYCT will commence by YE2021
- COVID impacts are far-reaching on people and industry
- Change order for LIRR and MNR (RRs) requirements will enhance and optimize OMNY experience
- Schedule impacts due to various change orders are unknown until finalized
- There are new risks from global chip and plastics shortages

Glossary of OMNY acronyms used in presentation

AAR	Access-A-Ride	**JCB**	Formerly Japan Credit Bureau
B2B	Business-to-Business OMNY portal	**LTE**	4G cellular communications
CUP	China Union Pay	**ORS**	OMNY Revenue System (Money Room)
CVM	Configurable Vending Machine	**OSVD**	Onboard Sales and Validation Device
HRL	Hudson Rail Link	**TOM**	Ticket Office Machine

Program Status – Support expanded payment options for more NYCT customers

All 242 Autogates revenue-ready 7/30/21

Reduced Fare
- Soft launch July 2021

Closed Loop Media, Retail, Mobile App
- Launch September 2021

Paratransit AAR ID EU Card
- Launch September 2021

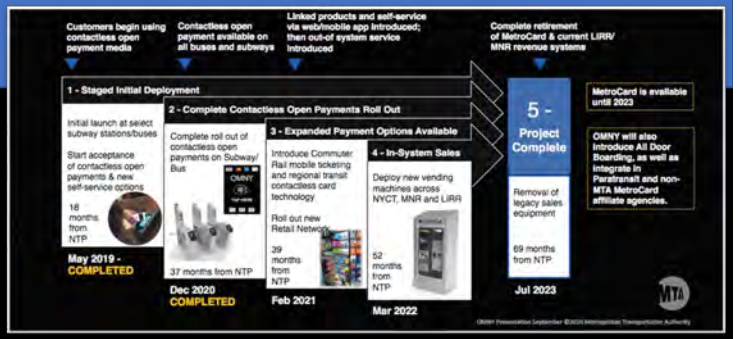
CVMs
- Installation starts December 2021

Program Status – LIRR and MNR

2021

- Completed selection of OSVD device
- Completed OMNY Ticket artwork and security design
- Submit change order for RRs requirements for approval: 3Q21
- Final Design Reviews: 3Q21 – 1Q22
- CVM field test locations (GCT, Penn, Woodside): 3Q21

Program Status – Schedule



Phase 2: All bus and subway validator installations completed

NYCT

- Phase 3: OMNY Card, Reduced Fare, Retail, Mobile App, Web, Paratransit - September 2021
- Phase 4: CVMs - February 2023

Railroads

- Phase 3: Mobile ticketing, OSVDs - January 2023
- Phase 4: OMNY Ticket, CVMs, TOMs - June 2023

Phase 5 Substantial Completion*: July 2023

**May change subject to pending change orders*

Program Status – Budget

Current Budget	$772M
Expended	$276M
% Complete	36% of current budget
Estimate At Completion	$772M

Six-Month Look-Ahead for Baseline Contract

Physical build out	Additional fare options
CVM deployment planning for NYCT Outfitting of Customer Center @3 Stone St. Mobile sales vans MNR LTE surveys MNR/HRL – validator installations	JCB and CUP Acceptance Open Payments support for Reduced Fare OMNY Card with loads/reloads at Retail, Mobile App, Website, B2B – Full Fare and Reduced Fare Paratransit AAR ID EU card
In-service beta testing	**Development and Design**
Mobile App w/OMNY Account and trip planning features Closed Loop Pilot and CVM In Service Test	Final design reviews for RR mobile ticketing and RR features Finalize design of ORS and CVM UI/UX

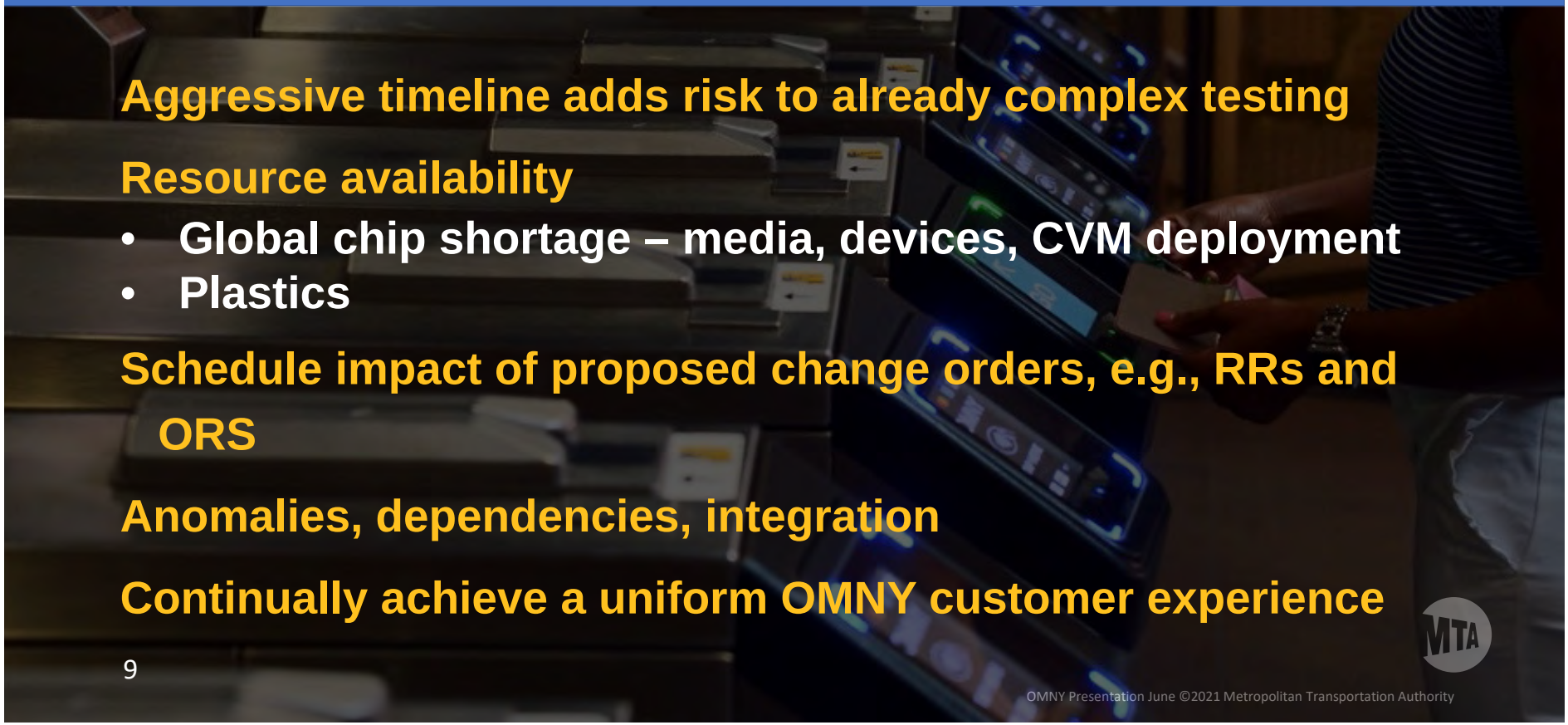
From 3 to 1: Optimizing the business across LIRR, MNR and NYCT

Creating efficiencies while building a scalable standard for all agencies integrating with OMNY

Examples:

- Universal CVM - same hardware, software, and fare products sold *regardless of agency location and how many agencies*
- One money room (the new ORS) for all cash handling and device restocking
- One fare media inventory, ordering and fulfillment system
- Reduced number of NYCT Business Rules and harmonized LIRR and MNR Business Rules
- Universal MTA Pass for employees that works at all MTA Agencies

Risks



Aggressive timeline adds risk to already complex testing

Resource availability

- **Global chip shortage – media, devices, CVM deployment**
- **Plastics**

Schedule impact of proposed change orders, e.g., RRs and ORS

Anomalies, dependencies, integration

Continually achieve a uniform OMNY customer experience

June 2021 CPOC
Independent Engineering Consultant
Project Review

OMNY

McKissack

MTA Independent Engineering Consultant

OMNY

Scope of Work

- OMNY is a design/build contract that replaces MTA's Subway, Bus and Commuter Railroad legacy fare systems, and is being deployed in five Phases.
- OMNY is an open architecture account-based system, meeting global payment industry standards.
- OMNY system includes a call center, website, mobile app, retail network, hardware for in-person sales channels and fare payment validation, a financial clearinghouse and a fully redundant data center.
- When fully deployed, OMNY will provide for
  - Capability to accept open payment (contactless cards issued by banks), mobile payment, and MTA issued contactless cards,
  - Supports flexible fare policy; i.e., flat fare for Subway and Bus, distance-based fare for Commuter Railroads, and seamless intermodal travel,
  - One MTA fare account for customer's travel by Subway, Bus and Commuter Railroads,
  - Common back-end system for processing fares and managing fare system,
  - Expanded out of system point of sale network, and
  - Paratransit support using OMNY Account payment.

OMNY

Schedule

- Project progress is at 50% complete based on invoiced vendor payments, while 62% of the project time has elapsed.
- Phase 2 bus and subway installation completed in December 2020 as scheduled.
- Impact of delays due to Commuter Railroad Mobile Ticketing and Onboard Sales and Validation Device (OSVD) design changes (Phase 3) and ORS software (Phases 3 and 4) are not yet reflected in contractor's schedule; hence the PMO's current planned dates could change when a re-baselined schedule is submitted in Q3 2021.
- The IEC schedule review finds that Phase 3 Commuter Railroad Mobile Ticketing/OSVD, and Phase 4 Configurable Vending Machines (CVMs) are driving the critical path.
- Based on IEC's observation of progress to date and critical path review, the IEC forecasts a potential six-month delay to the July 2023 Substantial Completion (SC).

OMNY

Budget

OMNY	Contract $	Program Budget $	Agency Estimate at Completion (EAC)	IEC Forecast EAC
At Award (November 2017)	$554M	$645M	$645M	The IEC agrees with agency's EAC of $772M
Last Report (November 2020)	$552M	$732M	$732M	
Current Status	$591M	$772M	$772M	

- Project is on budget.
- The contract amount and EAC reflect an exercised option for $39M for CVMs for Commuter Railroads.
- A change order was issued for $952K ($380K in capital and $572K in operating funds) to support NYCT Electronic Maintenance Department (EMD) requirements.
- Change order for modified Commuter Railroad requirements is expected and will be funded outside of the project. Any needed budget and EAC adjustments stemming from this action will follow.

OMNY

Top risks and mitigations

- Risk of further delay to Commuter Railroad Mobile Ticketing (Phase 3) due to finalization of gap analysis
  - Finalizing the requirements and completing business rules for Phase 3 design and development.
- Risk of further delay to start of NYCT CVM installation (Phase 4) due to COVID-19
  - Notice of Proposed Change Order (NOPCO) issued for harmonization of CVM operational components throughout all agencies.
  - Contractor is proceeding with design work and purchase of long lead material at their own risk.
- Potential delay to rollout of Retail Network, CVM, and other impacted project deliverables due to global chip shortage
  - The IEC concurs with OMNY PMO's recent action to formally ask the contractor to develop a plan for second source for chips for OMNY fare media.
  - Reinstituting the requirements for an MTA OMNY virtual card, that would reside in customer's mobile wallet, could provide means to reduce the need for physical OMNY fare media.
    - Similar virtual fare media has been successfully implemented by other transit systems such as Los Angeles Metro and Washington Metropolitan Area Transit Authority.

OMNY

Observations

- Affiliate agencies who choose to use OMNY must be ready to accept OMNY when MetroCard is decommissioned. MetroCard operations may need to be extended beyond SC if they are not integrated with OMNY by that time.
- The IEC finds the MTA's strategic decision to maintain the legacy fare systems until OMNY is fully deployed a prudent measure, which minimizes impact to customer travel experience due to delays forecasted by the IEC.

OMNY

Recommendation

- While the OMNY contract calls for initial base quantity of fare media to be supplied by the contractor, the IEC recommends that the MTA purchase quantities, beyond the contract amount, directly from qualified manufacturers based on competitive bidding.

  Potential benefits are

  - Streamlined supply chain through direct procurement from the manufacturer,
  - Direct control by the MTA over the supply chain, and
  - Cost savings above and beyond qualification costs.

OMNY Recommendation Log

Recommendation (May 2019)	Agency Response/ Action	Status
Governance agreement should be finalized to formalize the way of working between MTA agencies.	The PMO has determined that circumstances have changed such that the Governance MOU is no longer needed and this item should be closed. The "governance" concept is now obsolete for the project for three primary reasons: (i) the general consolidation and transformation underway at MTA; (ii) the move away from multiple independent legacy fare systems to a single fare payment system with OMNY; and (iii) the harmonization of business rules and sales channels that is underway as a result of item (ii).	Closed
Recommendation (June 2020)	**Agency Response/ Action**	**Status**
Finalize design and testing of Transit Transaction Model (e.g. bundles transactions reducing transaction fees, a cost benefit to the MTA) and deploy it as soon as all buses and subway stations are OMNY capable. TTM will provide a newer customer experience than the current retail model; completion of bus and subway installations would provide a good transition point to the TTM model.	TTM completed Stage testing 4/19 and started testing in the Production Test Region on 4/22, This test region was set up specifically for TTM testing. Testing is taking longer than scheduled due to difficulties with provisioning issuer-provided cards into digital wallets for the digital wallet-based tests. The MTA expects to implement TTM with the M02 Back Office Release currently scheduled July 30, 2021.	In progress
Recommendation (November 2020)	**Agency Response/ Action**	**Status**
Allow a minimum of three months for beta testing of the OMNY mobile app before public launch to ensure a better customer experience. Properly planned beta testing provides for bug detection and correction, optimization of user experience, app performance, and security.	The plan is to beta test the mobile app a minimum of three months.	Closed

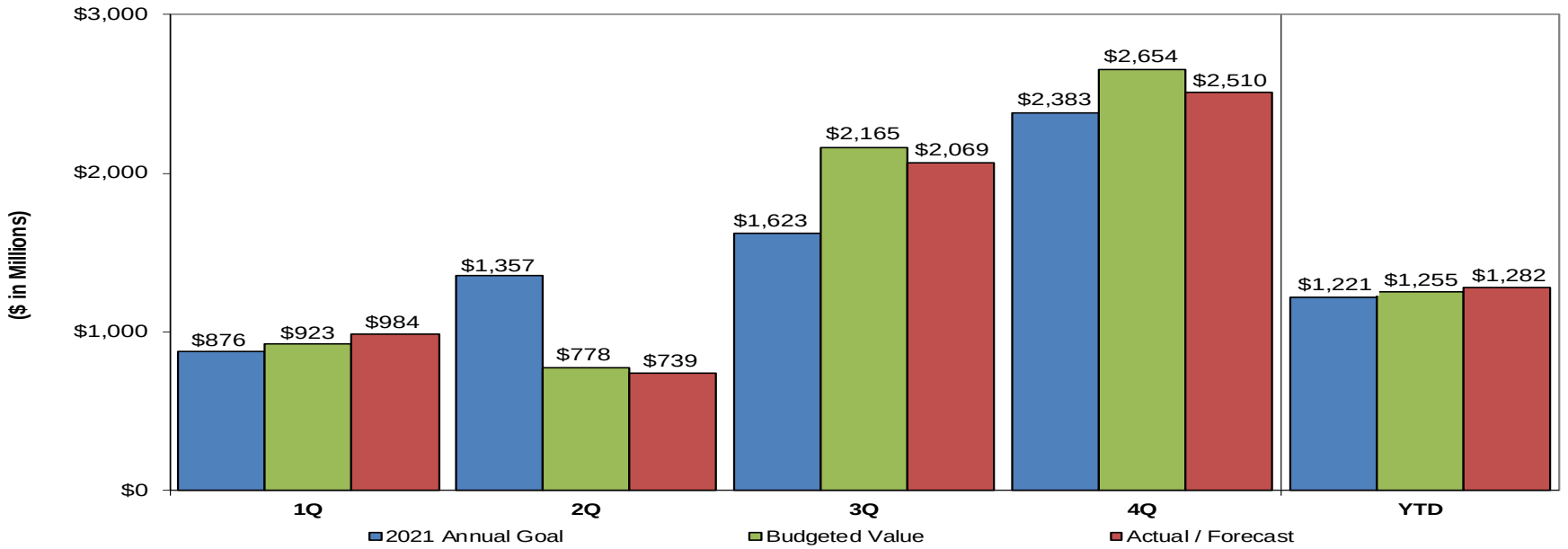
MTA Capital Program
Commitments & Completions

through
May 31, 2021

Metropolitan Transportation Authority

Capital Projects – Commitments – May 2021

MTA-wide 2021 Commitments



Annual Goals: Dollar and time-based programmatic milestones for the commitment of contracts established at the start of each year and which are achievable during the year.
Actuals: The value of the goals and any additional unplanned commitments as they are achieved during the year.
Forecasts: The updated estimates by quarter for remaining goals as well as any unplanned commitments that might occur during the year.
Budget: The budgeted value assumed in the capital program for the Actual and Forecasted Commitments being tracked during the year.

Commitments Summary

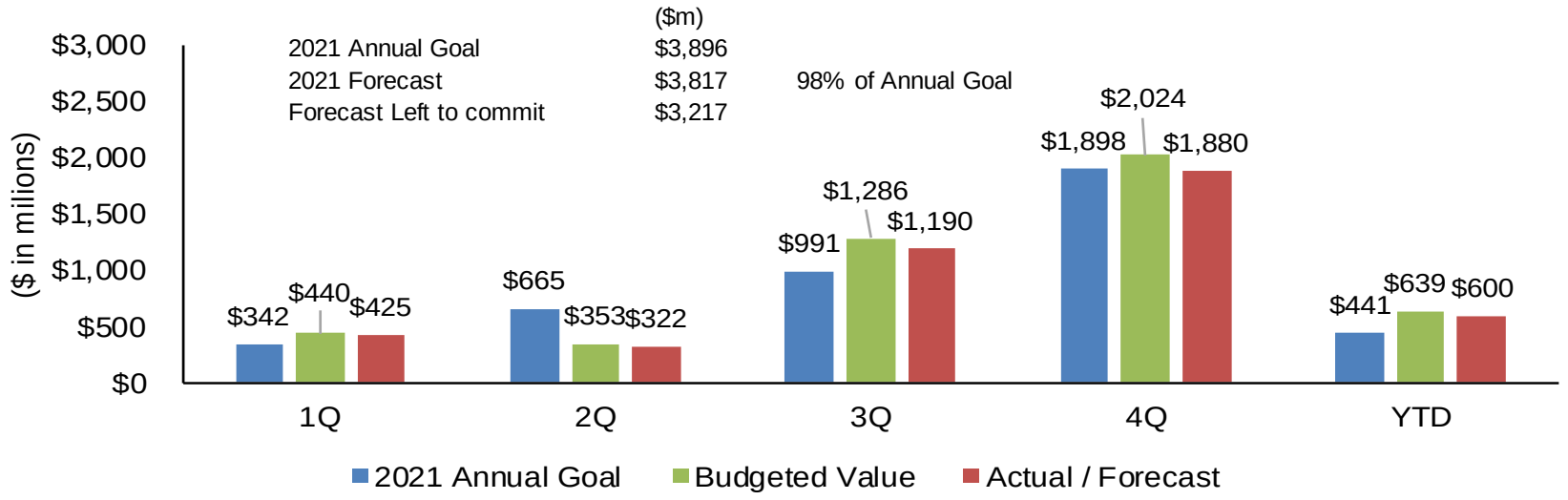
In 2021, agencies have a goal of $6.2 billion in overall commitments, including $3,839 million for NYCT, $485 million for LIRR, $777 million for MNR, $57 million for MTA Bus, $40 million for MTA Interagency, $867 million for MTA Expansion, and $173 million for B&T.

Through May, agencies have committed $1.28 billion versus a $1.22 billion goal reflecting unplanned commitments of ~$430 million that offset slippages of ~$416 million. Currently, the MTA forecasts achieving $6.3 billion during the year versus a $6.2 billion goal, partly due to unplanned commitments and the value of bids year-to-date. At the end of each quarter in 2021, schedule variances will be explained on the following pages.

Metropolitan Transportation Authority

NYCT/MTA Bus Capital Projects – Commitments – May 2021 – Budget Analysis and Schedule Variances

NYCT and MTA Bus Budget Analysis



Q1 Schedule Variances

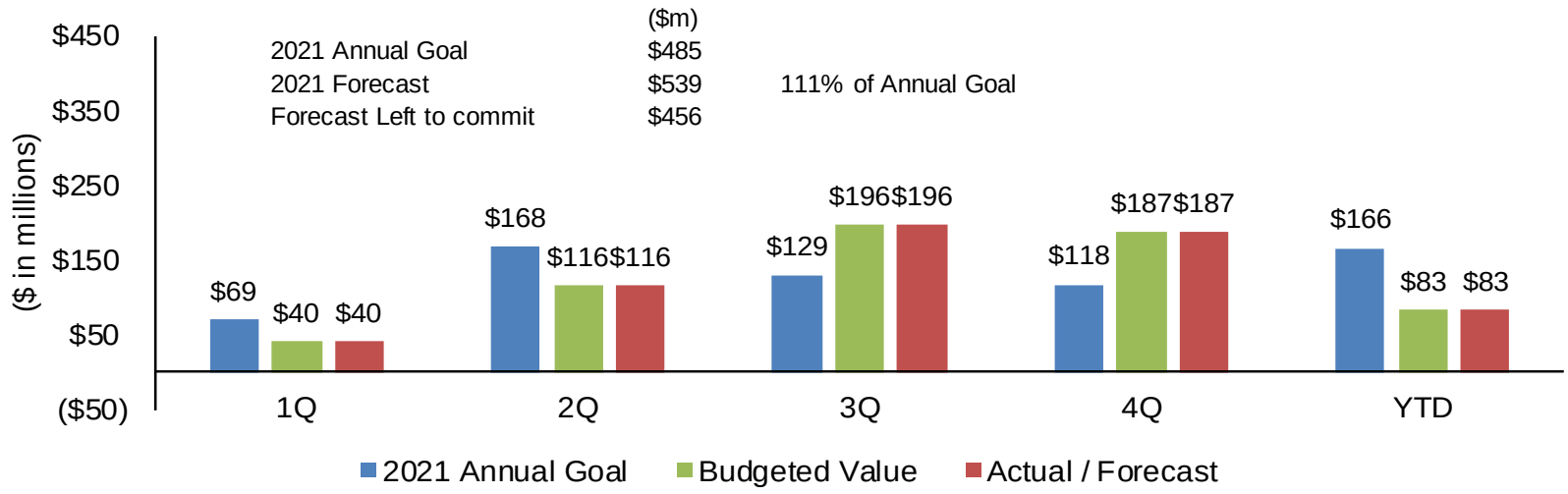
Project	Commitment	Goal	Forecast
1 NYCT/MTA Bus Amber Commitment			
NYCT			
Passenger Stations			
Replace 8 Traction Elevators / Various	Construction Award	Q1 $66.0	Q2(A) $51.9

Award was delayed due to multiple bid opening postponements. Bids received in March. Project cost decreased reflecting favorable bids received.

Metropolitan Transportation Authority

LIRR Capital Projects – Commitments – May 2021 – Budget Analysis and Schedule Variances

LIRR Budget Analysis



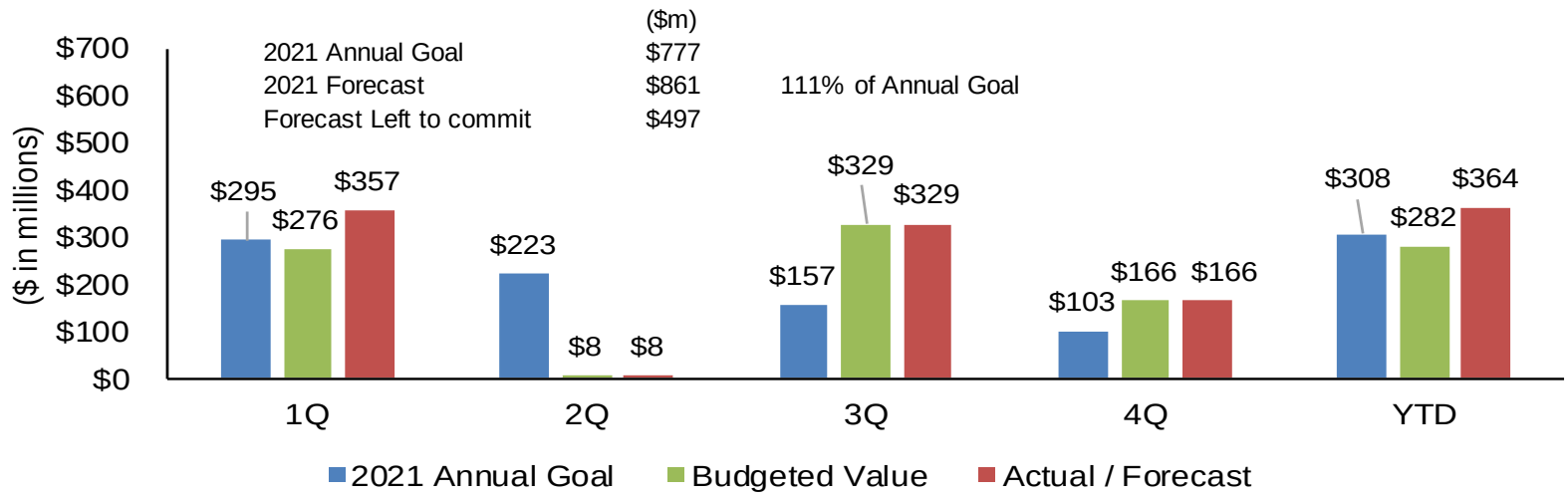
Q1 Schedule Variances

There are no Q1 schedule variances to report. Q2 schedule variances will be reported in July 2021.

Metropolitan Transportation Authority

MNR Capital Projects – Commitments – May 2021 – Budget Analysis and Schedule Variances

MNR Budget Analysis



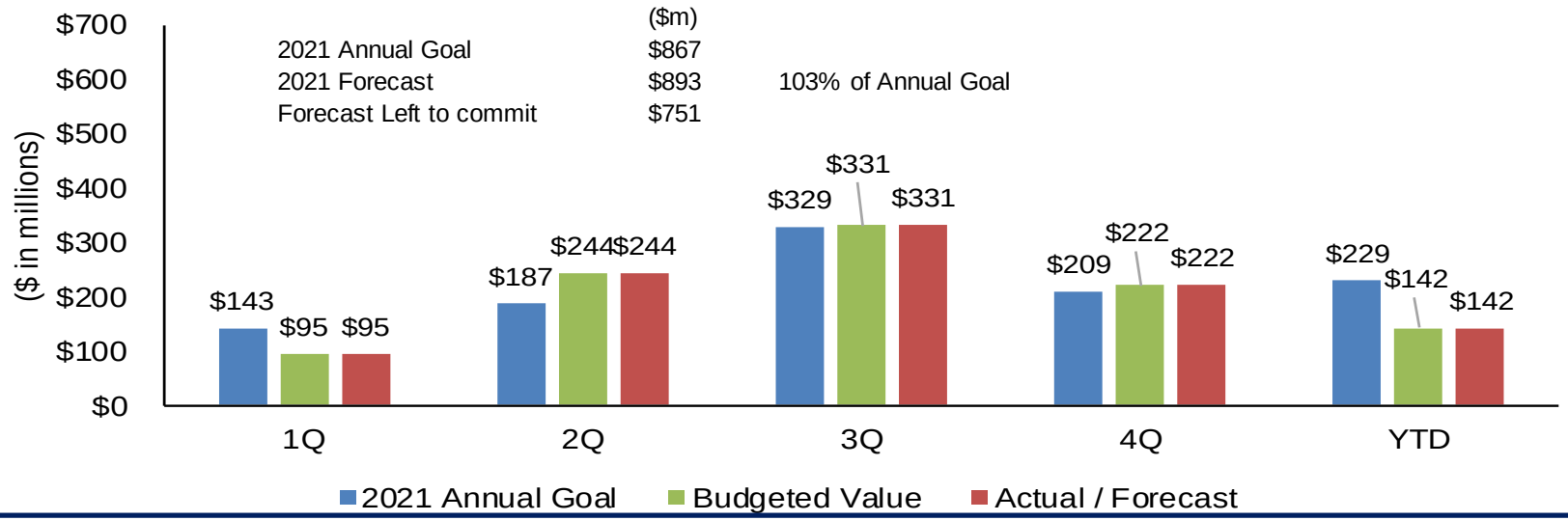
Q1 Schedule Variances

There are no Q1 schedule variances to report. Q2 schedule variances will be reported in July 2021. However, current expectations is GCT Trainshed Sector 1, being procured by a third party, will slip to Q3.

Metropolitan Transportation Authority

MTA Expansion Capital Projects – Commitments – May 2021 – Budget Analysis and Schedule Variances

MTA Expansion Budget Analysis

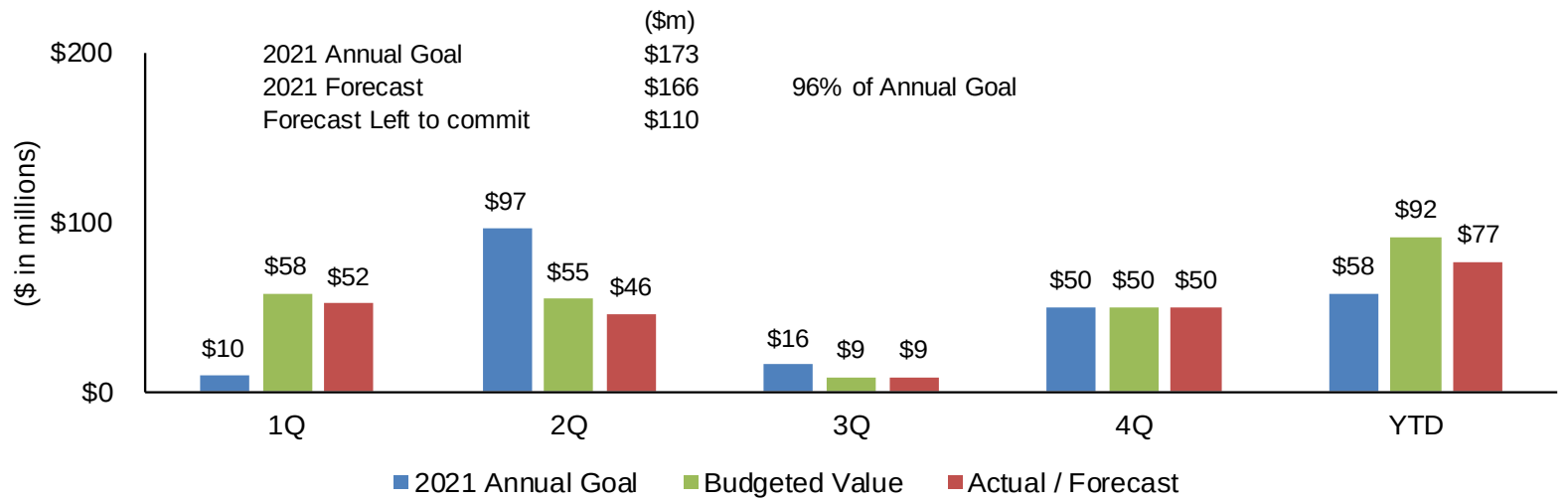


Q1 Schedule Variances

Project	Commitment	Goal	Forecast
1 MTA Expansion Amber Commitment			
MTA Expansion			
East Side Access			
Rail Replacement	Construction Award	Q1	Q2(A)
		$20.0	$3.0
Project award was delayed to provide bidders additional time to submit bids. Award value reflects reduced material quantities.			

B&T Capital Projects – Commitments – May 2021 – Budget Analysis and Schedule Variances

B&T Budget Analysis



Q1 Schedule Variances

The Q1 schedule variance reflects the early award of the installation of protective fencing at the Verrazzano-Narrows Bridge. Q2 schedule variances will be reported in July 2021.

Metropolitan Transportation Authority

Capital Projects – Completions – May 2021

Goal \ Actual		MTA-wide 2021 Major Completions												Post 2021
		Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	
Total	51	1	1	1	5	1	8	4	3	4	7	2	14	0
Jan-21	1	1												
Feb-21	2				1		1							
Mar-21	1			1										
Apr-21	3				2			1						
May-21	7		1		2	1	1	1					1	
Jun-21	7						6			1				
Jul-21	3							2		1				
Aug-21	5								3				2	
Sep-21	2									2				
Oct-21	7										7			
Nov-21	2											2		
Dec-21	11												11	

BLUE = Forecast/Actual earlier than Goal
GREEN = Forecast/actual matches Goal
AMBER = Forecast/actual within 2 months of Goal
RED = Forecast/actual beyond 2 months of Goal

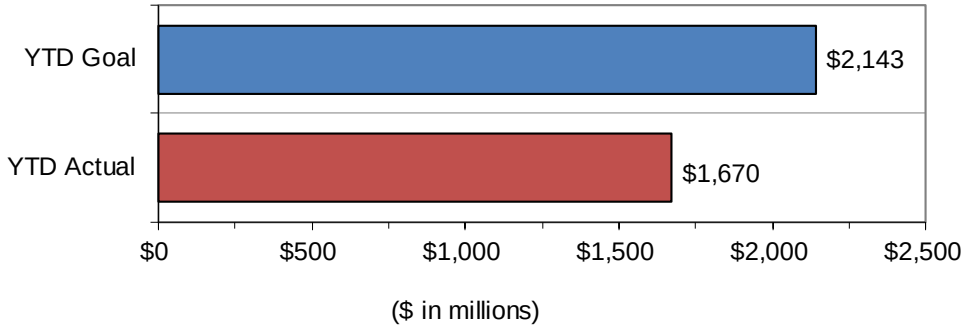
Completions Summary

In 2021, agencies have a goal of completing $7.2 billion in work including 51 major completions. Major completions are generally those that have significant dollar value or have high visibility. In 2021, major completions total 72% of the annual goal. Major completions for 2021 by agency include 26 for NYCT, 7 for LIRR, 7 for MNR, 2 for MTA Bus, 5 for MTA Expansion, and 4 for B&T.

Through May, agencies have completed $1.67 billion versus a $2.14 billion goal. The shortfall is mainly due to slips of five major completions. The five major slips are explained on the following pages. The MTA currently anticipates meeting its 2021 annual goal.

Budget Analysis

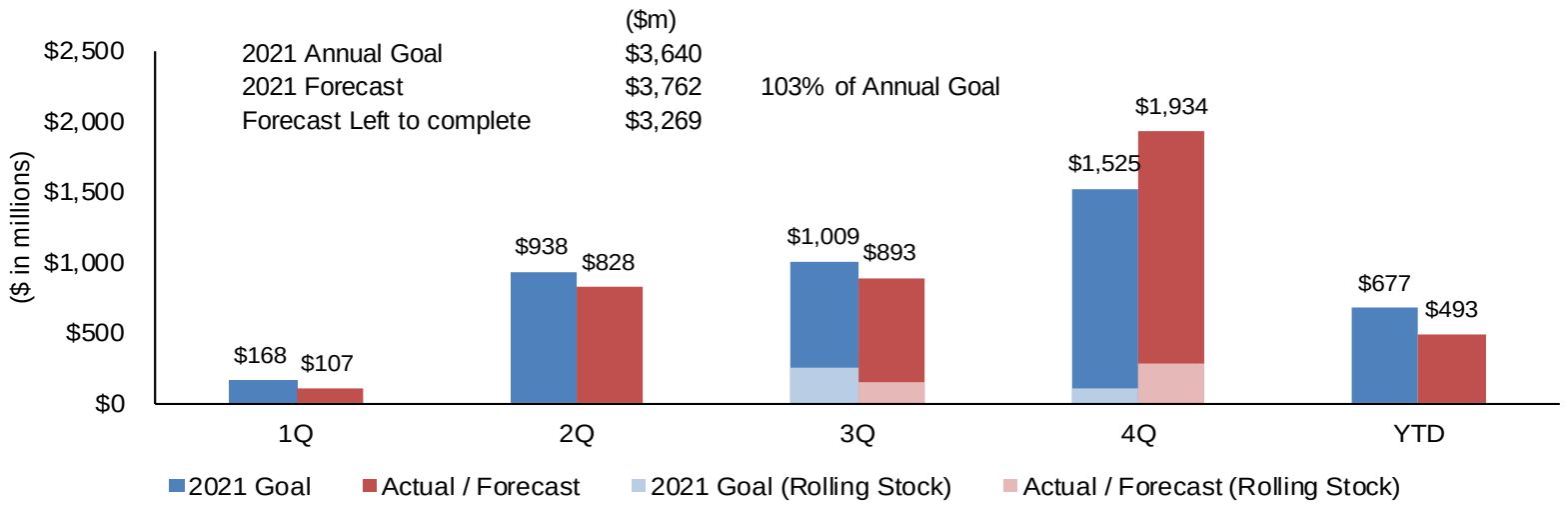
	($m)	
2021 Annual Goal	$7,183	
2021 Forecast	$7,410	103% of Annual Goal
Forecast left to Complete	$5,741	



Metropolitan Transportation Authority

NYCT/MTA Bus Capital Projects – Completions – May 2021 – Budget Analysis and Schedule Variances

NYCT and MTA Bus Budget Analysis



Schedule Variances

3 NYCT/MTA Bus Amber Completions (2 New Items)

Project	Completion	Goal	Forecast
NYCT			
Passenger Stations			
ADA: Gun Hill Rd / Dyre	Construction	Feb-21 $55.1	Apr-21(A) $55.8

Project completion was delayed due to an additional work order for the redesign of the fire sprinkler and fire alarm system as a result of changes to standards identified during pre-final inspection. Cost increase reflects additional CCM needs.

3 NYCT/MTA Bus Red Completions (2 New Items)

Project	Completion	Goal	Forecast
NYCT			
Signals & Communications			
CBTC Queens Blvd West - 50 St to Union Tpke: Ph 1	Construction	Aug-21 $235.8	Dec-21 $254.8

Project completion delayed due to software reliability issues as well as additional time needed to monitor each section of the line's performance prior to entering beneficial use. Project cost increase in part due to additional TA support services, additional work orders, as well as additional administrative services.

NOTE: schedule variances continue onto next page.

NYCT/MTA Bus Capital Projects – Completions – May 2021 – Schedule Variances

3 NYCT/MTA Bus Amber Completions (continued)

Project	Completion	Goal	Forecast
Traction Power			
New Substation & CBHs: Maspeth Av-Humboldt St / Canarsie (New Item)	Construction	May-21 $59.2	Jun-21 $59.5
Project completion delayed due to pending Con Ed energization of High Tension feeder.			
New Substation: Harrison Pl / Canarsie (New Item)	Construction	May-21 $51.3	Jul-21 $52.1
Project completion delayed due to pending Con Ed energization of the substation of at least one feeder.			

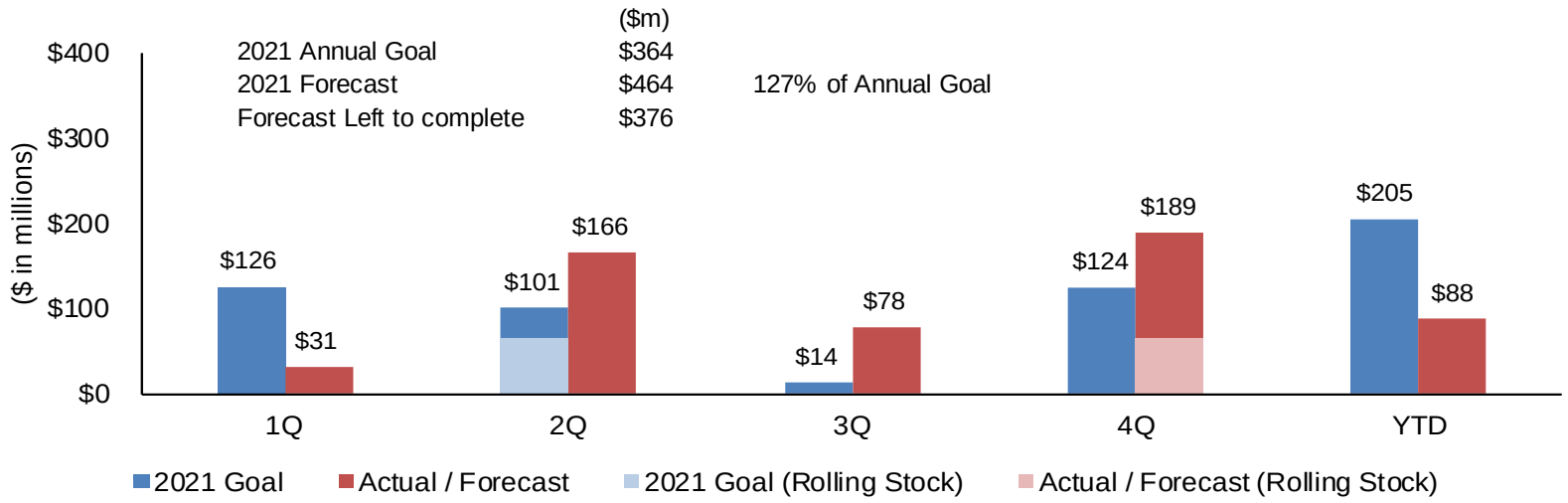
3 NYCT/MTA Bus Red Completions (continued)

Project	Completion	Goal	Forecast
Staten Island Railway			
SIR: New Power Station: Clifton & New Dorp (New Item)	Construction	Jun-21 $49.8	Sep-21 $49.8
Project completion rescheduled due fire alarm final acceptance testing and Con Ed delay in providing low tension and High Tension service.			
Miscellaneous/Emergency			
Livingston Plaza: Facade & Perimeter Hardening (New Item)	Construction	Aug-21 $33.5	Dec-21 $33.5
Project completion delayed in part due to emergency generator cables attached to the contractor's scaffolding preventing removal of the scaffolding.			

Metropolitan Transportation Authority

LIRR Capital Projects – Completions – May 2021 – Budget Analysis and Schedule Variances

LIRR Budget Analysis



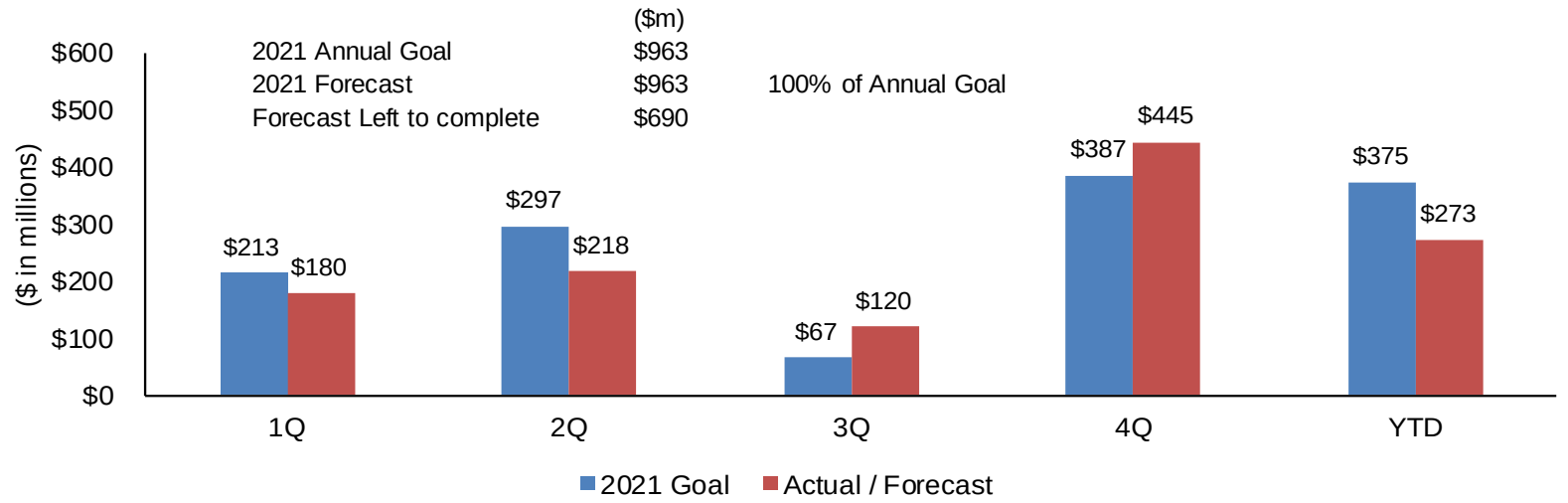
Schedule Variances

Project	Completion	Goal	Forecast
2 LIRR Red Completions (1 New Item)			
LIRR			
Shops and Yards			
Diesel Locomotive Shop Improvements	Construction	Feb-21 $94.4	Jun-21 $94.4
Project completion delays in attaining acceptance of the Fire Alarm System and Shop Equipment Drop Tables.			
Rolling Stock			
Rolling Stock: M-9 Procurement (New Item)	Construction	May-21 $64.8	Dec-21 $64.8
Project delayed due to workmanship issues and impacts related to the COVID-19 pandemic.			

Metropolitan Transportation Authority

MNR Capital Projects – Completions – May 2021 – Budget Analysis and Schedule Variances

MNR Budget Analysis



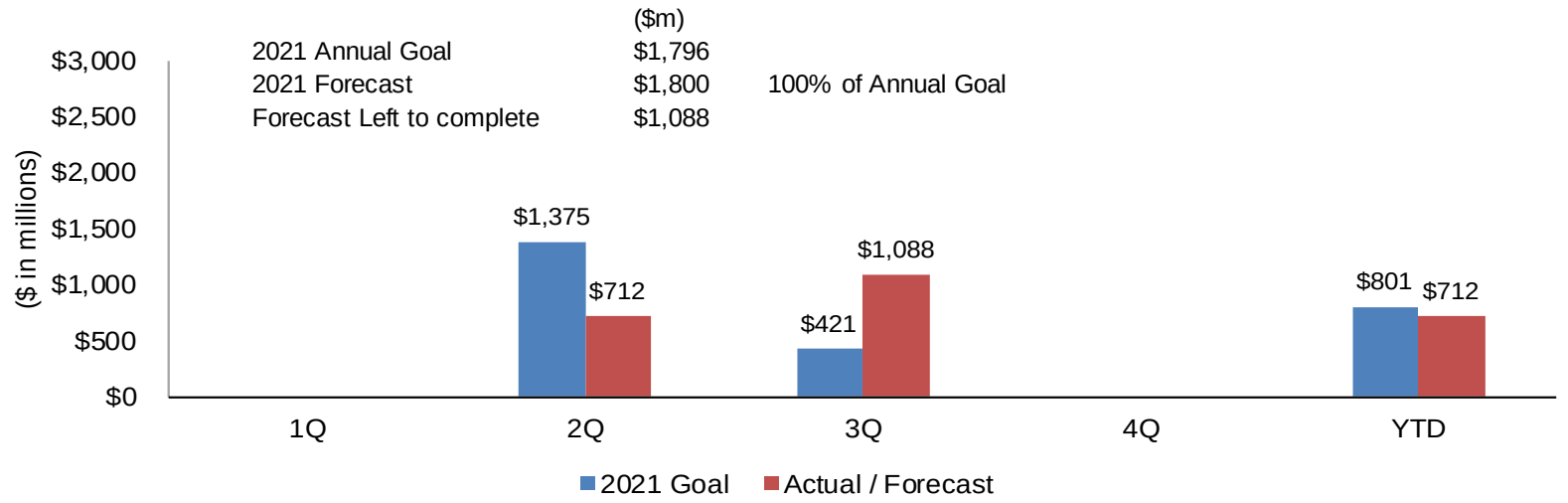
Schedule Variances

There are no schedule variances to report.

Metropolitan Transportation Authority

MTA Expansion Capital Projects – Completions – May 2021 – Budget Analysis and Schedule Variances

MTA Expansion Budget Analysis



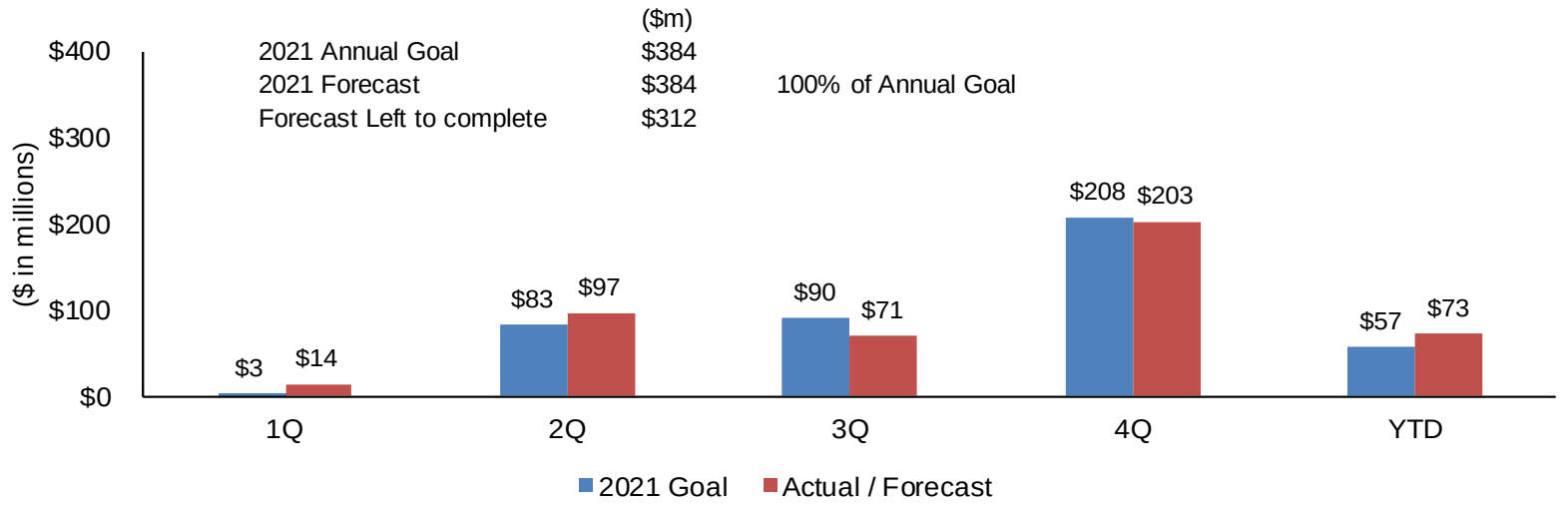
Schedule Variances

Project	Completion	Goal	Forecast
1 MTA Expansion Red Completion			
MTA Expansion			
East Side Access			
B/C Approach	Construction	Apr-21	Jul-21
		$92.9	$92.9
Project substantial completion extended to include Loop 1A trench excavation and catenary w ork.			

Metropolitan Transportation Authority

B&T Capital Projects – Completions – May 2021 – Budget Analysis and Schedule Variances

B&T Budget Analysis



Schedule Variances

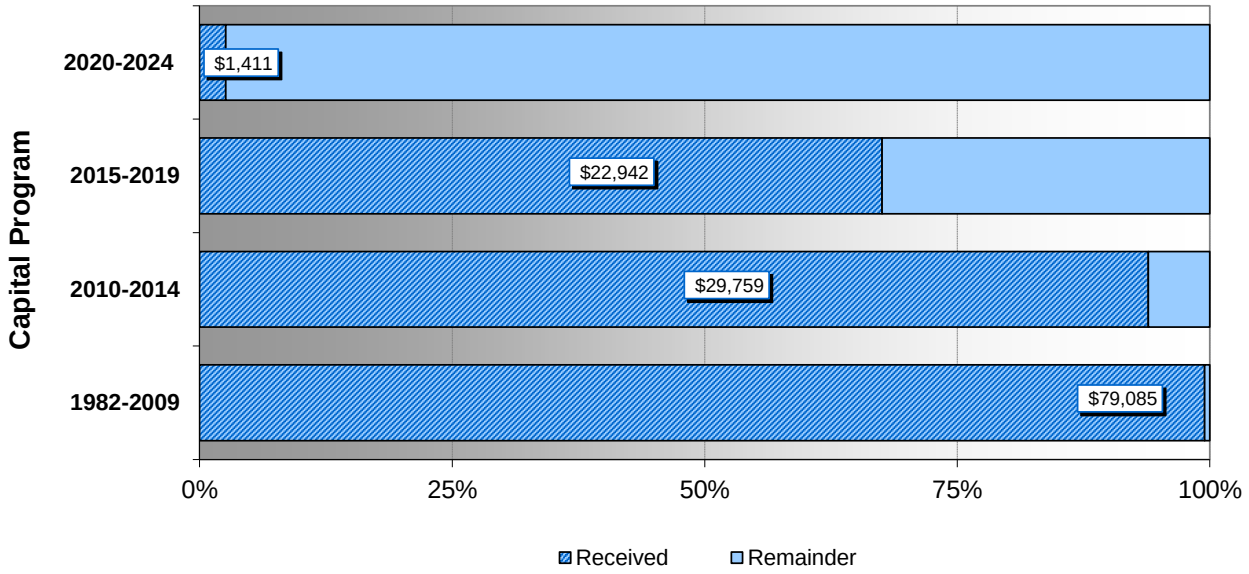
Project	Completion	Goal	Forecast
1 B&T Amber Completion			
Bridges and Tunnels			
Bridges and Tunnels			
CB Scour Protect/Repair/Replace	Construction	Jul-21	Sep-21
CB/MP Pier Fender		$65.9	$65.9

Project completion delayed due to w eather delays.

Status of MTA Capital Program Funding

Capital Funding (May 2021)

$ in millions



Capital Funding Detail (May 2021)

$ in millions

2010-2014 Program	Funding Plan Current	Receipts Thru April	Receipts This month	Receipts Received to date
Federal Formula, Flexible, Misc	$5,844	$5,839	$ -	$5,839
Federal High Speed Rail	173	173	-	173
Federal New Start	1,271	1,257	-	1,257
Federal Security	89	89	-	89
Federal RRIF Loan	-	-	-	-
City Capital Funds	719	608	-	608
State Assistance	770	770	-	770
MTA Bus Federal and City Match	132	112	-	112
MTA Bonds (Payroll Mobility Tax)	11,625	10,647	-	10,647
Other (Including Operating to Capital)**	1,292	1,281	-	1,281
B&T Bonds	2,175	2,019	-	2,019
Hurricane Sandy Recovery				
Insurance Proceeds/Federal Reimbursement	6,697	6,697	-	6,697
PAYGO	18	18	-	18
Sandy Recovery MTA Bonds	659	225	-	225
Sandy Recovery B&T Bonds	230	23	-	23
Total	**31,693**	**29,759**	**-**	**29,759**

2015-2019 Program	Funding Plan Current	Receipts Thru April	Receipts This month	Receipts Received to date
Federal Formula, Flexible, Misc	$6,704	$4,989	$ -	$4,989
Federal High Speed Rail	$122	$122	-	$122
Federal Core Capacity	100	-	-	-
Federal New Start	500	-	-	-
Federal Security	19	15	-	15
State Assistance	9,064	4,377	200	4,577
City Capital Funds	2,667	1,473	-	1,473
MTA Bonds	8,474	8,175	-	8,175
Asset Sales/Leases	959	315	-	315
Pay-as-you-go (PAYGO)**	2,145	1,572	-	1,572
Other	265	50	10	60
B&T Bonds & PAYGO/Asset Sale	2,942	1,644	-	1,644
Total	**33,961**	**22,732**	**210**	**22,942**

2020-2024 Program	Funding Plan Current	Receipts Thru April	Receipts This month	Receipts Received to date
Capital from Central Business District Tolling	$15,000	$ -	$ -	$ -
Capial from New Revenue Sources	10,000	-	-	-
MTA Bonds and PAYGO	9,782	202	-	202
Federal Formula	7,500	1,119	-	1,119
State of New York	3,000	-	-	-
City of New York	3,000	80	-	80
Federal New Start (SAS Ph2)	2,905	-	-	-
Federal Flexible	275	-	-	-
Federal Security	10	10	-	10
B&T Bonds (Self-Funded)	3,327	1	-	1
Total	**54,799**	**1,411**	**-**	**1,411**

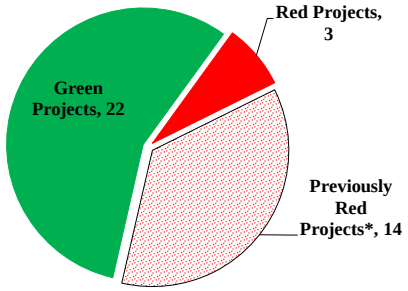
Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report on the MTA Capital Program

A total of 327 Projects were Reviewed for the 1st Quarter 2021

The 327 active projects include 39 projects in Design, 11 in Post-Design to Construction Award, 277 in Construction

39 of 327 Projects in Design

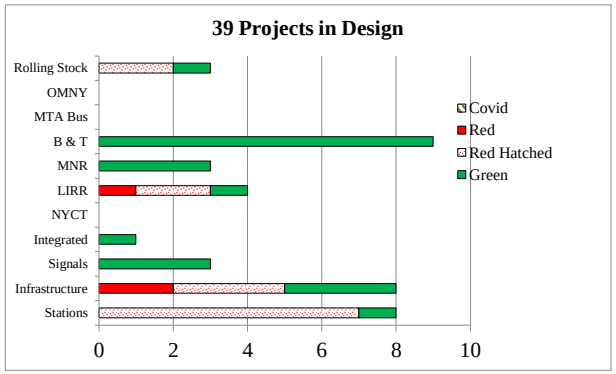


* see Terms and Definitions page

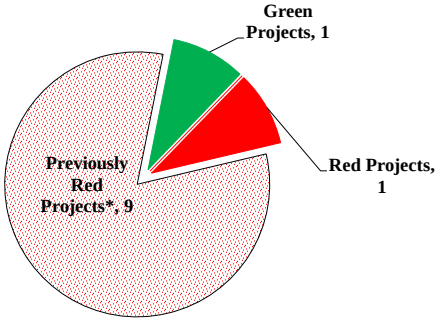
First Quarter: 39 projects were reviewed in this phase with 22 designated green, 14 as previously red and 3 red. The 3 projects were red in part to site conditions requiring a design change, coordination with other projects, and added scope.

Covid Impacts: No projects in design were impacted by Covid-19 this quarter.

Fourth Quarter 2020: 30 projects were reviewed in this phase with 13 designated green, 3 previously red, and 14 red.



11 of 327 Projects in Post-Design to Construction Award

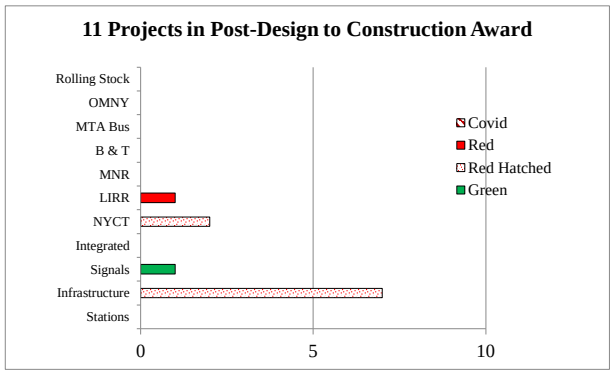


* see Terms and Definitions page

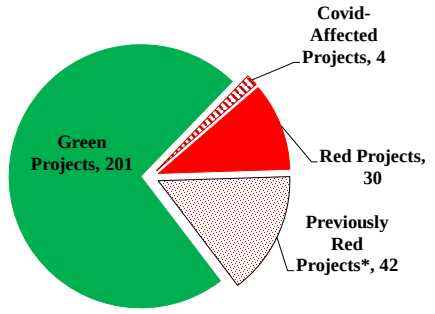
First Quarter: 11 projects were reviewed in this phase with 9 designated as previously red, 1 green, and 1 red. The red project was for a schedule variance due excessive questions from potential bidders requiring project documents to be revised.

Covid Impacts: No projects in Post-Design to Construction Award were impacted by Covid-19 this quarter.

Fourth Quarter 2020: 10 projects were reviewed in this phase with 3 designated as previously red, 5 red and 2 impacted by Covid-19.



277 of 327 Projects in Construction

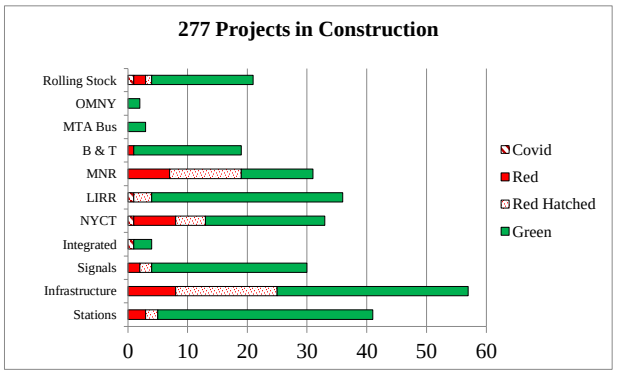


* see Terms and Definitions page

First Quarter: 277 projects were reviewed in this phase with 201 designated green, 42 previously red, and 30 red. The 30 projects were red due in part to scope revisions, contractor performance, unforeseen site conditions, and coordination with other projects.

Covid Impacts: 4 projects in construction were impacted by Covid-19 and triggered schedule variances due to in-house forces being impacted by work rules, material availability, manufacturer / vendor travel restrictions and production delays.

Fourth Quarter 2020: 305 projects were reviewed in this phase with 230 designated green, 39 previously red, 31 red, and 5 impacted by Covid-19.



Project Terms and Definitions
1st Quarter 2021 Traffic Light Report

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 two performance indicators: cost and schedule. A project is designated a "***green light project***" when no performance indicator has exceeded the Traffic Light Report thresholds. A project is designated a "***red light project***" when one or more of the two indicators exceed a specified threshold. Variance reports are required for all qualified red light projects. Included in these reports are one-page project 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 "***previous red project***" after one or more performance indicators had triggered a red in a previous quarter(s). A "***previous red project***" may revert back to green after two consecutive quarters if the performance indicator(s) have not worsened.

Project Terms and Definitions

Projects in Design: 39
Green: Indices less than 110% and index movement of less than 10%.
Red: Cost Index - An EAC increase of 10% (or index movement of 10% or more since the last Traffic Light Report).
Red: Schedule Variance - An increase of 3 months or more to substantial completion since the last Traffic Light Report.
Previous Red: Previously indicated as **red** with no new substantial change since last Traffic Light Report / A project in design that has been designated as Previous Red may be returned to Green when it has been in compliance with the two performance indicators for two consecutive quarters.

Projects in Post Design to Construction Award Phase: 11
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.
Previous Red: Previously indicated as **red** with no new substantial change since the last Traffic Light Report. Project may be returned to Green when it has been in compliance with two performance indicators for two consecutive quarters.

Projects in Construction: 277
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 Index - An increase of 10% (or index movement of 10% or more since the last Traffic Light Report).
Red: Schedule Variance - An increase of 3 months or more to substantial completion since the last Traffic Light Report.
Previous Red: Previously indicated as **red** with no new substantial change since the last Traffic Light Report / A project in construction that has been designated as Previous Red may be returned to Green when it has been in compliance with the two performance indicators for two consecutive quarters.

Projects impacted by Covid-19 (Temporary TLR Criteria): 4
Projects in this category have triggered one or more reporting variances that are impacted by the Covid-19 pandemic. The Key Performance Indicators have exceeded one or more of the Traffic Light reporting thresholds this quarter, however, a project issue has been directly attributed to Covid-19. The issues may include; the implementation of safety protocols, new work rules and occupancy restrictions, travel limitations, reduced personnel availability, funding delays, etc. Covid-19 is a temporary imposition on the MTA's Capital Program and therefore a temporary TL has been developed for these projects.
Red Lined: Cost Index - An increase of 10% (or index movement of 10% or more since the last Traffic Light Report).
Red Lined: Schedule Variance - An increase of 3 months or more to substantial completion since the last Traffic Light Report.
Previous Red: Previously indicated as Red Lined with no new substantial change since the last Traffic Light Report / A project in design, procurement or construction that has been designated Previous Red may be returned to Green when it has been in compliance with the two performance indicators for two consecutive quarters.

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

Completed Projects:
➢ Projects that were completed in previous quarters are not displayed in the current quarter's report but, continue to be maintained in the TLR database for historical reporting purposes.

Report Index Formulas and Criteria:
➢ Cost Index = Total Project EAC / Current Approved Budget. (Note: Current Budget is not Budget at Award) ➢ Cumulative Cost Variance = 3 consecutive quarters with a total cost index increase that cumulatively exceeds the TLR threshold of 10% over 3 quarters.
➢ Schedule Variance = Number of months of change in schedule since the last Traffic Light Report. ➢ Cumulative Schedule Variance = 3 consecutive quarters with a total change in schedule that cumulatively exceeds the TLR threshold of 3 months or more.
➢ The TLR includes projects in CPOC's Risk-Based Monitoring Program which are listed at the end of the report.
➢ Only projects with budgets of $7M or greater are included in the current quarter's Traffic Light Report. Projects with budgets below $7M are not displayed in the current report but will be maintained in the TLR database. If the current budget increases above the $7M minimum threshold, the projects will return to an active status.

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Stations									
Stations - ADA Accessibility Program - Projects in Construction									
T6041311	ADA Phase 2 at 57 St Station-Broadway Line	Construction	$35,857,557	89	1.00	▬	0	▬	G
T7041305	ADA: Gun Hill Road DYR	Construction	$61,019,265	93	1.00	▬	3	▲	R
T7041307	ADA: Times Square Complex, Ph 3 - Shuttle	Construction	$217,573,535	67	.99	▬	0	▬	G
T7041310	ADA: 59 St 4AV	Construction	$58,834,810	98	1.00	▬	5	▲	R
T7041315	ADA: 149 Street-Grand Concourse Complex	Construction	$114,670,180	5	.98	▬	0	▬	G
T7041323	ADA: 57 Street BWY Additional Support Costs	Construction	$52,038,195	89	1.00	▬	0	▬	G
T7041331	ADA: Livonia Ave CNR	Construction	$87,290,193	29	1.00	▬	0	▬	G
T7041332	ADA: 170 Street JER	Construction	$62,244,252	47	1.00	▬	0	▬	G
T7041338	ADA: Tremont Ave BXC	Construction	$54,345,378	5	.99	▬	0	▬	G
T8041303	ADA: Dyckman St (NB) BW7	Construction	$21,579,539	0	1.00	▲	0	▬	G
T8041313	ADA: Avenue H (NB) BRT	Construction	$10,860,395	20	.43	▬	0	▬	G
T8041317	ADA: Grand St CNR	Construction	$28,958,238	0	1.00	▬	0	▬	G
T8041319	ADA: 7th Ave CUL	Construction	$40,867,099	0	1.00	▬	0	▬	G
T8041327	ADA: Lorimer St CNR	Construction	$64,867,338	0	1.00	▬	0	▬	G
T8041328	ADA: Metropolitan Ave XTN	Construction	$49,961,618	0	1.00	▬	0	▬	G
T8041332	ADA: East 149th St PEL	Construction	$41,912,238	0	1.00	▬	0	▬	G
T8041337	ADA: Beach 67th St FAR	Construction	$45,420,386	0	1.00	▬	0	▬	G
S8070108	ADA: New Dorp SIR	Construction	$36,957,704	0	1.00	▬	0	▬	G
Non ADA Stations Projects									
T7040701	Replace 11 Hydraulic Elevators / Various	Construction	$73,848,576	5	1.00	▬	0	▬	G
T7040702	Replace 12 Traction Elevators BW7	Construction	$109,833,900	72	1.00	▬	0	▬	R
T7040704	Replace 6 Traction Elevators 8AV	Construction	$45,936,633	65	.99	▬	0	▬	G
T7040705	Replace 2 Hydraulic Elevators: Borough Hall CLK	Construction	$14,082,111	85	1.00	▬	0	▬	G

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Stations									
Non ADA Stations Projects									
T7040708	Replace 2 Escalators: Pelham Pkwy WPR	Construction	$15,816,293	2	1.00	▬	0	▬	G
T7040709	Replace 6 Escalators / Various	Construction	$46,690,219	2	.92	▬	0	▬	G
T7040710	Escalator Relocation: Jay St-MetroTech FUL	Construction	$21,724,370	95	1.00	▬	0	▬	G
T7040711	Replace 2 Hydraulic Elevators: Franklin Av FRK	Construction	$13,537,851	85	1.00	▬	0	▬	G
T7040712	Replace 3 Escalators: Main St FLS	Construction	$27,294,471	60	.99	▬	0	▬	G
T7041401	Station Signage Improvements	Construction	$10,225,624	75	.94	▬	0	▬	R
T7041404	Reconstruction: Times Sq Complex, Ph3 - Shuttle	Construction	$29,816,315	67	1.00	▬	0	▬	G
T7070308	Rehab Emergency Exits (3rd Party) - Var Locs	Construction	$21,036,295	10	1.04	▬	0	▬	G
T7160729	RTO Facility Repair: 3 Avenue-138 Street PEL	Construction	$15,849,402	37	1.04	▬	3	▲	R
T8041216	Platform Components: E Broadway 6AV	Construction	$14,837,508	70	1.00	▬	0	▬	G
T8050204	2020 Mainline Track Repl: Rutgers	Construction	$18,600,588	70	1.00	▬	0	▬	G
T7041201	Water Remediation - Renewal: Borough Hall LEX	Design	$5,537,976	60	.22	▼	5	▲	R
T7041251	Platform Components: 5 Locs CNR	Design	$4,573,123	30	.19	▼	0	▬	G
T70412L1	Renewal: 14 St BW7	Design	$49,131,721	25	1.00	▬	0	▬	R
T70412L2	Platform Components: 14 St 6 AV	Design	$11,188,587	30	.96	▬	0	▬	R
T7041322	ADA: 95 St 4AV	Design	$50,019,153	25	1.42	▬	5	▲	R
T7041330	ADA: 14th St 6th Av/7th Av Complex DES	Design	$36,249,255	30	3.41	▼	0	▬	R
T7041347	ADA: 14 St 6AV	Design	$43,683,587	30	1.00	▬	0	▬	R
T7041348	ADA: 14 St BW7	Design	$98,671,046	30	1.77	▲	0	▬	R
Infrastructure									
T6040401	MetroCard-Electronic Components Replacement	Construction	$16,340,035	89	1.00	▬	5	▲	R
T6041304	Imprve Platfrm Horizntl/Vertical Clearance-Var Loc	Construction	$14,862,538	100	1.38	▬	0	▬	R
T6100454	207th St. OH Shop: Boiler Upgrades & Site Remed	Construction	$11,423,059	75	1.00	▬	5	▲	R

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
T6120403	Replace Bus Radio System	Construction	$203,360,314	73	.97	▬	6	▲	R
T6160611	Replace Fire Alarm Systems at 13 Locations	Construction	$27,545,620	50	1.00	▬	0	▬	G
T6160717	Livingston Plaza Repairs	Construction	$26,420,913	70	.51	▼	2	▲	R
T7060503	Replace Supervisory Vent Controls - Var Locs	Construction	$30,122,072	55	1.00	▬	0	▬	R
T7060506	Rehab Forsyth St Vent Plant	Construction	$90,374,945	22	.99	▬	0	▬	R
T7060514	Tunnel Lighting: Roosevelt Av to Elmhurst Av QBL	Construction	$15,083,640	98	1.00	▬	-1	▼	G
T7070303	Struct Rehab: Livonia Yard Overpass & Retain Wall	Construction	$27,083,332	42	1.00	▬	0	▬	R
T7070316	Overcoat: Broadway - End of Line MYR	Construction	$58,258,534	17	.99	▬	0	▬	G
T7070317	Overcoat: 48 St - 72 St FLS	Construction	$57,133,383	85	1.00	▬	0	▬	G
T7070323	LSCRP: Brooklyn (EPK)	Construction	$82,731,099	23	.99	▬	0	▬	G
T7070344	Repairing 'A' and 'B' Column Base Conditions WPR	Construction	$17,000,070	84	.97	▬	4	▲	R
T7090201	Substation Renewal: Burnside Av BXC	Construction	$22,857,912	99	1.00	▬	2	▲	R
T7090202	Substation Renewal: Av Z CUL	Construction	$32,177,194	81	.99	▬	0	▬	G
T7090203	Substation Rnwl & New Rectifier: Centrl SS 6AV	Construction	$43,431,274	39	1.00	▬	0	▬	G
T7090205	Replace 25Hz Freq Converters - Various Locs	Construction	$19,857,653	92	1.03	▬	2	▲	R
T7090206	Replace HT Switchgear - Various Locs	Construction	$30,430,773	74	1.00	▬	0	▬	G
T7090215	Supplemental Negative Cables QBL	Construction	$53,023,972	98	1.00	▬	10	▲	G
T7090218	Install Low-Resistance Contact Rail QBL	Construction	$47,828,349	99	1.00	▬	0	▬	G
T7090222	New Substation: Maspeth Av-Humboldt St CNR	Construction	$46,240,962	99	.89	▼	2	▲	R
T7090223	New Substation: Harrison Pl CNR	Construction	$52,773,517	99	.89	▼	2	▲	R
T7090406	Rehab CBH # 85 & New Ducts: Bedfrd-N 6 St SS CNR	Construction	$13,403,145	99	.99	▬	2	▲	R
T7090414	Repl Control & Bat Cables: Substation CZs	Construction	$28,783,652	86	1.00	▬	0	▬	G
T7100401	DCE Shop Components Ph 1: 180 St, CI, PEL	Construction	$33,701,392	85	.99	▬	0	▬	G
T7100402	207th St Maint & OH Shop Roof & Component Repl	Construction	$59,951,102	42	1.00	▬	0	▬	G

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
T7100403	DCE Shop Components Ph 2: 239 St, Concourse, ENY	Construction	$45,922,515	70	1.00	▬	4	▲	R
T7100405	DCE Shop Components Ph 4: 207 St Admin	Construction	$24,771,970	85	1.01	▬	1	▲	G
T8040404	Wide Turnstiles: Procurement/Installation	Construction	$25,018,512	0	1.00	▬	0	▬	G
T8160706	EMD Facility: Hoyt-Schermerhorn FUL	Construction	$14,001,893	6	1.00	▬	0	▬	G
S7070102	SIR Station Component Program	Construction	$18,917,569	70	.99	▬	0	▬	G
S7070105	New Power Substation: Tottenville	Construction	$27,092,166	100	.99	▬	-1	▼	R
S7070106	New Power Substation: New Dorp	Construction	$25,381,307	95	1.04	▬	0	▬	R
S7070107	New Power Substation: Clifton	Construction	$30,741,073	95	1.00	▬	0	▬	R
S7070111	Relocate HQ to Clifton Shop	Construction	$9,127,751	86	.99	▬	0	▬	R
S7070113	SIR Clifton Yard Track and Switch Replacement	Construction	$17,070,406	74	.98	▬	0	▬	R
S8070101	Station Components: Various Locations	Construction	$35,893,705	0	.90	▬	-32	▼	G
S8070109	Track and Switch Rehab: SIR Mainline (Addtnl Work)	Construction	$15,096,650	40	.97	▼	0	▬	G
U6030226	Bus Radio System	Construction	$28,693,109	78	1.03	▬	6	▲	R
U7030211	Bus Radio System - MTA Bus Share	Construction	$37,355,831	46	1.00	▬	6	▲	R
T8120303	Jamaica Depot Reconstruction	Design	$375,541,493	8	.98	▬	0	▬	G
S8070102	Track and Switch Replacement	Design	$74,800,000	9	.61	▼	5	▲	R
S8070103	Bridge Structures: Various Locations	Design	$54,447,052	0	1.01	▬	2	▲	R
Signals / Train Controls									
T50803QB	CBTC QBL Phase 1	Construction	$80,085,069	88	1.37	▲	9	▲	R
T6080319	CBTC Queens Blvd Ln West Ph 1	Construction	$117,825,996	88	1.00	▬	9	▲	R
T6080661	ISIM-B Module 3A RCC Build Out	Construction	$25,425,919	51	1.00	▬	0	▬	G
T7080301	CBTC: QBL West Ph2 (50 St - Union Tpke)	Construction	$463,332,953	77	1.09	▬	0	▬	G
T7080304	CBTC: 8AV (59 St - High St)	Construction	$220,201,814	24	1.00	▬	0	▬	G
T7080307	Interlocking Modernization: Ditmas CUL	Construction	$133,574,754	58	1.00	▬	0	▬	G

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Signals / Train Controls									
T7080308	Interlocking Modernization: Kings Highway CUL	Construction	$179,528,533	94	1.00	▬	0	▬	G
T7080322	AC to DC Line Relay Upgrade BCT	Construction	$25,168,851	46	1.00	▬	0	▬	G
T7080323	Signal Key-By Modifications, Ph4	Construction	$18,429,499	83	1.00	▬	0	▬	G
T7080324	Code Cable Replacement BW7	Construction	$41,790,878	8	1.00	▬	0	▬	G
T7080325	Signal Room Fire Suppression, Phase 2	Construction	$25,609,793	97	1.00	▬	0	▬	G
T7080326	Life Cycle Replacement of Code Systems	Construction	$48,925,537	5	.99	▬	0	▬	G
T7080327	Life Cycle Mod - Speed Enforcement Systems	Construction	$65,429,183	1	1.00	▬	0	▬	G
T7080332	CBTC: CUL (Church Av to W8 St)	Construction	$116,051,095	65	.99	▬	0	▬	G
T7080333	Interlocking Modernization: Ave X CUL	Construction	$200,040,640	73	1.00	▬	0	▬	G
T7080335	Interlocking Modernization: 30 St & 42nd St / 8AV	Construction	$258,886,569	24	1.00	▬	0	▬	G
T7080342	CBTC: Carborne Equipment Purchase	Construction	$84,663,722	8	1.00	▬	0	▬	G
T7080343	2018 M/L Switch Repl: 7 Switches CBTC CUL	Construction	$32,479,364	72	1.00	▬	0	▬	G
T7080344	2019 M/L Switch Repl: 10 Switches CBTC 8AV	Construction	$27,563,382	24	1.00	▬	0	▬	G
T7080345	2019 M/L Switch Repl: 12 Switches Kings Hwy CUL	Construction	$26,368,385	99	1.00	▬	0	▬	G
T7080349	Signal Quality Enhancements (SAP)	Construction	$18,195,000	0	1.00	▬	0	▬	G
T7080602	Upgrade Async Network to SONET, Rings A and C	Construction	$30,961,649	97	1.00	▬	3	▲	R
T7080603	PBX Upgrade	Construction	$48,564,396	91	1.17	▬	0	▬	R
T7080604	Fiber Optic Cable Replacement Ph2	Construction	$28,116,655	66	.97	▬	0	▬	G
T7080614	ISIM-B Module 3: Rail Traffic Systems	Construction	$91,696,705	48	1.00	▬	0	▬	G
T7080617	LiftNet Transition to Ethernet	Construction	$15,792,305	87	.99	▬	0	▬	G
T7080649	COE at 88 Stations, Phase 3B-1 [SBDP]	Construction	$7,067,767	25	1.00	▬	0	▬	G
T7080651	Help Point: Upgrades and CAI Removals	Construction	$20,205,948	46	1.00	▬	0	▬	G
T7160716	RCC and PCC Power Upgrade	Construction	$63,370,962	94	1.00	▬	0	▬	G
T80803RR	SigMod: 6 Lines and 33 Interlockings	Design	$4,595,830,448	0	.86	▬	0	▬	G

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Signals / Train Controls									
T8080601	Comm Network Upgrades: Various Locations	Design	$185,044,145	20	.85	▬	0	▬	G
T8080603	Fiber Optic Cable Replacement: Various Locations	Design	$47,194,595	55	1.00	▬	0	▬	G
T8080607	Station Comm Room Upgrades: Various Locations	Design	$36,000,064	18	1.00	▬	0	▬	G
Integrated Projects									
L70204VZ	Elmont Station	Construction	$106,050,000	38	1.00	▬	0	▬	G
L70206VP	Penn Sta Elevator/Escalator Renewal	Construction	$11,446,500	91	1.00	▬	3	▲	R
T7041350	Additional elevator 34 St BW7 PSNY-33rd	Construction	$16,541,862	8	1.00	▬	0	▬	G
T8040707	Replace 3 Hydraulic Elevators: 34th BW7 PSNY-33rd	Construction	$21,788,141	8	1.00	▬	0	▬	G
New York City Transit									
T6160402	NYCT-Wide Storage Area Network/Disaster Recovery	Construction	$22,484,619	75	1.00	▬	3	▲	R
T7041274	Station Lighting: 7 Locs / Various	Construction	$7,686,619	28	1.00	▬	0	▬	G
T7041275	Station Ventilators: 2 Locs (2019)	Construction	$5,571,319	42	.67	▬	0	▬	G
T7090204	Substation Roof & Encl: Wash Heights 8AV [SBDP]	Construction	$8,637,502	98	1.00	▬	0	▬	G
T7100409	Heavy Shop Equipment	Construction	$14,729,150	47	1.00	▬	27	▲	R
T7120301	Artic Modification: ENY Depot	Construction	$17,845,001	80	1.00	▬	0	▬	G
T7120306	Generator: Yukon Depot	Construction	$11,011,373	1	.93	▬	0	▬	G
T7120307	Roof, Office, HVAC: Fresh Pond Depot	Construction	$15,240,139	6	1.00	▬	0	▬	G
T7120321	Artic Modification Windows/Façade: ENY Depot	Construction	$18,061,652	22	1.05	▲	0	▬	G
T7160704	Emp Fac Component Repairs: 7 Locs / Manhattan	Construction	$10,439,980	97	1.07	▬	0	▬	R
T8041206	Small Business Mentoring Program - Stations	Construction	$204,311,425	100	1.00	▬	-1	▼	G
T8050205	Mainline Track Replacement 2020 / Queens	Construction	$7,700,196	34	1.00	▬	12	▲	R
T8050206	Mainline Track Replacement 2020 / 8th Avenue	Construction	$20,726,225	53	1.00	▬	9	▲	R
T8050207	Mainline Track Replacement 2020 / Broadway-7th Ave	Construction	$35,259,977	60	1.00	▬	0	▬	R
T8050208	Mainline Track Replacement 2020 / Flushing	Construction	$60,530,719	61	1.01	▬	0	▬	G

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
New York City Transit									
T8050209	Mainline Track Replacement 2020 / Lexington	Construction	$24,143,517	73	1.09	▲	0	▬	R
T8050210	Mainline Track Replacement 2020 / Brighton	Construction	$15,212,679	13	1.00	▬	5	▲	R
T8050211	Mainline Track Replacement 2020 / Jamaica	Construction	$28,061,426	26	1.00	▬	0	▬	G
T8050212	Mainline Track Replacement 2020/ Lenox-White Plain	Construction	$16,778,667	86	1.27	▲	0	▬	R
T8050213	Mainline Track Replacement 2020 / 6th Avenue	Construction	$21,672,764	45	1.08	▲	0	▬	G
T8050222	Mainline Track - 2020 Support Costs	Construction	$9,879,727	50	1.00	▼	0	▬	G
T8050223	Continuous Welded Rail 2020	Construction	$35,009,063	36	1.00	▬	0	▬	G
T8050224	2020 Track Force Account	Construction	$35,000,000	0	1.00	▬	0	▬	G
T8050227	Mainline Track Replacement 2021 / 11th st Cut	Construction	$19,926,544	0	1.00	▲	0	▬	G
T8050231	Mainline Track Replacement 2021 / Bway-7th	Construction	$27,246,472	27	1.40	▲	0	▬	R
T8050232	Mainline Track Replacement 2021 / Jamaica	Construction	$27,039,948	11	1.00	▲	0	▬	G
T8050240	Mainline Track - 2021 Support Costs	Construction	$14,045,462	2	1.00	▲	0	▬	G
T8050303	Mainline Track Switches 2020 / Brighton	Construction	$14,751,523	94	.84	▬	1	▲	G
T8050306	Mainline Track Switches 2020 / Queens	Construction	$7,531,710	5	1.00	▬	0	▬	R
T8050310	Mainline Track Switches 2020 / White Plains Rd	Construction	$21,100,168	76	1.00	▬	5	▲	R
T8050311	Mainline Track Switches 2020 / Broadway	Construction	$12,433,728	82	1.00	▬	0	▬	G
T8050320	Mainline Track Switches- 2021 Support Costs	Construction	$12,179,185	2	1.00	▲	0	▬	G
T8130204	Purchase 27 Flat Cars	Construction	$21,772,241	30	1.00	▬	0	▬	G
Long Island Rail Road									
L50304TQ	MLC-Hicksville North Siding	Construction	$43,714,446	87	.99	▬	0	▬	G
L60304TU	Jamaica Capacity Improvements - Phase One	Construction	$301,653,240	83	1.00	▬	0	▬	G
L60701AR	Replacement of Richmond Hill Substation	Construction	$17,017,791	65	1.02	▬	3	▲	R
L70204U9	Jamaica Station - Planning & Engineering	Construction	$9,809,352	54	.98	▬	0	▬	G
L70301WH	Retaining Walls / Right of Way Projects	Construction	$9,908,959	99	.99	▬	-2	▼	G

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Long Island Rail Road									
L70401BU	MENTOR ALLOWANCE - LINE STRUCTURES	Construction	$10,821,048	82	.73	▬	8	▲	G
L70501SD	Fiber Optic Network	Construction	$34,460,000	85	1.00	▬	0	▬	G
L70502LJ	Signal Normal Replacement Program	Construction	$29,927,088	98	.99	▬	0	▬	G
L70502LN	Babylon to Patchogue	Construction	$45,639,479	16	.99	▬	0	▬	G
L70601YG	DIESEL LOCOMOTIVE SHOP IMPROVEMENTS	Construction	$101,965,000	98	.99	▬	3	▲	R
L70701XB	Substation Components	Construction	$24,306,295	35	.66	▬	0	▬	G
L70701XF	3rd Rail -Composite Rail	Construction	$11,600,000	89	1.00	▬	0	▬	G
L70701XU	Substation Repl Pkg 2: Construction	Construction	$24,235,477	1	1.00	▬	0	▬	G
L8020418	Mets-Willets EIC Relocation	Construction	$208,700,000	0	7.27	▬	0	▬	G
L8020604	PSNY-33rd Phase 2 LIRR 20-24 Plan Contribution	Construction	$18,806,909	1	1.00	▬	0	▬	G
L8020701	GCT Facility Needs	Construction	$30,373,445	0	1.01	▬	0	▬	G
L8030101	Construction Equipment & Geometry Cars	Construction	$40,000,000	0	.72	▬	-33	▼	G
L8030102	Various Right of Way Projects	Construction	$10,000,000	8	1.00	▬	0	▬	G
L8030105	2020 - Annual Track Program	Construction	$99,451,424	88	.66	▬	0	▬	G
L8030110	Concrete Tie Program	Construction	$55,153,995	92	1.00	▬	0	▬	G
L8030401	Amtrak Territory Investments	Construction	$100,000,000	0	1.00	▬	0	▬	G
L8050101	Comm. Pole Line	Construction	$14,933,555	13	1.86	▬	0	▬	G
L8050102	Comm Component Replacement	Construction	$15,066,667	1	1.88	▬	0	▬	G
L8050205	Signal Replacement and Interlocking Improvements	Construction	$19,693,456	10	.32	▬	0	▬	G
L8060103	Yard Improvements at Various Locations	Construction	$33,600,000	1	.69	▼	0	▬	G
L8070102	Lighting Improvements	Construction	$20,800,000	0	1.15	▲	0	▬	G
L8070103	Power Component Repairs and Replacements	Construction	$8,000,000	2	.15	▼	0	▬	G
L8070104	3rd Rail Upgrades	Construction	$43,000,000	0	1.00	▬	0	▬	G
L70204UO	East Yaphank Station	Design	$20,000,000	25	1.00	▬	2	▲	R

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Long Island Rail Road									
L70304WU	Jamaica Capacity Improvements Ph 2 DES	Design	$42,490,000	59	1.00	▬	8	▲	R
L70502LH	Babylon Interlocking Renewal	Design	$32,640,000	8	1.00	▬	0	▬	R
L8060401	Rehabilitation of Employee Facilities - Various Lo	Design	$20,600,000	2	.47	▬	0	▬	G
Metro-North Railroad									
M6020208	Customer Communication / Connectivity Improvements	Construction	$16,808,750	92	.99	▬	10	▲	R
M6040102	West of Hudson Signal Improvements	Construction	$63,461,327	95	.93	▬	0	▬	R
M6050101	Substation Bridge 23 - Construction	Construction	$41,452,052	95	.99	▬	2	▲	R
M6050103	Harlem & Hudson Lines Power Improvements	Construction	$44,327,339	92	1.04	▬	0	▬	R
M7020207	Customer Communication-Stations	Construction	$73,717,951	94	.91	▬	0	▬	G
M7020210	Enhanced Station Initiative, 5 Stations	Construction	$11,998,008	100	.93	▬	1	▲	R
M7020211	Customer Communication-Systems	Construction	$12,702,514	74	.95	▬	0	▬	R
M7020213	Enhanced Station Initiative	Construction	$110,341,113	100	.89	▬	1	▲	R
M7030104	Turnouts - Mainline/High Speed	Construction	$44,272,515	100	.99	▼	0	▬	G
M7030109	Purchase MoW Equipment	Construction	$19,796,793	66	1.03	▬	0	▬	R
M7030112	2019 Cyclical Track Program	Construction	$26,230,201	82	.98	▬	-1	▼	G
M7030201	Overhead Bridge Program - E of H	Construction	$67,802,798	92	1.02	▬	0	▬	G
M7030203	Undergrade Bridge Rehabilitation	Construction	$80,530,535	45	.97	▬	0	▬	G
M7030209	Harlem River Lift Bridge	Construction	$9,785,122	27	.94	▬	0	▬	G
M7040102	Harmon to Poughkeepsie SignalSystem	Construction	$155,896,024	52	1.54	▬	0	▬	R
M7040111	West of Hudson Signal Improvements	Construction	$21,079,000	95	1.00	▬	0	▬	R
M7040112	Harlem Wayside Comm & Signal Improvements	Construction	$81,548,080	80	1.56	▬	0	▬	R
M7050101	Replace MA's in Signal Substations	Construction	$22,668,445	30	.93	▬	0	▬	G
M7050104	Harlem & Hudson Power Rehabilitation	Construction	$13,226,216	24	.88	▬	0	▬	G
M7050105	Harlem and Hudson Power Improvements	Construction	$23,355,848	75	.94	▬	0	▬	R

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Metro-North Railroad									
M7050113	H&H Power (86th St / 110th St)	Construction	$11,828,967	92	1.04	▲	0	▬	R
M7060101	Harmon Shop Replacement - Phase V	Construction	$431,817,796	28	1.00	▬	0	▬	G
M7080113	Customer Communication-CM	Construction	$15,185,854	91	.95	▬	0	▬	G
M8030103	Turnouts - Mainline, GCT, & Yards	Construction	$88,653,494	4	1.02	▬	0	▬	G
M8030108	2020 Cyclical Track Program	Construction	$19,229,242	0	.99	▲	0	▬	G
M7030303	Undergrade Bridge Rehabilitation	Design	$11,092,972	65	.92	▲	0	▬	G
M7060103	Brewster YD Improvements - Design	Design	$7,500,000	48	1.00	▬	0	▬	G
M7060104	West of Hudson Capacity Improvements	Design	$23,923,618	26	.98	▬	0	▬	G
Bridges & Tunnels									
D701BW07	Fender Protection around Tower Piers (Const)	Construction	$19,937,474	46	.94	▬	0	▬	G
D701CB18	CB Scour Protect/Repair/Replace CB/MP Pier Fender	Construction	$63,108,371	36	.95	▬	0	▬	G
D701HH07	Structural Rehabilitation	Construction	$38,223,974	48	.92	▬	0	▬	G
D701RK19	Seismic/Wind Retrofit & Structural Rehab Ph1	Construction	$53,159,727	49	.93	▬	0	▬	G
D701RK70	Miscellaneous Structural Rehabilitation	Construction	$32,519,609	49	.92	▬	0	▬	G
D701TN53	Approach Viaduct Seismic Retrofit/Structural Rehab	Construction	$208,443,766	19	.92	▬	0	▬	G
D701VN10	Anchorage & Piers Rehabilitation and Sealing	Construction	$46,620,515	86	.95	▬	0	▬	G
D701VN32	Steel Repair & Concrete Rehabilitation	Construction	$32,659,403	45	.95	▬	4	▲	R
D702TN49	Replacement of Grid Decks on Suspended Span	Construction	$305,556,857	47	.97	▬	0	▬	G
D702VN11	Brooklyn Approach Reconstruction	Construction	$27,160,181	97	.93	▬	0	▬	G
D702VN84	Reconstruction of VN Approach Ramps - Phase1	Construction	$206,932,870	47	.93	▬	0	▬	G
D704HC07	Rehabilitation of HCT Ventilation Systems	Construction	$76,728,503	77	.87	▬	0	▬	G
D707HH30	Replacement of HHB Overcoat System	Construction	$17,171,530	48	.87	▼	0	▬	G
D707TN49	Painting of Suspended Span	Construction	$20,160,027	47	.94	▬	0	▬	G
D707VN49	Paint Suspended Span Upper & Lower Level Steel	Construction	$72,751,527	50	.98	▲	2	▲	G

Metropolitan Transportation Authority

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Bridges & Tunnels									
D801RK70	Structural Repairs/Flag Repairs	Construction	$62,136,570	22	1.00	▬	0	▬	G
D801RK81	Facility Interoperability Improvements	Construction	$8,345,478	47	.95	▬	0	▬	G
D806VNX1	Install Safety Fencing on Both Levels of the VNB	Construction	$42,853,603	0	.98	▬	0	▬	G
D801BW14	Miscellaneous Structural Rehabilitation	Design	$20,659,047	65	.93	▬	0	▬	G
D801CB30	Structural Rehabilitation of CBB	Design	$22,769,320	5	.57	▬	0	▬	G
D801HH36	Dyckman St. Abutment Repl. & Substation Upgra	Design	$71,833,430	97	.59	▲	0	▬	G
D801RK19	Suspended Span Retrofit	Design	$136,670,810	7	.99	▬	0	▬	G
D801TN52	Miscellaneous Structural Rehabilitation	Design	$27,200,000	1	1.00	▬	0	▬	G
D802VN84	Ph.2 -Reconstruction of Upper Level Approach	Design	$604,467,064	14	1.00	▬	0	▬	G
D804BW96	Lighting, Power Redundancy & Resiliency Imprv	Design	$54,287,326	80	.98	▬	0	▬	G
D804VN12	Misc. Bridge Lighting & Electrical Improvemen	Design	$25,720,252	10	.98	▬	0	▬	G
D807RK19	Zone/Maintenance Painting of Suspended Spans	Design	$37,700,000	0	1.00	▬	0	▬	G
MTA Bus									
U6030232	HVAC Upgrade at College Point Bus Depot	Construction	$9,521,950	15	1.00	▬	0	▬	G
U7030207	Storerooms and Depot Reconfiguration: LaGuardia	Construction	$7,418,500	0	1.00	▬	0	▬	G
U7030209	Rehab and Facility Upgrade: College Point	Construction	$9,364,126	6	1.00	▬	0	▬	G
Cross Agency									
One Metro New York Program									
L70204UV	NEW FARE PAYMENT SYSTEM	Construction	$8,920,000	0	1.00	▬	0	▬	G
T7040401	New Fare Payment System, Phase 2	Construction	$463,323,580	42	1.00	▬	0	▬	G
Rolling Stock									
L60101MA	M-9 Rolling Stock Procurement - 92 cars	Construction	$364,836,340	78	1.00	▬	4	▲	R
L70101ME	M-9 PROCUREMENT	Construction	$611,800,000	33	1.00	▬	0	▬	G
M7010101	Locomotive Purchase	Construction	$259,842,062	3	1.01	▬	0	▬	G

1st Quarter 2021 Traffic Light Report
Projects in Design and Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Cross Agency									
Rolling Stock									
M7010102	M-8 Fleet Purchase	Construction	$113,564,830	80	.97	▬	0	▬	R
M8010102	Locomotive Replacement	Construction	$368,094,335	3	1.00	▬	0	▬	G
T7010101	Purchase 440 B-Division Cars	Construction	$1,402,231,935	8	1.00	▬	0	▬	G
T7010102	Purchase 20 Open Gangway Prototype Cars	Construction	$79,905,106	8	1.00	▬	0	▬	G
T7030203	Purchase 165 Standard Hybrid Buses (Nova)	Construction	$151,025,925	2	1.00	▬	1	▲	R
T7030206	Purchase 50 Express Buses	Construction	$34,049,033	3	1.00	▬	0	▬	G
T7030215	AVLM for Paratransit Vehicles	Construction	$26,828,317	45	1.00	▬	4	▲	R
T7030223	Purchase 110 Standard Hybrid Buses (New Flyer)	Construction	$95,573,078	2	.96	▬	0	▬	G
T7130208	Purchase 12 3-Ton Crane Cars	Construction	$32,211,961	17	1.00	▬	0	▬	G
T7130211	Purchase Locomotives	Construction	$256,092,473	10	1.00	▬	0	▬	G
T7130213	Purchase Various Non-Revenue Vehicles	Construction	$15,966,218	2	1.39	▲	1	▲	G
T7130215	Conversion of 10 R77E Locomotives	Construction	$34,272,847	10	1.00	▬	0	▬	G
T8030208	Purchase 126 Hybrid (Nova)	Construction	$107,949,896	1	1.00	▬	1	▲	G
T8030209	Purchase 209 Standard Diesel (Nova)	Construction	$141,211,796	1	1.00	▬	0	▬	G
T8030210	Purchase 84 Hybrid-Electric (New Flyer)	Construction	$71,210,653	0	1.00	▬	0	▬	G
T8030211	Purchase 139 Standard Diesel (New Flyer)	Construction	$98,808,397	0	1.00	▲	3	▲	G
U7030202	Purchase 257 Express Buses	Construction	$166,665,518	10	1.00	▬	0	▬	G
T7030216	Purchase 45 Standard Electric Buses	Design	$49,416,840	99	.90	▼	0	▬	R
T8010101	A-Division Car Purchases	Design	$1,500,000,000	0	1.00	▬	0	▬	G

1st Quarter 2021 Traffic Light Report - Sandy Projects
Design, Post-Design to Construction Award, or Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
Coney Island Yard Flood Mitigation									
ET100211	Recovery: Power Cable at Coney Island Yard	Construction	$159,407,006	53	.96	▬	0	▬	G
ET100307	Mitigation: Long Term Perimeter Protection at Coney Island Yard	Construction	$339,437,463	53	.97	▬	0	▬	G
148th Street Yard									
ET100209	Recovery: Power Cable at 148 Street Yard	Construction	$14,570,909	86	1.00	▬	0	▬	G
ET100309	Mitigation: Long Term Perimeter Protection at 148th Street Yard	Construction	$74,272,313	88	.96	▬	0	▬	G
Rutgers Tube									
ET050210	Recovery: Mainline Track (Rutgers Tube)	Construction	$10,763,493	70	1.00	▬	0	▬	G
ET060214	Recovery: Tunnel Lighting (Rutgers Tube)	Construction	$7,984,298	70	1.01	▬	0	▬	G
ET060232	Recovery: 2 Pump Rooms (Rutgers Tube)	Construction	$20,955,350	70	1.00	▬	0	▬	G
ET060233	Recovery: Fan Plant (Rutgers Tube)	Construction	$10,438,868	70	1.00	▬	0	▬	G
ET080213	Recovery: Signals (Rutgers Tube)	Construction	$14,068,069	70	1.00	▬	0	▬	G
ET090219	Recovery: Power and Communication Cables (Rutgers Tube)	Construction	$47,989,527	70	1.00	▬	0	▬	G
207th Street Yard									
ET100210	Recovery: Power Cable at 207 Street Yard	Construction	$37,979,241	70	.98	▼	0	▬	G
ET100219	Recovery: Yard Track (207 Street Yard)	Construction	$62,722,733	53	1.03	▬	0	▬	G
ET100220	Recovery: Yard Switches (207 Street Yard)	Construction	$30,984,884	52	.62	▬	0	▬	G
ET100310	Mitigation: Long Term Perimeter Protection at 207th Street Yard	Construction	$168,582,054	70	.99	▬	0	▬	G
ET100312	Mitigation: 207th Street Yard Portal	Construction	$54,881,539	70	2.02	▼	0	▬	G
ET100314	Mitigation: 207th Street Yard Sewers	Construction	$143,133,802	17	1.01	▬	0	▬	G
All Other Infrastructure Projects									
ET040327	Mitigation: Street Level Openings at 7 Stations and 1 Fan Plant	Construction	$52,609,057	95	1.00	▼	0	▬	G
ET060332	Mitigation: 3 Pump Rooms (53rd St Tube)	Construction	$16,425,223	70	1.00	▬	0	▬	G
ET090304	Mitigation: Montague-Furman Substation on the Broadway Line	Construction	$9,066,752	12	.88	▬	0	▬	G
ET120307	Mitigation: Various Bus Depots	Construction	$26,104,888	90	.99	▬	5	▲	R

1st Quarter 2021 Traffic Light Report - Sandy Projects
Design, Post-Design to Construction Award, or Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
All Other Infrastructure Projects									
ES070211	Recovery: Reconstruction of Clifton Car Repair Shop	Construction	$34,657,710	87	.99	▬	0	▬	R
ES070302	Mitigation: Reconstruction of Clifton Car Repair Shop	Construction	$160,856,190	86	.98	▬	0	▬	R
ES070303	Mitigation: St. George Terminal Yard	Construction	$55,551,894	78	1.08	▲	6	▲	R
ET060336	Mitigation: 4 Pump Rooms (Jerome-Pelham Tube)	Design	$2,866,204	5	.24	▬	0	▬	G
ET070310	Mitigation: Washout Protection on the Rockaway Line	Design	$40,396,722	20	1.68	▬	0	▬	R
ET070311	Mitigation: Installation of New Crossovers at Beach 105th Street Station on the Rockaway Line	Design	$61,182,136	20	1.03	▬	0	▬	R
ET070313	Mitigation: Compressor Room Protection at Rockaway Park Yard	Design	$7,726,207	20	1.00	▬	0	▬	R
ET070209	Recovery: Wrap-up Rockaway Line	Post Des to Const Awd	$56,395,934	100	1.19	▬	0	▬	R
ET070308	Mitigation: Steinway Portal	Post Des to Const Awd	$15,259,992	100	.76	▬	0	▬	R
ET090306	Mitigation: Substation Hardening at 9 Locations	Post Des to Const Awd	$45,600,000	30	1.21	▬	0	▬	R
ET090307	Mitigation: Substation Hardening at 11 Locations	Post Des to Const Awd	$46,176,199	30	1.28	▬	0	▬	R
ET090308	Mitigation Reserve: Deployable Substations	Post Des to Const Awd	$50,230,069	100	1.06	▬	0	▬	R
ET090310	Mitigation: Back-up Power Control Center	Post Des to Const Awd	$16,003,985	98	.94	▬	0	▬	R
ET090311	Mitigation: Substation Hardening at 5 Locations	Post Des to Const Awd	$26,400,000	30	.88	▬	0	▬	R

1st Quarter 2021 Traffic Light Report - Sandy Projects
Design, Post-Design to Construction Award, or Construction

▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Signals / Train Controls									
207th Street Yard									
ET100218	Recovery: 207 Street Yard Signal System	Construction	$294,189,712	50	.98	▬	0	▬	G
All Other Signals / Train Controls Projects									
ET040317	Mitigation: Upgrade Emergency Booth Communication System	Construction	$78,316,385	67	1.00	▬	17	▲	G
ET050217	Recovery: Mainline Track and Switches (200th to 207th Street / 8th Avenue)	Post Des to Const Awd	$50,595,426	0	.63	▬	0	▬	G
New York City Transit									
All Other New York City Transit Projects									
ET040339	Mitigation: 138 Street-Grand Concourse Station on the Jerome Line	Construction	$8,095,629	0	1.00	▲	0	▬	G
ET160310	Mitigation: Consolidated Revenue Facility	Post Des to Const Awd	$11,576,496	100	.77	▬	0	▬	R
ET160312	Mitigation: Tiffany Central Warehouse	Post Des to Const Awd	$26,225,217	100	1.04	▬	0	▬	R
Long Island Rail Road									
EL0303ZH	Flood and Emergency Management Equipment Mitigation	Construction	$25,892,132	63	.86	▬	2	▲	R
EL0502ZC	Restoration of the Long Beach Branch	Construction	$68,666,958	82	.96	▬	0	▬	R
EL0602ZD	West Side Storage Yard Restoration	Construction	$43,512,962	49	.99	▬	0	▬	G
EL0402ZA	East River Tunnel Restoration of Signal System Reliability	Design	$121,894,902	30	.67	▬	0	▬	G
EL0603ZS	Long Island City Yard Resiliency	Post Des to Const Awd	$37,581,253	19	1.42	▬	3	▲	R
Metro-North Railroad									
Hudson Line Ph 1 & 2 Power and C & S Restoration									
EM040205	Communications & Signal Infrastructure Restoration Phase 1	Construction	$97,300,159	75	.99	▬	6	▲	R

1st Quarter 2021 Traffic Light Report - Sandy Projects
Design, Post-Design to Construction Award, or Construction

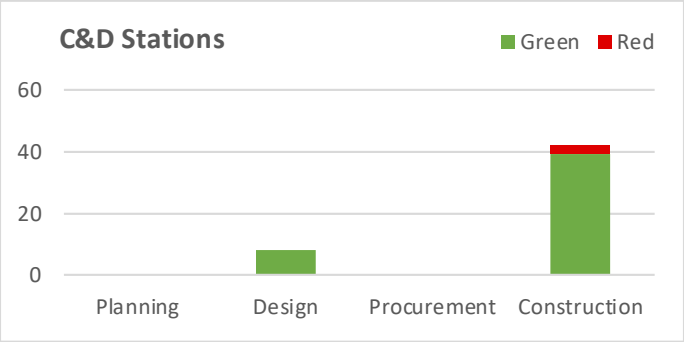
▲ = Index increase: Trending indicates condition worsening since last quarterly report
▼ = Index decrease: Trending indicates condition improving since last quarterly report
▬ = No Change since last quarterly report

ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Metro-North Railroad									
Hudson Line Ph 1 & 2 Power and C & S Restoration									
EM040301	Power and Signals Mitigation	Construction	$49,491,910	75	1.50	▬	6	▲	R
EM040302	Hudson Line Power and Signal Resiliency	Construction	$35,152,702	75	1.00	▬	6	▲	R
EM050206	Power Infrastructure Restoration Phase 1	Construction	$175,307,336	75	.98	▬	6	▲	R
All Other Metro-North Railroad Projects									
EM050208	Power Infrastructure Restoration - Substations	Construction	$44,805,708	90	.98	▬	0	▬	R
EM050209	Power Infrastructure Restoration - Harlem River Lift Bridge	Construction	$7,823,165	98	.93	▬	1	▲	R
Bridges & Tunnels									
ED040308	Enhancement of electric power resiliency at RFK bridge	Construction	$35,527,863	40	.95	▬	0	▬	G
Cross Agency									
Rolling Stock									
ET060317	Mitigation: Conversion of 2 Pump Trains	Design	$19,119,839	98	.71	▬	0	▬	R

Stations

The C&D Stations Business Unit's projects under construction have been progressing well. Some of our biggest construction projects include a bundle of 8 ADA stations, ADA at Livonia Av Station (L), and replacing escalators and elevators at multiple stations. The team is working hard to advance projects for 2021 and 2022 commitments, including the alignment of funding. Vacancies in key positions remain an issue. Business Units are trying to remediate this shortage by loaning resources to each other, but more staff is needed across the board.

The IEC's Traffic Light Report currently tracks 41 tasks (ACEPs) in the C&D Stations program. Three of those 41 tasks were flagged red.



One of the three tasks flagged red is the result of a deliberate decision by C&D:

Scope Change / Business Decision	**T7041310: ADA: 59 St 4 Av (construction phase)** In an effort to accelerate station work in this period of low ridership, C&D made the deliberate decision to modify this contract to include Ave H Station ADA accessibility work, which originally been intended as a separate contract. This additional work moved Substantial Completion to June 2021. C&D was able to begin work at Ave H three months early.

The underlying reasons for the other two flags, and what C&D is doing to remediate them, are summarized below:

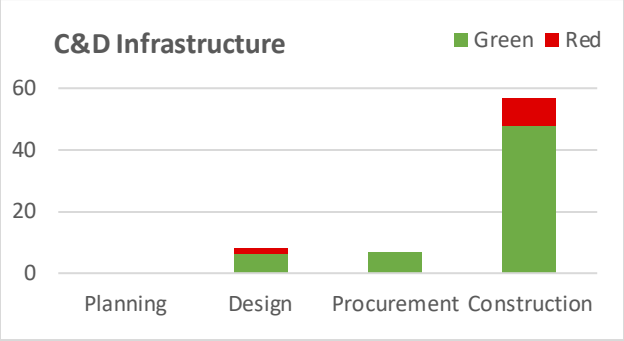
1. Contractor Performance / Contractor Issues	**T7041305: ADA: Gun Hill Road DYR (construction phase)** Contractor performance has been an issue throughout this project, as documented in multiple All-Agency Contractor Evaluation reports. Substantial completion was delayed but ultimately achieved in April 2021. This Design-Bid Build contract was awarded to the lowest bidder. Moving forward, projects like these would be awarded differently to promote greater accountability.
2. Specs and Standard Change	Secondary cause for the delay includes a Specs and Standard Change. During the prefinal inspection with the FDNY, the FDNY requested to change fire sprinkler system at canopy area (station access) resulting in the change order (AWO). Fire safety inspection requirements changed between when the design was approved

	and when FDNY undertook the prefinal inspection. Necessary structural design changes to the canopy delayed the fabrication of steel.
MTA Resource Support	**T7160729: RTO Facility Repair: 3 Avenue-138 Street PEL** This project was delayed by labor shortages at Electronics Maintenance Division and Infrastructure Capital Construction. In addition, two dedicated track outages have been cancelled so far in the project. C&D is working with Operations Planning to prevent the cancellation of future outages and partnering with ICC and EMD for the required recourses.

Infrastructure

The Infrastructure Business Unit manages 110 projects in construction. Several of these projects have issues with TA Labor support (Electronics Maintenance Division) which are under review for possible work arounds. Con Edison issues continue to be a critical component on several active construction projects with minor improvements in recent weeks. In addition, the Infrastructure BU is aiming to get 27 projects awarded in 2021.

The IEC's Traffic Light Report currently tracks 72 tasks (ACEPs) in the Infrastructure program. Eleven of those 72 tasks were flagged red, representing nine projects.



The table below describes why these tasks (ACEPs) were flagged, and what C&D is doing to remediate.

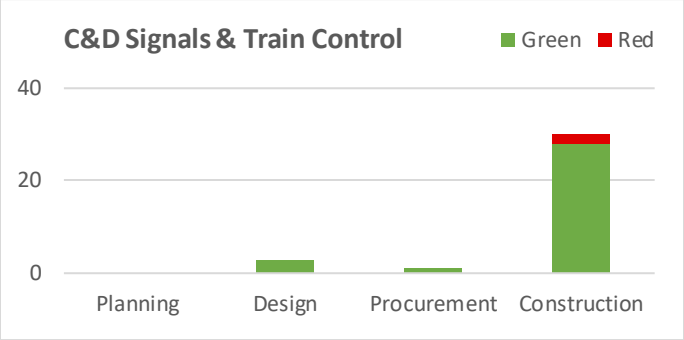
Contractor Performance / Contractor Issues	**T6120403: Replace Bus Radio System (construction phase)** **U6030226: Bus Radio System (construction phase)** **U7030211: Bus Radio System - MTA Bus Share (construction phase)** The project involves implementing a new digital bus radio system for NYCT and MTA Bus. The project includes: 1) constructing 35 new radio base station sites throughout the five boroughs on properties owned or leased by the MTA; 2) retrofitting the entire fleet of buses (approx. 6,000) and non-revenue vehicles with new radio equipment; and 3) Furnishing a new radio control and dispatch system in the new Bus Command Center. Utility, real estate and access issues affecting the construction of the new radio base stations have been resolved. Construction is nearing completion at all 35 base stations. The new command center has been completed, and training of MTA staff is underway. The project has suffered from poor contractor quality/productivity for the installation of the new radio system into the 6000+ buses, resulting in a slippage of substantial completion to mid-end of 2022 depending on the success of the new quality control measures and personnel recently implemented by the contractor and C&D. Further projections of date for

	substantial completion will be forthcoming as the impact of recent changes are quantified.
Coordination with Stakeholders/Other Projects	**S8070103: Bridge Structures: Various Locations (design phase)** The work to rehabilitate these bridge structures cannot begin until the new Clifton Shop is completed. That project has been delayed.
Other Agency (ConEd, AMTRAK, DOT, etc.)	**T7070344: Repairing 'A' and 'B' Column Base Conditions WPR (construction phase)** This schedule is dependent on work from the Department of Environmental Protection, which continues to be delayed. C&D has little ability to influence DEP, but has been taking advantage of this additional time to add additional scope.
MTA Resource Support	**T7090205: Replace 25Hz Freq Converters - Various Locations (construction phase)** C&D Infrastructure cannot install the new frequency conversion equipment at 11 substations until NYCT MOW-Power completes signal cable work, which has been delayed. To mitigate the delay, C&D and NYCT have agreed to shorten the duration of the heat run testing, but Substantial Completion is now expected in June 2021.
Other Agency (ConEd, AMTRAK, DOT, etc.)	**T7100403: DCE Shop Components Ph 2: 239 St, Concourse, ENY (construction phase)** Con Edison has required that part of the project be redesigned to address specific field conditions. Substantial completion was delayed four months.
Site Condition	**ES070303: Mitigation: St. George Terminal Yard (construction phase)** Unforeseen site conditions have slowed production rates by the contractor, and the forecasted substantial completion slipped six months. C&D Infrastructure has requested contractor to provide a recovery schedule. In the meantime, the contractor is currently working extended hours and weekends. Site work is far enough along that project team does not expect further delays.
Design change / design omission	**ET120307: Mitigation: Various Bus Depots (construction phase)** The flood door of the newly rehabbed Quill Bus Depot needed to be enlarged to accommodate the new buses that MTA Bus is now planning to stage at the Depot. The change order led to a schedule slip.
Scope change	**S8070102: Track and Switch Replacement (design phase)** Project team decided to add 7,000 LF of main track to this project to take advantage of efficiencies. The change order led to a schedule delay but will save money on construction.

Signals & Train Control

The C&D Signals & Train Control Business Unit oversees three major CBTC projects (QBL West, Culver and Eighth Ave), as well as a number of other important signaling projects. The unit's 2021 Commitments includes QBL East, which can be procured as a Design Bid Build based on existing documents, and other smaller projects. GEC procurement for three new CBTC/UWB procurements continues with the expectation of awarding 2 lines in 2022 and one in 2023.

The IEC's Traffic Light Report currently tracks, comprising 34 tasks (ACEPs) in the C&D Signals & Train Control program. Two of those 34 tasks were flagged red, both for the same project, QBL West.



The table below describes why these two tasks (ACEPs) were flagged, and what C&D is doing to remediate.

1. Contractor Performance / Contractor Issues	**T50803QB: CBTC QBL Phase 1 (construction phase)** **T6080319: CBTC Queens Blvd Ln West Ph 1 (construction phase)** This project will provide CBTC on the Queens Boulevard Avenue West Line consisting of three separate contracts, each with a different contractor (hence the different ACEPs). QBL-W is the first interoperable CBTC project implemented for NYCT, allowing trains with CBTC from different suppliers (Siemens and Thales) to run on the same line at the same time. Project has already placed CBTC into service on three of the four sections along the line, with the latest section (Section 3) being put in operation over a week-long outage at the end of 2020. In-service operation for the last section (referenced as Section 2) is now scheduled for Q4 2021. The project has been delayed by contractor's inability to download the CBTC database on trains remotely. Instead, the project team has had to perform manual downloads on the entire QBLW Line fleet. Issues with the stability of the software have been mitigated by getting a supplier engineer to perform the necessary reset. Lastly, the installation of the wayside signaling was delayed. C&D continues to try to remediate contractor performance. While 82% of the 309 train units have been upgraded to run in CBTC mode, the team continues performance monitoring to assess fleet stability which has not yet been fully achieved. Over the next few months several updates to the contractor's software will be put in place to address specific improvements required to meet desired stability

standards. Further updates to software, though unpredictable, will likely be necessary, as this project is the first to target CBTC interoperability between different suppliers.

NYCT Department of Subways conducts a range of in-house capital work, including tracks and switches, as well as employee facilities. The IEC's Traffic Light Report flagged five tasks (ACEPs) in the NYCT DOS program, all track projects.

NYCT schedules track work to take advantage of GOs already obtained for other projects, a practice known as piggy-backing. This saves resources for the agency and reduces service disruptions for our customers. Unfortunately, this dependence on other projects' schedules makes the track program more vulnerable to schedule changes.

The table below describes why these five track-work projects were flagged, and what NYCT is doing to remediate.

Coordination with Stakeholders/Other Projects	**T8050205: Mainline Track Replacement 2020 / Queens (construction phase)** NYCT crews are replacing track on the Queens Boulevard Line in coordination with the project to modernize signals to CBTC on that line. Schedule on the CBTC project has slipped due to contractor issues, affecting the completion of this track work. When this occurs, NYCT reassigns work crews to other projects. In this case, the opportunities taken elsewhere were under the following projects: • M32916 – 2020 M/L Tk / Concourse • M43910 – 2020 M/L Tk / Rockaway • M44154 – 2021 M/L Tk / Myrtle • M44162 – 2021 M/L / Bway-7th Ave
General Orders	**T8050206: Mainline Track Replacement 2020 / 8th Avenue (construction phase)** NYCT deliberately decided to reprioritize what work needed to be done, resulting in changes to GOs and track access on 8th Ave. In this case, the opportunities taken elsewhere were under the following projects: • M33162 – 2021 Mainline Track / Broadway – 7th Ave Line • M43913 – 2020 Mainline Track / Broadway – 7th Ave Line • M43905 – 2020 Mainline Track / Flushing Line • M43908 – 2020 Mainline Switches / Lexington Line
Scope Change/Scope Creep	**T8050212: Mainline Track Replacement 2020 / Lenox-White Plain (construction phase)** In 2020 the Division of Track performed a reassessment of Tracks F-2 and F-3 on the Lenox-White Plains Road Line and found locations on Track F-3 to be in worse condition than Track F-2. As a result, Track Construction prioritized track work on Track F-3 and deferred Track F-2 to 2021.
Site Condition	**T8050231: Mainline Track Replacement 2021 / Bway-7th (construction phase)**

Actual field conditions observed by Track Construction on the 7th Ave Line walk-through inspection revealed more deterioration than had been documented in the 2018 survey of the line, upon which the project was planned. The addition of this required work to the 7th Ave Line project increased its budget.
That increase, however, was offset by rededicating funding and resources away from the Brighton Line. Work on that line needed to be deferred because of work on the Culver Line CBTC project. (Both the Brighton and Culver Line could not be shut down at the same time.)

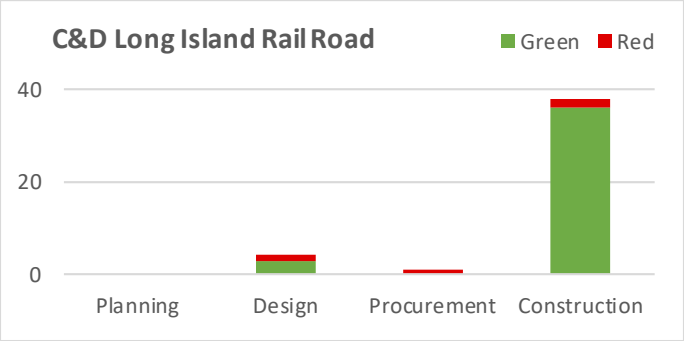
General Orders

T8050310: Mainline Track Switches 2020 / White Plains Rd (construction phase)
The project scope included work on nine switches, only eight of which had been scheduled when the contract was agreed to. The General Orders for the ninth switch were issued in February 2021, for Track Access in weeks 23 & 24 that resulted in the substantial completion date being pushed out by five months.

Long Island Rail Road

Overall, the LIRR Business Unit is advancing a range of projects in 2021, including Jamaica Capacity Improvements, Ocean Avenue Substation, and the Annual Track Program. Business Unit staffing continues to affect the ability of the group to deliver projects, but steps are being taken to supplement staff with consultants where possible. The unit is working closely with C&D's Contracts team to improve contracting documents and processes moving forward, without impacting 2021 commitments.

The IEC's Traffic Light Report currently tracks 41 tasks (ACEPs) in C&D's Long Island Rail Road program. Four of those 41 tasks were flagged red.



One of the tasks flagged red is the result of a deliberate decision by C&D:

Design Change/ Design Omission	**L70304WU: Jamaica Capacity Improvement Ph2 DES (design phase)** Project team is making changes to the initial design, due to site conditions and value engineering. The design completion date will slip to incorporate the changes. These changes are increasing the cost of the design phase but will ultimately reduce construction costs. Value engineering changes include eliminating six track switches and using standard (not customized) track switches elsewhere.

The underlying reasons for the other three flags, and what C&D is doing to remediate them, are summarized below:

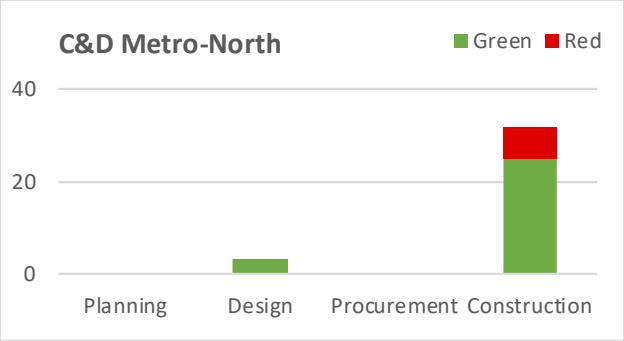
COVID-19	**L60701AR: Replacement of Richmond Hill Substation (construction phase)** In-house LIRR forces were impacted by COVID quarantine protocols. The project will slip to the fall unless Con Ed can perform energization of the feeders despite their moratorium, which runs until September 2021.
COVID-19	**L70206VP: Penn Sta Elevator/Escalator Renewal (construction phase)** COVID-related contractor workforce and specialty material availability delayed change order work. The required materials were not available until January 2021. Subsequent contractor personnel quarantines delayed completion until April 2021. The project is now completed.

Contract Document/ Legal Review	**EL0603ZS: Long Island City Yard Resiliency LIC (procurement phase)** This project was solicited using a legacy LIRR RFP package with a 100% design. C&D Contracts and the C&D LIRR Business Unit have addressed, through a series of addenda, legacy contract language and over 200 questions raised by proposers since the solicitation was issued. Moving forward, Contracts and the LIRR Business Unit will work more closely during development of project documents to help the procurement process move more efficiently.

Metro-North

C&D's Metro-North Business Unit continues to progress on-going construction projects, including the Superstorm Sandy Power and C&S Restoration project, Harmon Shop Improvements, and the Grand Central Trainshed project. The rehabilitation of White Plains Station, the third busiest in the MNR network, achieved substantial completion in March. The team is advancing a wide range of projects from the 2021 Commitment Plan for funding, procurement and award this year. The project team suffers from being under-staffed, but plans are in place to appoint replacements and new positions.

The IEC's Traffic Light Report currently tracks 34 ACEPs in the C&D Metro-North program. Seven of those 34 ACEPs were flagged red, representing three projects.



The underlying reasons for the seven flags, and what C&D is doing to remediate them, are summarized below:

1. MTA Resource Support	**EM040205: Communications & Signal Infrastructure Restoration Phase 1 (construction phase)** **EM040301: Power and Signals Mitigation (construction phase)**
2. Contractor Performance/ Contractor Issue	**EM040302: Hudson Line Power and Signal Resiliency (construction phase)** **EM050206: Power Infrastructure Restoration Phase 1 (construction phase)** These four ACEPs are part of the same project to restore power and signal infrastructure to the Hudson Line damaged during the Super Storm Sandy. This project requires extensive Force Account Support from Track Department, Power, Communication & Signal team, many of which are experiencing staff shortages leading in schedule slip. C&D is mitigating this situation by meeting biweekly with the Power user group to prioritize this work among other MNR projects. A separate issue on this project is with the low productivity of the contractor. C&D MNR team meets with the Joint Venture executive team monthly to resolve issues quickly and increase productivity. A dedicated C&D MNR BU Construction Manager coordinates with the contractor directly.
MTA Resource Support	**M6020208: Customer Communication / Connectivity Improvements (construction phase)**

Communication Force Account support was constrained by staffing shortages on MNR's in-house Communication and Signals team resulting in a schedule delay. C&D is mitigating this situation by meeting regularly with the Communication and Signal group to prioritize this work among other MNR projects. C&D is also actively tracking the competing projects to ensure that when force account support is freed up, this project will get the needed resources.

Scope Change/ Scope Creep

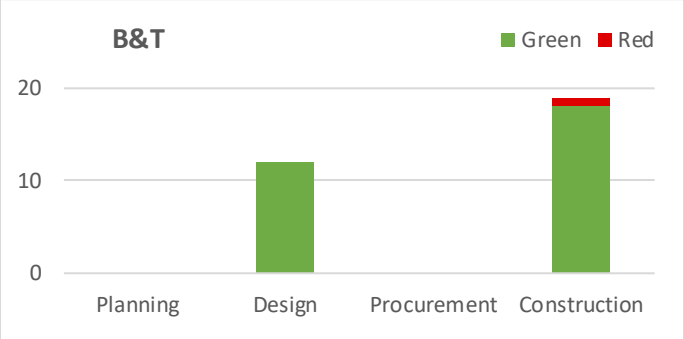
M7020210: Enhanced Station Initiative, 5 Stations (construction phase)
M7020213: Enhanced Station Initiative (construction phase)

Project team added to the scope of work to address concerns raised by external stakeholders including clock tower bridge repair and miscellaneous architectural improvements resulting in a schedule delay. This project is now in close-out.

Bridges & Tunnels

The Bridges & Tunnels Business Unit is proceeding apace with its 2021 projects. Nevertheless, there are three major challenges facing the unit currently: meeting the staffing needs required for successful program delivery including the retention of current staff in an increasingly competitive job market; revising our contract templates to conform to new uniform C&D requirements while still meeting our planned commitments for projects impacted by these significant changes; and finalizing interagency agreements that are critical to the advancement of our largest capital commitments. A significant opportunity also exists to advance capital needs if we can receive timely direction to proceed with additional 2021 and early 2022 commitments.

The IEC's Traffic Light Report currently tracks 28 tasks (ACEPs) in the Bridges & Tunnels program. Only one of the 28 tasks was flagged red.



The task flagged red is the result of a deliberate decision by C&D:

Design Change/ Design Omission	**D701VN32: Steel Repair & Concrete Rehabilitation on Verrazano Narrows Bridge (construction phase)** In July 2020, as part of its strategic Acceleration / Moving NY Forward Program, C&D requested and obtained board approval to amend and expand the scope of work to conduct additional steel repair work on the VNB bridge. The purpose of the amendment was to take advantage of the temporary full-access platform already built under the entire lower level roadway of the main span of the bridge for the current project (D701VN32), and facilitate access for the additional repairs, resulting in a favorable price for the additional work. Although this additional work adds approximately $10 M to the cost of the project, C&D estimates that doing this work at a later date would cost the MTA a minimum of $17M. The substantial completion date was extended to April 2022, and B&T is currently tracking ahead of schedule for completion of the expanded scope.

Other projects

Contractor Performance / Contractor Issues	**L60101MA:M-9 Rolling Stock Procurement - 92 cars (construction phase)** MNR has received 90 cars out of 92 cars. This project is delayed due to issues with the software on the remaining 2 cars. MNR is working with the vendor to resolve the software issue.
Contractor Performance / Contractor Issues	**T7030215: AVLM for Paratransit Vehicles (construction phase)** This project was delayed due to software quality against the system requirements. The contractor and the project team are working on a recovery schedule which could reduce the schedule delay impacts.
COVID-19	**T7030203: Purchase 165 Standard Hybrid Buses (Nova) (construction phase)** This project was delayed due to the COVID-19 pandemic resulting a 3-month factory shutdown and supply chain delays. Upon reopening, the plant was further impacted by resource availability as positive COVID-19 cases among the employees and close contacts required quarantine protocols.
Site Conditions	**T6160402: NYCT-Wide Storage Area Network/Disaster Recovery** This project was delayed due to various site condition issues including the Electrical Receptacles had to be change out, air condition work, route of network cable and new network cable run.
COVID-19	**T6040401: MetroCard-Electronic Components Replacement** This project is being done by Subways EMD (Telecom). The forecasted Substantial Completion date slipped eight months, from April 2021 to December 2021, due to COVID-19 impacting the manpower to work on the project. Based on the current resource constraints, the project team has properly rescheduled the project.
MTA Resource Support	**T7100409: Heavy Shop Equipment** This task is for the Facilities group to oversee the purchase, delivery, testing and acceptance of a wide range of heavy equipment that supports repair and maintenance operations for NYCT. The team has fallen behind in its generating the scopes and technical specifications needed to procure the equipment, leading to a delay of two years. A consultant has been brought on board to help write scopes and specs and hopefully bring the completion date back in part.

Projects in CPOC's Risk-Based Monitoring Program
(1st Quarter 2021 Traffic Light Report – Period Ending March 31, 2021)

The following projects in CPOC's Risk-based Monitoring Program are currently reported on by the responsible MTA Business Unit in accordance with the CPOC Work Plan schedule and are continually monitored by the Independent Engineering Consultant. Monitored projects from multiple Capital Programs are included in the Quarterly Traffic Light Report. The list is subject to periodic review and adjustment by the MTA.

Projects in CPOC's Risk-Based Monitoring Program		
Capital Program		**Project**
2010-14	**2015-19**	
Integrated Capital Projects		
	X	Second Avenue Subway - Phase 2
X	X	East Side Access & Regional Investments
	X	Penn Station Access
	X	LIRR Expansion Project – Mainline Third Track - Floral Park to Hicksville
Signals and Communications		
X	X	Positive Train Control
	X	Communications Based Train Control – 8th Ave Line
X		Communications Based Train Control - Queens Blvd. West- Phase 1
	X	Communications Based Train Control - Queens Blvd. West- Phase 2
	X	Communications Based Train Control – Culver Line
X	X	Integrated Service Information and Management B Division
X	X	Replace Bus Radio System
Subway Car, Bus and Rolling Stock Procurement		
X	X	New Subway Car Procurement
X	X	New Bus Procurement
X	X	Commuter Rail Road Rolling Stock Procurement
Passenger Stations Program		
	X	ADA Reconstruction Times Square Station – 42nd Street Connection Project
	X	New Fare Payment System – Phase 2
	X	ADA 149th St/Tremont Ave Stations
	X	ADA Accessibility Package A

Projects in CPOC's Risk-Based Monitoring Program
(1st Quarter 2021 Traffic Light Report – Period Ending March 31, 2021)

Capital Program		Project
2010-14	2015-19	
Shops and Yards		
	X	Harmon Shop Replacement Phase V, Stage 2
X		New Mid Suffolk Electric Yard
	X	Morris Park Diesel Locomotive Shop
Line Structures and Track		
X		Jamaica Capacity Improvements Phase 1
Bridges and Tunnels		
	X	Throgs Neck Bridge Replace Suspended Span Deck
Sandy Program		
Sandy Program		Rutgers Tube Rehabilitation
Sandy Program		Reconstruct Clifton Repair Shop
Sandy Program		Coney Island Yard Long Term Perimeter Protection
Sandy Program		207th Street Yard Long Term Perimeter Protection