Metropolitan Transportation Authority

Capital Program Committee Meeting

March 2022

Committee Members

J. Lieber, 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
H. Mihaltses
J. Samuelsen
V. Tessitore

Capital Program Committee Meeting

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

Monday, 3/28/2022
12:00 - 1:30 PM ET

1. SUMMARY OF ACTIONS

C&D March Summary of Actions - Page 3

2. PUBLIC COMMENTS PERIOD

3. APPROVAL OF MINUTES - FEBRUARY 22, 2022

CPC Committee Minutes - Page 4

4. 2022 – 2023 COMMITTEE WORK PLAN

CPC Committee Work Plan - Page 8

5. C&D CAPITAL PROGRAM UPDATE

C&D Progress Report on Bridges & Tunnels Projects - Page 10
IEC Project Review on Throgs Neck Bridge Orthotropic Deck Replacement - Page 17
C&D Progress Report on Infrastructure Projects - Page 23
IEC Project Review on Coney Island Yard Long Term Flood Mitigation - Page 28
IEC Project Review on 207th Street Yard and Shop Flood Mitigation - Page 34
IEC Project Review on 207th Street Sewer Replacement - Page 40
IEC Project Review on Clifton Shop - Page 46
IEC Project Review on Bus Radio System - Page 49

6. C&D SAFETY REPORT

Committee Safety Report - Page 55

7. CAPITAL PROGRAM STATUS

Commitments, Completions, and Funding Report - Page 57

8. MTA CAPITAL PROGRAM QUARTERLY TRAFFIC LIGHT REPORT

Fourth Quarter 2021 Traffic Light Report Summary - Page 73
Fourth Quarter 2021 Traffic Light Report - Page 74

9. C&D PROCUREMENTS

C&D Procurements - Page 114

CONSTRUCTION & DEVELOPMENT
COMMITTEE ACTIONS and PRESENTATIONS
SUMMARY for MARCH 2022

Responsible Department	Vendor Name	Total Amount	Summary of Action
Contracts	RailWorks Transit LLC	$58,134,000	MTA Construction & Development requests Board approval to award a publicly advertised and competitively solicited contract (6378) for design-build services for the Long Island Rail Road Babylon Interlocking Signal System Project.
Contracts	TAP Electrical Contracting	$50,277,000	MTA Construction and Development requests Board approval to award a publicly advertised and competitively solicited contract (C52072) for design-build services for closed-circuit television cameras at locations throughout the New York City Transit Subway System.
Contracts	Core Environmental Consultants Entech Engineering, P.C. EPM-HVA Joint Venture LiRo Engineers, Inc. STV Incorporated	$100,000,000 Est. Aggregate	MTA Construction and Development requests Board approval to award ten (10) competitively solicited All-Agency Indefinite Quantity contracts (CM-1641 thru 1648 and CM 1705 and 1706) to five (5) firms to perform asbestos and lead disturbance management and air monitoring services for miscellaneous construction projects. Two (2) contracts will be awarded to each firm, one federally funded and one state funded.
Contracts	Atkins/HNTB JV	$18,154,956	MTA Construction and Development requests Board approval to award a publicly advertised and competitively solicited contract (PS21002) for general engineering consultant services for New York City Transit communications based train control.
Contracts	Thales Transport and Security, Inc.	$13,725,339	MTA Construction and Development requests Board approval to exercise Option 1 of the contract (S-48013-2) for additional R211 CBTC Carborne Equipment for the 8th Avenue Line
Contracts	E-J Electric Installation Co.	$1,579,432	MTA Construction and Development requests the Board ratify contract modification No. 84 to the contract (CS084) to allow the Contractor to furnish and install Pilot Protection Systems between Traction Power Substation C08 and the adjacent mainline substations G02 and G03

MINUTES OF MEETING
MTA CAPITAL PROGRAM COMMITTEE
February 22, 2022
New York, New York
12:00 P.M.

CPC members present *(*attended remotely)*:

Hon. Janno Lieber
Hon. Andrew Albert
Hon. Jamey Barbas*
Hon. Norman Brown
Hon. Randolph Glucksman*
Hon. Rhonda Herman
Hon. David Jones
Hon. Haeda Mihaltses
Hon. Neal Zuckerman

Board members present *(*attended remotely)*:

Hon. Harold Porr*
Lorraine Cortes-Vazquez*

CPC members not present:

Hon. Michael Fleischer
Hon. Robert Linn
Hon. David Mack
Hon. John Samuelsen
Hon. Vincent Tessitore, Jr.

MTA staff present:

Evan Eisland
Michael Jew-Geralds
John McCarthy
Tim Mulligan
Mark Roche
Ziona Rubin
Jamie Torres-Springer
Andrew Wilson

Independent Engineering Consultant staff present:

Joe Devito
Elizabeth King

* * *

Chairman Lieber called the February 22, 2022 meeting of the Capital Program Committee to order at 12:30 P.M.

Public Comments Period

There were eight public speakers in the public comments portion of the meeting: Jason Anthony, Amazon Labor Union, regarding East New York Station; Fatima Baryab, Passengers United, regarding LIRR Capital Program; Murray Boden, regarding adaptive headlights; Carlton D'Souza, Passengers United, regarding LIRR Third Track Construction; Aleta Dupree regarding miscellaneous issues; Christopher Greif, NYC Transit Riders Council & ACTA LIRR ADA Task Force, regarding ADA elevator ramp; Andy Pollack, Passengers United, regarding miscellaneous issues; and Omar Vera, regarding miscellaneous issues.

Meeting Minutes

Discussion and approval of the minutes to the meeting held on January 24, 2022 will be taken up at the March 2022 CPC meeting.

CPC Work Plan

There were no changes to the CPC Work Plan; upon motion duly made and seconded, the CPC Work Plan was approved.

Details of the following presentations, and Committee Members' comments and questions with respect thereto, are included in the video recording of the meeting, produced by the MTA and maintained in MTA's records.

President's Opening Remarks

In his opening remarks President Torres-Springer cited the $8.1B commitment goal for 2022, a continued significant increase in targeted commitments from previous years. He then highlighted several projects planned for 2022, including many related to station accessibility -- a continued priority for the Capital Program, as well as full station renewals on various lines; advancing Communication Based Train Control (CBTC) to the Crosstown Line; $75M funding for the Small Business Mentor Program -- an increase over last year; the rehabilitation of the lower level main span deck of Verrazano Narrows Bridge; and planning early utility work on Second

Avenue Subway, Phase 2. In addition, the $9.2B completion goal for 2022 includes ESA and LIRR Third Track projects entering revenue service; Queens Blvd. West CBTC project; at least three more ADA projects; numerous Sandy repairs (both subway system and MNR); and structural repairs at the RFK and Verrazano Bridges. President Torres-Springer then provided brief updates on the following major projects: Penn Station Access, which is well underway, including mobilization by the Design-Builder, and project work in Bronx expected to start this spring; advancing SAS Phase 2, including working closely with FTA to allow for an expeditious Full Funding Grant Agreement (FFGA); Penn Station Reconstruction, the next step of which is to engage with Amtrak and other stakeholders in support of Governor's vision for a reconstructed Penn Station; C&D is pushing forward with the planning stage of the Interborough Express, with the goal of identifying the locally-preferred alternative and initiating the environmental review by the end of year; the rehabilitation of the GCT Trainshed, effectively a mega-project in its own right; as well as numerous resiliency-oriented projects designed to address extreme weather events. In addition, this week the Board will be taking up issues related to the Track Trespass Taskforce, and the Twenty-Year Needs Assessment, which will lead to development of the next 5-year Capital plan.

C&D Capital Program Update

Mr. Wilson provided an update on the LIRR Business Unit, which oversees 116 active projects with a total budget of $3.1B, and while performance against the 2021 commitment goal fell short, the 2021 completion goal was exceeded. He then cited major commitments slated for 2022, notably including the 7-Station ADA Design-Build bundle, upon the completion of which only 9 out of 125 LIRR stations will remain non-accessible. In its Project Review of Jamaica Capacity Improvements (JCI) Phase 1, the IEC stated that overall, the project is 90% complete and on budget at $301M, but has experienced a delay since its last report. Project completion continues to depend on availability of switch and signal Force Account (FA) resources and track outages. According to the IEC, the project team has done all preparatory work and is poised to take advantage of opportunities, should they arise, to achieve Beneficial Use by fourth quarter 2022. Based on IEC analysis of completed work, change orders, TA Labor, and other cost categories, the IEC finds that the project has challenges that could add to the project cost. The top cost and schedule risks are an active claim by the Platform F contractor, and outstanding FA at Union Interlocking. The IEC concluded its remarks with the program-wide observation that FA and signal staffing levels may be insufficient to support the volume of planned Capital Program work.

Ms. Rubin gave an overview of the MNR Business Unit, which currently comprises 60 active projects valued at $1.75B. In 2021 fully 99% of the $768M commitment goal was met, while completions fell short of the annual goal. She then gave brief status updates on the following projects: Harmon Shop, Phase V, Stage II (forecast for an April 2023 substantial completion and a $440M total cost); Park Avenue Viaduct Interim Repairs, as well as planned replacement between 115th St – 132nd Streets, which has commenced with preliminary engineering; and the Hudson and Harlem Communications and Signal Project. In its Project Review of Harmon Shop, the IEC stated that overall, the project is 56% complete and on budget at $439.6M but has

experienced a minor schedule slip. The IEC's review of project expenditures, executed and potential change orders, and other cost categories indicates the project will remain within its original budget. With respect to the schedule, since last report there has been a 7-week critical path delay due to late site access as a result of repair of damaged yard track components. According to the IEC, the project is working with the contractor to recover this time through increasing work shifts and/or crews. In view of these actions, the IEC has confidence in this project finishing on time and on budget. The IEC concluded its remarks with the following observation: a cooperative effort between MNR Operations and the C&D Project Team has averted a significant delay by relaxing a work restriction in the North Yard, thus allowing project work to continue. Chairman Lieber then echoed the importance of this cooperative effort.

Procurement Actions

Evan Eisland, Executive Vice President and General Counsel, MTA Construction & Development ("C&D") presented the C&D procurements. Mr. Eisland reported that eight procurement actions were being brought to the Capital Program Committee, all of which were ratifications that totaled $18M.
Upon a motion duly made and seconded, the Capital Program Committee:

1. Ratified six modifications (Numbers 30, 42,43,45,46 and 47) to the Hudson Line Wayside Communications and Signal System Infrastructure Improvements contract (82133) for a total amount of $15,250,879.63.

2. Ratified two modifications (Numbers 40 and 41) to the Harlem Line Wayside Communications and Signal System Infrastructure Improvements contract (82137) for a total amount of $2,735,955.40.

A copy of the Resolution and the Staff Summaries for the above items are filed with the records of the Capital Program Committee Meeting of this date.

Adjournment

Upon motion duly made and seconded, Chairman Lieber adjourned the February 22, 2022 meeting of the MTA Capital Program Committee at 1:23 PM.

Respectfully submitted,
Michael Jew-Geralds
Office of Construction Oversight

Metropolitan Transportation Authority

2022-2023 CPC Committee Work Plan

I. Recurring Agenda Items

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

II. Specific Agenda Items

April
Overall Capital Program
- Signals and Train Control

Minority, Women and Disadvantaged Business Participation

May
Overall Capital Program
- Integrated Megaprojects

June
Overall Capital Program
Rolling Stock
OMNY
Security Projects
Quarterly Traffic Light Report

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
Security Projects
Quarterly Traffic Light Report

January
Overall Capital Program
- Stations

February
Overall Capital Program
- Railroads

March
Overall Capital Program
- B&T
- Infrastructure

Quarterly Traffic Light Report

MTA Construction & Development's last report to the Capital Program Committee on Bridges and Tunnels (B&T) projects was submitted in February 2021. Since then, C&D's B&T Business Unit (BU) has successfully awarded 15 projects, including four additional projects advanced into 2021, increasing the 2021 commitments to $260.3M, 150% above its plan of $173M. Since February 2021, the Bridges and Tunnels Business Unit reached substantial completion on 20 projects and made significant progress on many more projects.

This document summarizes the progress on several recently completed and ongoing projects.

Significant Completions

Rehabilitation of Hugh Carey Tunnel Ventilation Systems	B&T BU replaced the tunnel ventilation fan motors and installed a fixed fire suppression system prototype at the Hugh Carey Tunnel (HCT). This project improved the resiliency of critical life safety systems and the prototype installation will inform the planned installation of this type of fire suppression system in both the remaining sections of the HCT as well as the Queens Midtown Tunnel in the next capital program. This Design-Build project was completed in October 2021, on schedule and within budget. Original budget: $87.3M (including contingency) EAC: $80.2 M
Brooklyn Approach Reconstruction at the Verrazzano-Narrows Bridge	The on-grade Brooklyn Approach reconstruction included construction of a fourth lane from the Lower Level exit to the Gowanus Expressway, as well as the widening of the Fort Hamilton Parkway exit to two lanes which has alleviated a longstanding traffic bottleneck and improved customer safety. All roadway work was accelerated under the Moving NY Forward Initiative and the fourth travel lane was opened to traffic in October 2020, 2 months ahead of the original project schedule. The overall A+B Design-Bid-Build project was completed in June 2021, six months ahead of schedule and within budget. Original budget: $26.7M (including contingency) EAC: $23.7M
Anchorage Rehabilitation and Sealing at the Verrazzano-Narrows Bridge	B&T BU rehabilitated the Anchorage structures of the Verrazzano-Narrows Bridge, including concrete repairs and upgrades to the Anchorage dehumidification system to ensure the structural integrity of these critical suspension elements. This Design-Bid-Build project was completed in April 2021 within budget and one month ahead of schedule. Original budget: $45.5 M (including contingency); EAC: $43.6M

Fender Replacement at the CBB and MPB and Scour Protection at the CBB	B&T BU improved the resiliency of the Cross Bay and Marine Parkway Bridges by replacing the fender protection systems at both bridges with modernized systems designed to current standards. In addition, scour protection was installed around the main piers of the Cross Bay Bridge. This Design-Build project was completed in September 2021, within budget and within the revised substantial completion date. Original budget: $64.6 M (including contingency); EAC: $59.2 M
Tower Fender Protection and Fire Standpipe Installation at the Bronx-Whitestone Bridge	B&T BU improved the resiliency of the Bronx-Whitestone Bridge by installing a fender protection system at the towers to protect against ship collision, as well as fire standpipes from the water level to the roadway level to improve fire-fighting capability. This Design-Build project was completed in December 2021, within budget and on schedule. Original budget: $26.2 M (including contingency); EAC: $23.6 M
Painting of the Suspended Span Upper & Lower Level Steel at the Verrazzano-Narrows Bridge	B&T BU completed the painting of the steel on the Verrazzano-Narrows Bridge suspended spans, ensuring the continued protection of the steel elements. This A+B Design-Bid-Build project was completed in November 2021, one month ahead of schedule, and within the project budget. Original budget: $73.4 M (including contingency); EAC: $73.4 M
Electrical Resiliency & Flood Mitigation at Robert F. Kennedy Bridge	B&T BU replaced several substations to enhance the electrical power resiliency for Open Road Tolling infrastructure at the RFK Bridge and improved flood resiliency of the Robert Moses Building by replacing and elevating critical electrical and mechanical systems above the 500 year flood elevation. This Design-Build project was completed in March 2022, within budget and within the revised substantial completion date. Original budget: $37.1M (Including Contingency); EAC: $34.9M
Structural Rehabilitation and painting at the Henry Hudson Bridge	B&T BU completed the structural repairs and overcoat painting of the Henry Hudson Bridge to maintain the bridge in a state of good repair. This A+B Design-Bid-Build project was completed in March 2022, on schedule and within budget. Original budget: $58.8M (Including Contingency); EAC: $53.5M

Major Ongoing Projects Update

Structural Rehabilitation at the Robert F. Kennedy Bridge

B&T BU is in the final stages of a multi-year state of good repair and resiliency improvement project on virtually all spans of the RFK. This A+B Design-Bid-Build project involves steel and concrete repairs as well as strengthening of the structure to meet modern truck loads while also addressing seismic resiliency needs in an integrated fashion.

Status: Approx. 90% complete
Original budget: $96M; EAC: $84.3M
Substantial completion forecasted: August 2022 (on target)

Progress to date:
- Majority of steel and concrete repairs completed

2022 Look ahead:
- Complete repairs
- Reach substantial completion

North Pedestrian Ramp & HRLS Fender Upgrades at the Robert F. Kennedy Bridge

This Design-Build project will construct a new pedestrian ramp from the RFK Manhattan span to the future East River Greenway, while also performing upgrades to the Harlem River Lift Span fender protection system and piers. The new pedestrian ramp design has been closely coordinated with several NYC agencies to seamlessly tie into the future greenway.

Ramp construction will be complete by Spring of 2023 in order to facilitate NYC EDC construction of the new greenway. Overall, the project, inclusive of pier and fender work, is scheduled to be complete by the end of 2023. The new connection provides an important accessible link between recreational facilities on both the Manhattan and Randall's Island side of the bridge and complements our previously completed direct connector ramp from RFK to the north-bound Harlem River Drive. Collectively these improvements will bring significant benefits to both our bridge customers and the local community in East Harlem.

Status: Recently awarded, project under design
Original budget: $62M; EAC: $54M
Substantial completion forecasted: December 2023 (On Target)

Replacement of the Upper Level Elevated Approach at the Verrazzano-Narrows Bridge – Phase 1

The Verrazzano-Narrows Bridge (VNB) program includes several projects that have been carefully planned and sequenced to completely reconstruct the nearly 60 year old approaches to the VNB to meet current standards. B&T BU is in the final stages of Phase 1 of the Reconstruction of the VNB Upper Level Brooklyn and Staten Island approach and Anchorage spans to replace the roadway deck on the westbound Brooklyn Approach and the Staten Island Approach, as well as the structural steel and roadway decks of the Anchorages, along with making critical repairs to the Belt Parkway Ramps.

This A+B Design-Bid-Build project included staged deck replacement over 10 separate stages of roadway deck reconstruction. During 2020, as part of the Moving NY Forward initiative, the staged roadway construction was re-sequenced and accelerated, taking advantage of the lower traffic volumes. As a result, the staged roadway construction is now complete, restoring the upper level roadway to its full 7 lane capacity four months ahead of the original schedule.

In addition, the overall planned substantial completion of the project has been accelerated from its original contractual completion date of June 2023 to August 2022.

Status: Approx. 73% complete
Original budget: $222M; EAC: $201M
Substantial completion forecasted- August 2022 (On Target)

Progress to date:

- Staged Roadway construction completed in March, 5 months ahead of schedule
- All 7 lanes restored to service on Upper Level

2022 Look ahead:

- Complete bearing replacement
- Complete floorbeam replacement
- Reach substantial completion

Installation of Safety Fence on Suspended Spans at the Verrazzano-Narrows Bridge	This Design-Build project for installation of a safety fence on the suspended spans, a key public safety project, is currently ongoing. The design was coordinated with both internal MTA and NYC emergency response entities and extensively tested and evaluated through several prototypes. Status: Approx. 50% complete Original budget: $44M; EAC: $38.5M Substantial completion forecasted- October 2022 (On Target) Progress to date: • Fence posts installed on Lower Level • Fencing installation in progress on Lower Level • Fence Post installation in progress on Upper Level 2022 Look ahead: • Complete installation • Reach substantial completion
Steel Repairs and Painting on the Suspended Span at the Verrazzano-Narrows Bridge	This A+B Design-Bid-Build project includes steel repairs and painting of the upper and lower level suspended span steel. The painting work, originally scheduled to be completed in December 2021, was completed one month early in November 2021, as discussed under the completions section. Steel repairs are ongoing and will be completed in April 2022. Status: Approx. 90% complete Original budget: $116M; EAC: $116M Substantial completion forecasted- April 2022 (On Target) Progress to date: • Painting work completed in November 2021, one month ahead of schedule • Steel repairs 90% complete 2022 Look ahead: • Complete steel repairs • Reach substantial completion

Replacement of the Suspended Span Roadway Deck at the Throgs Neck Bridge	This Design-Bid-Build project is to reconstruct the suspended span roadway including replacing the original 1960's concrete grid deck with a lightweight steel orthotropic deck, along with performing steel repairs and painting of the steel supporting the deck, upgrading the bridge roadway lighting and bridge electrical systems, and installing a fire standpipe system. The deck work is being accomplished in six stages using a movable barrier to maintain traffic capacity in the peak direction. Project benefits include extending the service life of the bridge by reducing the load on the main cables as well as improving seismic and wind performance and overall structural resiliency. Status: Approx. 70% complete. Original budget: $336M; EAC: $310M Substantial completion forecasted: November 2022 (on target) Progress to date: • Roadway lighting and fire standpipe systems on the approaches were completed in May 2020 meeting contractual milestones. • Stages 1- 4 of deck replacement are complete. Stage 1 took longer than forecasted due to multiple construction issues and weather delays resulting in an overall four-month delay. Lessons learned during Stage 1 have been successfully applied to the following stages of construction resulting in on-time completion of stages 2-4. The schedule delay is being mitigated by resequencing the remaining work and shifting several minor activities to an upcoming project under which similar work is planned which will minimize public impact of lane closures and allow the project to be completed on time. • Stage 5 is in progress with a planned duration of 2 months 2022 Look ahead: • Complete staged replacement of suspended span roadway deck • Reach Substantial completion

Steel & Concrete Rehabilitation of the Bronx & Queens Viaducts at the Throgs Neck Bridge	This Design-Bid-Build project includes a comprehensive program that addresses steel repairs, concrete pier rehabilitation and the replacement of bearings to improve durability and resiliency. The project is almost exclusively staged from under the roadway using suspended work platforms to minimize traffic impacts. Status: Approx. 40% complete Original budget: $212.2M; EAC: $188.3M Substantial completion forecasted: August 2023 (on target) Progress to date: • Under deck shield installation is complete • Replaced existing concrete barriers over the Bronx Lower Garage • Steel and concrete repairs are ongoing • Bearing Replacement ongoing • Electrical Repairs ongoing 2022 Look Ahead: • Continue with steel and concrete repairs • Continue bearing replacement • Continue electrical repairs

March 2022 CPC Independent Engineering Consultant Project Review

Throgs Neck Bridge Orthotropic Deck Replacement

MTA C&D Bridges & Tunnels

Throgs Neck Bridge Orthotropic Deck Replacement

Scope

The primary scope of work for the TN49 Contract is the orthotropic deck replacement, painting of the main trusses, and painting of the floor trusses. This design will improve the bridge's wind performance and upgrade the suspended spans to meet current seismic and fatigue performance criteria. Additional major scope elements include:

- Steel Repairs
- Strengthening of the Stiffening and Floor beam Trusses
- Drainage Improvements
- Replacement of the Overhead Sign Gantries
- Lighting Improvements on the Bridge and Approaches
- Construction of a New Fire Standpipe from the Bronx Approach to the Queens Anchorage

Throgs Neck Bridge Orthotropic Deck Replacement

Schedule Review

- The project was awarded November 2018 to Judlau Contracting with a contract duration of 48 months.
- The project is 66% complete and remains on schedule with a November 2022 Substantial Completion(SC).
- The deck replacement is being done in six stages. Stages 1 and 6 include the exterior lanes of the bridge and are comprised of 2 rows of panels. Stages 2 through 4 consist of one interior lane and one row of panels.
  - Stage one took longer than forecast due to multiple construction issues and weather delays.
  - The Project Team's plan is to mitigate a four-month delay through resequencing the remaining work and shifting several activities to a future TN Bridge project where similar work is being performed.
  - Stages 2 through 4 were completed on time and stage 5 has just begun, with a duration of approximately two months.
- The protracted duration of stage one caused the contractor to exceed the lane closure allotment by 141 days. The contractor submitted a request to excuse 127 of these days due to weather and Covid impacts. This is currently under evaluation by the Project Team.
- The IEC schedule review of remaining work, logic and resources finds that completing stages 5 & 6, in the forecasted time will be a challenge but is possible with aggressive day-to-day management of the contractor.

Throgs Neck Bridge Orthotropic Deck Replacement

Budget Review

- The current project budget is $336M and EAC is $310M.
- Based on a review of the project expenditures, executed, negotiated, pending change orders, remaining construction contingency, the available reserve, the IEC forecasts an EAC of $297M.
- While there have been a reasonable amount of change orders (approximately 4% of the contract's value), the IEC anticipates the project being completed well within the budgeted amount.

Throgs Neck Bridge Orthotropic Deck Replacement

Risks

- At this point in the project, most risks have been closed. The remaining risks that could extend SC past the contractual date are minimal. The Project Team is focused on completing the deck panel activities as planned which would allow for overall on time completion.

Throgs Neck Bridge Orthotropic Deck Replacement

Observations

- The fabrication and timely delivery of orthotropic panels to support the project's phasing plan was identified as the top project risk. Using lessons learned from previous projects, the Project Team mitigated this potential risk, by requiring a quality inspection team at the fabrication plant during production, destruction of test panels, and subsequent trial assembly.
- All orthotropic deck panels have been fabricated and delivered to the contractor's storage facility.
- The contractor achieved early completion milestones for the fire standpipe installation and luminaire replacement at the approaches.
- The duration for stage 6 is approximately three months and is aggressive because of the issues the contractor experienced during stage 1. The Project Team should use lessons learned from stage 1 installation; and coordinate the trades to optimize the installation duration.
- The IEC is supportive of the business decision of transferring the main cable inspection and suspender rope replacement scope to an upcoming project, where similar work is planned, because it mitigates the delay to SC and the potential public impact of continued lane closures.

MTA Board & Capital Program Committee Update: C&D Infrastructure

March 2022

MTA Construction & Development's last report to the Capital Program Committee on the Infrastructure projects was submitted in October 2021. Since then, C&D's Infrastructure Business Unit (BU) has successfully awarded 32 contracts worth $659 M.

Also, 13 projects have reached substantial completion while continuing to progress many critical State of Good repair and resiliency projects. For example, in 2021 we have constructed linear footage of flood wall which equates to three quarters of the perimeter of Metlife Stadium (over 7,000 lf).

This document summarizes the progress made on four of the Business Unit's most significant projects. The projects are Coney Island Yard Complex - Long-Term Flood Mitigation for NYCT, 207 St Yard Flood Mitigation & Long-Term Resiliency Project, Clifton Shop for Staten Island Railroad; Digital Bus Radio System for NYCT and MTA Bus Network.

Coney Island Yard

This Brooklyn yard is the largest in MTA's transit system. The yard is approximately 100 acres and can house 1800 subway cars. The site also contains an historic Traction Motor House and Guard house. Superstorm Sandy created havoc on this yard. Millions of gallons of water flooded the yard, damaging the tracks, signals and corroded the electrical system which greatly impacted the subway service. This project provides flood mitigation and drainage improvements to be able to withstand major storm events.

PROJECT STATUS	***Current***	***Forecast***
Substantial Completion	*Sept 2022*	*Dec 2022*
Budget	*$514 M*	*$520 M*
The project is approximately 80% complete.		

Coney Island Yard Complex serves the West End Line (B), Brighton (D, Brighton Local Q), Culver, (F) Crosstown (G), and Sea Beach (N, R) Lines. This yard is critical to their service and ensuring resiliency is paramount.

Flood Protection

Over 2 miles of perimeter flood protection will ultimately be installed to protect Coney Island Yard Complex. This entails installation of steel sheeting or a pile, jet grout and concrete wall system. 2500 LF of wall was installed last period for a total to date of approximately 66% of the 12,200 LF of perimeter protection completed. This activity will continue through the next quarter.

Just south of the complex, wet perimeter protection is being provided at the main line creek bridges. Two of four submersible switches are installed. 80% of debris shields have been installed to date. This activity will work into the third quarter of this year.

Drainage work

The expanded capacity of yard drainage is a major element of the project. 1100 LF of drainage piping was installed this last period bringing the project to 75% complete with 16,250 LF of 20,000 LF drainage pipe and structures installed to date. Both the new east

outfall and rehabilitated west outfalls are in service. Drainage work and pump testing will continue into the third quarter of this year.

Power work

The structure of the new traction power cable bridge has been completed. Cable along this bridge will feed power to the over 100 acre yard and main line tracks and carry various communication cables. 32,000 LF of power and 10,000 LF of communication cables were installed over this last period. A total of over 250,000 LF of feet of power and communication cables have been pulled to date (80%). The process of cutting over from existing to new cable feeds has begun. Cable pulls, testing, cut overs and contact rail gap jumper cable installation will continue through the end of the year.

Circuit Breaker Houses

Rehabilitation of 4 Circuit Breaker Houses (CBH) was added as a Change Order. Adding this to this contract saved time and money by eliminating procurement and mobilization costs. Building the CBH concurrently with the yard project, allows for proper sequencing of work flow and protection of the newly construction power feeds described above. The project is currently at 10% and will become much more active in the coming months now that the cold weather is breaking.

Upcoming work includes the continuance of perimeter protection, drainage, power and communication efforts. Work on fortifying the traction power motor shop is commencing and Stillwell yard will be busy with extensive drainage work.

Forecasts have not changed since the last report. The project is on schedule and within budget. Traction power modifications and track access concerns are being monitored closely for any effect on schedule.

207th Street Yard

NYCT's 207 St Yard is the main storage for the rolling stock on the A and C Subway Lines, repair yard for the ABCD lines and is the overhaul facility for the 1-7 lines. This project repairs damage to the 43-acre yard caused by Hurricane Sandy and fortifies it against future flooding events. Work includes protecting the perimeter of the yard, replacing power cable systems, modernizing interlockings, tracks, switches and signals, and building two new signal relay buildings.

PROJECT STATUS	***Current***	***Forecast***
Substantial Completion	*Nov 2023*	*May 2024*
Budget	*$633 M*	*$633 M*
The project is approximately 72% complete.		

The project bundled together the structural, traction power, signals and track work into one construction contract to realize economies of scale, cost and schedule savings for the work and its management.

Flood Protection

Work continues on the construction of the perimeter protection structures. The project team has constructed more than 95% of the flood wall and fabrication of the portal and yard

entrances flood gates. The filter blanket that will assist in reducing water infiltration has been installed.

Signal/Track/ Power Work

Two (34,000 square feet combined) new signal relay buildings located in the yard are the largest new buildings in the MTA system. The structure of the two signal buildings has been erected and architectural, utilities, painting, and systems work continues.

Yard track, switch and traction power work is nearing completion (95% complete). Remaining work includes the signal infrastructure and systems.

The project is currently 6 months behind schedule due to Siemen's fabrication issues. We are working with the Contractor on a recovery plan that has the potential to mitigate this delay.

207th Street Sewer

Due to the relatively low elevations of the 207th Street Yard, the high-water level of the Harlem River during Superstorm Sandy backed up through the drainage system and resulted in flood waters engulfing the eastern half of the yard. Water flowed from the yard through the tunnel portal into the subway system, requiring significant repairs of the yard and subway line. The project relocates existing DEP interceptors from inside the yard onto NYC streets by micro-tunneling operations, constructs new regulators to control flows, and seals and/or abandons yard manholes to protect the yard from future storm events.

PROJECT STATUS	***Current***	***Forecast***
Substantial Completion	*Feb 2024*	*Jan 2025*
Budget	*$152 M*	*$170 M*
The project is approximately 20% complete.		

The project challenges include third party utility company delays in relocation of existing utilities to accommodate the new micro-tunneled DEP carrier pipes. Workshops with Con Edison and Empire City Subway are ongoing to expedite the relocations and realize efficiencies. Work progress is also being hampered due to supply chain issues and labor shortages due to Covid. Due to these challenges, potential delays have been identified and the contractor is implementing a recovery plan to mitigate delays by ramping up production.

Work along 215th Street is being closely coordinated with Department of Sanitation to minimize impact on their facility and operations. In addition, the work is being coordinated with the 207 Yard project to take full advantage of piggyback opportunities to minimize MTA service costs.

The project is currently 229 days behind schedule due to third party utility companies delay. We are working with the Contractor on a recovery plan to mitigate this delay.

200th to 207th Street Interlockings

The bundled work includes rehabilitation of interlockings, track and signal systems on the A Line between north of the Dyckman Street Station to the 207th Street Yard. All five tracks (two mainline, and three leads) are included in the project. Included is third rail power, local and express cables, switch equipment, track circuits, and the contact third rails. The Contract will be delivered using an expedited 24/7 delivery.

PROJECT STATUS	Current	Forecast
Substantial Completion	Aug 2023	Aug 2023
Budget	$161 M	$161 M
The project is approximately 5% complete.		

The project was awarded on December 30, 2021. Work is ramping up quickly with surveys and submittals in progress. The Contractor is taking full advantage of piggyback opportunities with the 207 Yard project. The schedule is extremely aggressive and will require the full commitment of MTA to provide the necessary GOs and work trains on the critical path. This aggressive schedule is a result of the innovative A+B bidding being utilized to encourage a focus on schedule along with the cost of the project.

Clifton Shop

The Clifton Yard shop was heavily damaged during Super Storm Sandy. A new shop was constructed which is approximately 93,000 sf and is the new Headquarters for SIRTOA. The new maintenance facility is "super storm" resilient and consists of four tracks. It is state-of-the-art and includes Supply Logistics and SIRTOA's first wheel truing machine for profiling both rail-car and locomotive wheel sets.

PROJECT STATUS	Current	Forecast
Substantial Completion	Jun 2022	October 2022
Budget	$ 212 M	$ 212 M
The total project is approximately 94% complete.		

As reported in the last CPC meeting in September 2021, C&D's plan of approach was to provide a defined path for occupancy by SIRTOA to perform testing and commissioning activities and training necessary for move-in. C&D obtained a temporary Certificate of Occupancy on March 2, 2022, which allowed SIRTOA Supply Logistics to start moving into the new shop and the MUE (Multi-Unit Equipment) is expected to begin their move-in mid-March.

Over the last few months, C&D worked aggressively to resolve issues and plan work arounds to meet the current SIRTOA occupancy dates moving the project toward substantial completion. C&D is currently evaluating budget and schedule needs necessary to reach substantial completion. Latest forecasts for schedule and budget are reported in the table above.

NYCT Bus Radio System

NYCT Department of Buses (DOB) has more than 6000 buses and non-revenue vehicles utilizing an antiquated radio communications system that is more than 30 years old. This project will provide a new digital radio system for state of the art communications between the fleet the newly constructed Bus Command Center (BCC) and 35 new Base Radio sites constructed as part of this contract. The new Base Radio sites are constructed in the Bronx, Brooklyn, Manhattan, Queens, Staten Island, New Jersey and Yonkers for complete coverage of the MTA bus service area.

PROJECT STATUS	***Current***	***Forecast***
Substantial Completion	*Jan 2021*	*Dec 2023*
Budget	*$ 267 M*	*$330 M*
The project is approximately 67% complete.		

Since the October 2021 CPOC meeting, the NYCT Department of Buses has occupied the Bus Command Center and is operating 200 Buses that have been upgraded with new radio equipment. The 30 day pilot period program for the 200 buses started on 3/21/22. Once successfully completed, the contractor will start retrofitting the remaining 6000 plus fleet. Currently 32 out of the 35 new Base Radio sites are under construction. 30 are anticipated to be substantially complete by late Spring 2022. Issues are still under resolution of the remaining 5; 3 of the 5 are anticipated to be substantially complete by Fall 2022 with the last 2 complete by early 2023.

MTA C&D continues to aggressively work through schedule delays resulting from 3rd party access issues at base radio sites, COVID-19 delays, contractor quality issues, utility delays and overall slower than anticipated progress by the prime contractor. The contractor, Parsons Transportation Group, has submitted a revised schedule forecasting a 2024 completion date. This schedule is under review and MTA C&D, Buses and Parsons continue to work together mitigate this delay.

March 2022 CPC
Independent Engineering Consultant
Project Review

Coney Island Yard
Long Term Flood Mitigation

MTA C&D Infrastructure

McKissack
MTA Independent Engineering Consultant

Coney Island Yard
Long Term Flood Mitigation

Scope of Work

- Super Storm Sandy flooded and damaged the Coney Island Yard with saltwater. The scope of this project includes construction of a perimeter protection wall to provide long-term resiliency against future flooding.
- NTP was issued March 2018 to Tully Construction with a Substantial Completion (SC) date of September 2022, which is a 54-month project duration.
- Major project elements include:
  - Construction of a 4,000 linear feet bridge which to elevates power and communication cable has been completed.
  - Construction of a perimeter protection wall approximately 12 to 15 feet above and 30 feet below grade, approximately 12,000 linear feet of perimeter protection. The wall will be completed within the next quarter.
  - Construction of approximately 20,000 linear feet of new pipe to provide drainage will be completed within the next two quarters.
  - Construction of three (3) new pump stations to manage peak flow of a 100-year storm.

Coney Island Yard
Long Term Flood Mitigation

Schedule

- The latest project schedule incorporates the added scope of rehabilitating the DC Circuit Breaker House (CBH) and maintaining the revised SC of December 2022.
- The project is 80% complete with 85% of time elapsed.
- The construction of the new traction power cables and associated ductwork is being monitored closely for any potential schedule impacts.

Coney Island Yard
Long Term Flood Mitigation

Budget

	Third Party Contract $	Program Budget $	C&D Estimate at Completion	IEC Estimate at Completion
At Award	$309.7 M	$514.3 M	$514.3 M	$514.3 M
Current Status	$327.9 M	$520.6 M	$520.6 M	$520.6 M

- The IEC performed a review of the project's costs, contingency, work in place, soft costs, pending change orders and risks. The IEC's analysis of the budget and Estimate at Completion of $520.6M is in line with C&D's budget.

Coney Island Yard
Long Term Flood Mitigation

Risks and mitigations

- Contractor may encounter unknown underground utilities and obstructions where subsurface traction power cables are planned, and track outages may not occur when needed or take longer than anticipated.
  - Contractor has performed underground utility surveys and increased the number of test pits.
  - CM/CCM and contractor have worked with the yardmaster and operations planning to develop a workable outage schedule.
- The IEC views these actions as effective measures in the mitigation of the stated risk.

Coney Island Yard
Long Term Flood Mitigation

Observations

- Project team has worked well to maintain the schedule and budget while coordinating work in an expansive operating yard.
- Project team has planned remaining outages to minimize impact effect on yard operations.

March 2022 CPC
Independent Engineering Consultant Project Review

207th Street Yard and Shop Flood Mitigation

MTA C&D Infrastructure

McKissack
MTA Independent Engineering Consultant

207th Street Yard and Shop Flood Mitigation

Scope of Work

- 207th Street Yard sustained extensive brackish water damage during Super Storm Sandy. This water from the Harlem River flooded the yard and consequently the 200th Street and 207th Street interlockings located on the 8th Avenue 'A' line.
- NTP was issued in September 2018 to Walsh Construction. The contract Substantial Completion (SC) is November 2023, which is a 62-month project duration
- Major project elements include:
  - Construction of two new Relay Room Buildings, five new Central Instrumentation Houses and one enclosure to house new equipment for signals, equipment racks and auxiliary systems.
    - Design, furnish, install, test and place in-service new signal system and auxiliary support systems throughout the 207th Street Yard, and modify tie-ins (interfaces) with the main line.
  - Installation of a perimeter protection wall and deployable gates to protect the yard and portal from future tidal surges.
  - Repair or replace track and interlocking system damaged by Super Storm Sandy.
  - Provide temporary crew quarters for yard personnel to accommodate services and personnel affected by the work under this contract.
  - Replace yard traction power components.

207th Street Yard and Shop Flood Mitigation

Schedule

- The project is 70% complete with 69% of the time elapsed.
- As part of the IEC schedule analysis, we reviewed the signal equipment delivery schedule, a program-wide issue and found the two-month schedule contingency has been consumed.
  - The latest schedule update shows a 6-month delay to SC (May 2024). The delay is due to late contractor engineering, procuring and fabricating the signal system. The contractor has been directed to submit a recovery plan.
  - The project's overall critical path currently runs through Relay Room Buildings A and B. The completion of the relay rooms are dependent on the installation of the signal equipment.
  - The IEC concurs with a 2nd Quarter 2024 SC.

207th Street Yard and Shop Flood Mitigation

Budget

	3rd Party Contract $	Program Budget $	C&D Estimate at Completion	IEC Estimate at Completion
At Award	$383.6 M	$633.5 M	$633 M	$633 M
Current Status	$400.1 M	$633.5 M	$633 M	$633.5 M

- The IEC performed a review of the project contingency, work in place, soft costs, change orders and risks for remaining work. The IEC's Estimate at Completion is $633.5 M due to the impact of schedule delays and unnegotiated change orders.

207th Street Yard and Shop Flood Mitigation

Risks and mitigations

- Further solid-state interlocking equipment schedule delays.
  - Contractor and C&D are in discussions to perform a field Factory Acceptance Test which was identified as a schedule mitigation measure.
  - The IEC has made recommendations regarding this risk.
- Planned track outages may not occur when needed or take longer than anticipated.
  - CM/CCM and contractor have worked with the yardmaster and Operations Planning to develop a workable outage schedule.
  - The IEC views this mitigation as an effective measure.

207th Street Yard and Shop Flood Mitigation

Recommendations

If a decision is reached to perform a field (vs factory) acceptance test, the following are some of the activities that should occur (complete list was provided to C&D):
Perform a complete breakdown test for all racks and associated field equipment after they are installed and wired.

- Perform operational testing for a completely wired and tested installation.

- All wiring corrections should be marked on the field test copies.

March 2022 CPC
Independent Engineering Consultant
Project Review

207th Street Sewer Replacement

MTA C&D Infrastructure

McKissack

MTA Independent Engineering Consultant

207th Street Sewer Replacement

Scope of Work

- 207th Street Yard sustained extensive water damage during Super Storm Sandy from the brackish water of the Harlem River. This project will relocate NYC-owned sewers, which backed up into 207th Street Yard as well as outside the property.
- NTP was issued in December 2019 to C.A.C. Industries. The contract Substantial Completion (SC) date is February 2024, a 50-month project duration.
- Major project elements include:
  - Removing and relocating the existing DEP regulator, diversion chamber, tide gates, and internal sanitary service connections in the yard.
  - Construct new project elements (manholes for the relocated sewer).
  - Installation of reinforced sewer lines and backflow valves.

207th Street Sewer Replacement

Schedule

- The project is 28% complete with 52% of the time elapsed.
- The contractor's schedule update, which reflects progress through January 2022, indicates that the project Substantial Completion (SC) date is now January 2025, an 11-month delay. This delay is caused by both the utility companies, and Department of Sanitation of New York (DSNY) moratorium on 215th Street. C&D has not accepted this date and a recovery schedule has been requested.
  - The project's overall critical path currently runs through the 5.5-month moratorium period.
  - Following an IEC analysis, which considered the time necessary to work out details of an arrangement with DSNY, the latest schedule; including review of duration, logic, resources and remaining work, projects a 1st Quarter 2025 SC.

207th Street Sewer Replacement

Budget

	Third Party Contract $	Program Budget $	C&D Estimate at Completion	IEC Estimate at Completion
At Award	$95.4 M	$152.4 M	$152.4 M	$152.4 M
Current Status	$100.1 M	$152.4 M	$ 170 M	$173 M

- The IEC performed a review of the project contingency, work in place, soft costs, change orders and risks. The IEC's Estimate at Completion is $3M above C&D's Estimate At Completion. The added cost is the result of the schedule delay and risk allocation.

207th Street Sewer Replacement

Risks and mitigations

- Delays to the removal of all existing Empire City Subway/Verizon/Con Ed utilities at 10th Avenue.
  - CM/CCM are coordinating with utility companies for identification and scheduling of critical utility activities.
- Geotechnical conditions differs from the contract documents and could impact construction operations like jet grouting, excavation and tunneling.
  - Contractor is performing test pits and additional borings along the proposed sewer line on 10th Avenue and 215th Street.
- Breakdown of equipment required for jet grouting, soldier pile installation and micro tunneling.
  - Master mechanic will be on the site to address such issues.
  - Additional spare parts will be available.
- The IEC views these actions as effective measures in preventing further delays from the above risks.

207th Street Sewer Replacement

Recommendation

- The IEC recommends the project further explore the potential to accelerate concrete jet-grout work to complete it ahead of the DSNY moratorium which would improve schedule outcome.

March 2022 CPC Independent Engineering Consultant Project Review

Clifton Shop

MTA C&D Infrastructure

Clifton Shop

Project Summary

The Clifton Maintenance shop for Staten Island Railroad (SIR) is located 250 feet from the shoreline in Staten Island. This is a design-build project which consolidates all shop functions and administrative offices into a state-of-the-art facility designed for major flood resiliency, replacing the existing shop buildings that were damaged by flood waters during Superstorm Sandy. A critical requirement of this program is for the existing Multiple Unit Equipment (MUE) shop to remain operational during all phases of the shop replacement, minimizing any operational impact of the construction. The contract work is phased as follows:

- Phase 1&2 (completed): Initial removals, relocations, staging & demolition of the existing diesel and paint shops.
- Phase 3 (underway): Construction of the new maintenance facility. Completion of this phase will occur with beneficial use of the new facility. Beneficial Use is expected at the end of March 2022.
- Phase 4: Demolition of the remaining old shop buildings(Storeroom, Boiler Room, MUE Building). Expected to commence 2nd quarter of this year.
- Phase 5: Final site work and site finishes and paving for employee parking. Substantial Completion (SC) will be achieved upon completion of this phase.

Project Budget

The current C&D budget and Estimate At Completion (EAC) for Clifton Shop is currently at $212M. Due to project delays, the project team is in the process of submitting a budget modification for cost of additional Construction Consultant Management and engineering force account services. The IEC EAC is $216M, which includes allowances for cost of delays impacting force account labor, 3rd party construction management, in-house construction administration, change orders and potential cost impacts for commercial issues.

Clifton Shop

Project Schedule

Three Extension of Time (EOT) requests were granted relating to COVID 19, Con Edison transformer delivery and field modifications. The revised SC date was moved from December 2020 to June 2021.

The latest schedule update forecast Beneficial Use in March 2022 and SC in October 2022. This represents a 3-month and 4-month adjustment, respectfully, since last report. Based on the level of work remaining and current project delays, the IEC forecasts SC as December 2022.

Risk

- Phase 4 demolition duration of the existing shop may extend further than planned due to the uncovering of hazardous materials such as those encountered during Phase 2 demolition and slow transfer of operations personnel from the old shop.
  - The project will perform additional test pits once the old shop is vacated.
- The IEC finds there remains risk exposure as the existing shop is in close proximity to the new shop, the existence of underground tanks and a high-water table.

March 2022 CPC
Independent Engineering Consultant
Project Review

Bus Radio System

MTA C&D Infrastructure

McKissack

MTA Independent Engineering Consultant

Bus Radio System

Scope of Work

- Bus Radio System (BRS) is a Design Build project that replaces the NYCT and MTA Bus analog bus radio system. The BRS contract award amount of $202M was issued to Parsons Transportation Group, with Notice to Proceed in March 2016 and Substantial Completion (SC) date of January 2021.
- BRS is a fully integrated digital bus radio system that provides for voice and data communications for all NYCT and MTA Bus operators and field supervisors.
- Project includes:
  - Installation of 35 base stations throughout the five boroughs, Yonkers and Kearny, New Jersey
  - Outfitting approximately 6,000 buses and 250 non-revenue vehicles with new radio equipment
  - Outfitting the new Bus Command Center (BCC) with bus dispatch consoles and radio equipment hardware and software to support voice and data communications between the BCC and individual or groups of buses (completed).
  - Full integration and testing of all base stations, buses, and the BRS network.

Bus Radio System

Schedule

- Since our last report, the contractor SC date has moved 8 months to May 2024 due to issues related to base station completions, delays in pilot installation, 3rd party utility issues, slow contractor progress, and availability of a reliable BRS network. The Project Team is continuing to be aggressive and drive the contractor to a completion in December 2023.
- The pilot test of 200 buses has started and is expected to complete by May 2022.
  - Full bus installation can begin once the pilot is completed.
  - To achieve contractor forecasted May 2024 SC, an average of 250 bus installations per month must be completed after the pilot.
- Contractor schedule shows completion of Kearny base station is driving the critical path. However, C&D believes it is the bus installation that is driving the critical path and the IEC concurs with that assessment.
- The IEC continues to assert that an average of 350 buses per month could be completed as Department of Buses (DOB) would make sufficient buses available to preserve the December 2023 SC date. While the contactor has yet to perform bus installations at this rate, they would have gained experience during the pilot stage allowing for a swift ramp up.

Bus Radio System

Budget

- Current total budget is $294M, with the project's Estimate at Completion (EAC) of $330M which is $14M higher than last report. The increase is to cover additional Force Account and CCM costs due to project delays.
- The IEC continues to forecast an EAC of $350M due to impact of delays, change orders, and risks.
  - Project delays require budget modification to cover Force Account and CCM costs.
  - Contingency may not cover all Additional Work Orders.

Bus Radio System

Top Risks and Mitigations

- Risk – Bus equipment installation production remains the highest risk to project schedule.
  - Mitigation – Contractor is qualifying a third subcontractor to increase staffing for bus installations; DOB would make the required number of buses (i.e., 20 buses per day) available.
- Risk – Issues regarding system performance and reliability could impact project schedule.
  - Mitigation – Trouble tickets from field service are reviewed, categorized and closed in a disciplined approach to resolve known issues before pilot test. System issues are expected to be resolved at successful completion of pilot test.
- Risk – There are coverage issues caused by the limited capability of Todt Hill temporary tower due to insufficient height.
  - Mitigation – The existing tower at Todt Hill is now being considered for the permanent solution; structural integrity study of the tower is underway.
- In the IEC's opinion, above mitigation measures reduce risks of schedule delays but may not fully eliminate all risks. Known issues were identified during limited revenue testing of equipped buses and addressed by the contractor. However, pilot test could further identify performance and reliability issues that delay pilot completion and impact project schedule.

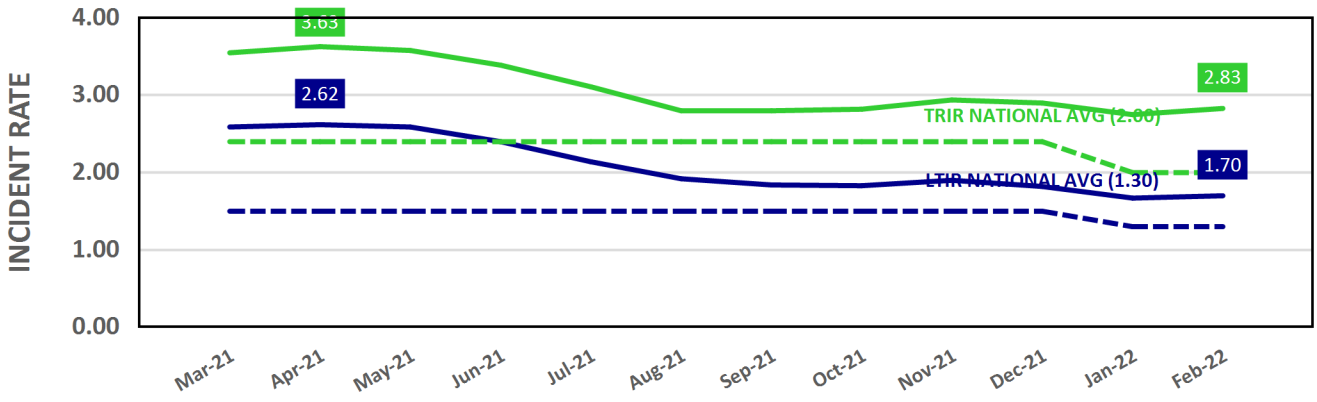
Bus Radio System

Observations

- BRS contractor completed their work at the new Bus Command Center (BCC) in January 2022. Work included outfitting the newly constructed BCC building with bus dispatch consoles and radio equipment hardware and software. BCC was staffed in February 2022 provide voice and data communication with BRS equipped buses.
- With 71 months elapsed since contract award, significant work remains such as completion of remaining base stations, completion of approximately 6,000 bus equipment installations, and testing and commissioning of the system.
- Contractor is augmenting their staff with additional network engineers, systems engineers and bus installation staff.
- Contractor should improve their configuration management process to optimize network system performance and mitigate delays due to system related issues.
- Completion of the pilot test will be a major milestone. Full bus installation will resume after completion of pilot test.

All MTACD

TOTAL RECORDABLE INCIDENT RATE (TRIR) & LOST TIME INCIDENT RATE (LTIR)



LTIR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Rate Average
2021	2.73	2.72	2.59	2.62	2.59	2.40	2.14	1.92	1.84	1.83	1.90	1.82	2.26
2022	1.67	1.70											1.69

TRIR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Rate Average
2021	3.72	3.65	3.55	3.63	3.58	3.39	3.11	2.80	2.80	2.82	2.94	2.90	3.24
2022	2.75	2.83											2.79

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2021	LaborHour	817,958	851,305	907,136	857,155	839,911	815,849	775,364	782,919	735,024	804,196	757,719	708,552	9,653,089
	LT	10	8	10	6	6	4	2	8	8	16	4	6	88
	TR	5	2	4	6	7	2	3	0	4	10	6	3	52
2022	LaborHour	619,389	577,680											1,197,070
	LT	1	6											6
	TR	4	3											7

All MTACD

INCIDENTS (MONTH OF FEBRUARY) – Six (6) Lost Time and Three (3) Recordables

- **Infrastructure – 2/2/22 C-48703 –** Iron Worker lowering himself down off of beam injured left shoulder requiring time away from work.
- **MNR - 2/10/2022 - Hudson Line Express Cable** - Electrician lifting a manhole cover, injured his back; **2/14/2022- Harmon Ph V** - Laborer -Fell from scaffolding required hospitalization and 4 stitches to RT Elbow
- **B&T – TN-49 & RK-PT 2/7/2022 and 2/9/2022–**Inspectors - While ascending ladders, ladders shifted causing inspectors to fall resulting in 2 Lost Time incidents; **HH-07 -** Iron Worker, slipped and fell on icy "Safe-Span"

INVESTIGATIONS:

- **MNR - 2/14/2022 - Harmon Shop Phase V Stage 2 Project (Project #MN81933) –** Laborer fell from scaffold while modifying the scaffold for concrete block installation. The worker fell approximately 16-feet resulting in a Lost Time injury. Root Cause determination, the worker descended upon an unsecured scaffolding platform. Additional findings included; Failure to review and document SWP/JHA with all employees; Failure to provide an interpreter for non-English speaking employees to assure SWP interpretation; Failure to ensure that all workers had the required scaffold training. Work was stopped for the entire site and was gradually returned in 3 Phases with the scaffold work being Phase 3 dependent on the full re-submittal and approval of Safe Work Plans for scaffold work. Disciplinary action leading to the termination of the Competent Person was implemented by the Contractor. The Contractor provided re-training and modified work strategies (SWP/CWP) for all scaffold work going forward.
- **B&T –** Two reported incidents involving Inspectors falling off ladders within a span of 2 days. Details for both incidents provided in the B&T Safety Summary
  - **TN 49 - 2/08/22 – Fall from height –** Inspector, climbing a ladder, fell approx. 10 ft onto the work platform. The Inspector sustained a shoulder injury resulting in a Lost Time Injury.
  - **RK-PT - 2/10/22 – Fall from height –** Inspector, climbing a ladder, fell approx. 10 ft from ladder onto ground resulting in an elbow injury requiring 3 stitches resulting in a Lost Time Injury.

SAFETY SUMMARY

AUDITS for 2022: INTERNAL – 331 EXTERNAL – 810 including 726 OCIP visits

- Overall safety hazards identified include Housekeeping, Fall Protection, Stairs/Ladders, Security/Public Protection, General Supervision and Fire Protection.
- Positive findings/observations included MPT, Public Protection, Electrical Safety and PPE.
- More granular reporting for Audits is being analyzed and will be included in the April Safety Report.

TRENDS:

- Trending for Recordable and Lost Time Incidence Rates are lower than the same reporting period in 2021.
- For January and February, Slip Trip and Fall accidents accounted for largest portion of reported incidents including those resulting in Lost Time.
- Review of MTA C&D BU Safety Assessments continue to show General Safety/Housekeeping and Supervision/ Organization as the major areas of safety findings.
- The AECOM Safety Assessment Initiative is ongoing. The team continues the review of project safety deliverables with the project teams, Contractor, PMC and MTA C&D Project Management. This initiative began on January 7, 2022. To date, the team has met with the PMT's of 5 projects. A total of 22 C&D projects have been identified for review under this initiative across the various BU's.

ACTIONS:

- As a result of the 5 Safety Incidents in 3 days on 207th Street Yard (C-34838), the PCEO and his office (PMT/PMC) implemented and job-wide Shut down. The GC is working on a Corrective Action Plan. NYCT Operating Personnel are also included in the CAP to address hazardous Electrical situations that have arisen.
- B&T contracts had Three (3) Incidents in February, all including Ladders. B&T BU issued a Safety Alert "Fall from Ladder" to all field staff and contractors and held a "Ladder Safety" Stand Down for all B&T projects reviewing incidents, reinforcing safety practices and enhancements. Additional protocols included the implementation of ladder inspection tagging, revised inspection checklist and manual verification to ensure ladders are physically secured.

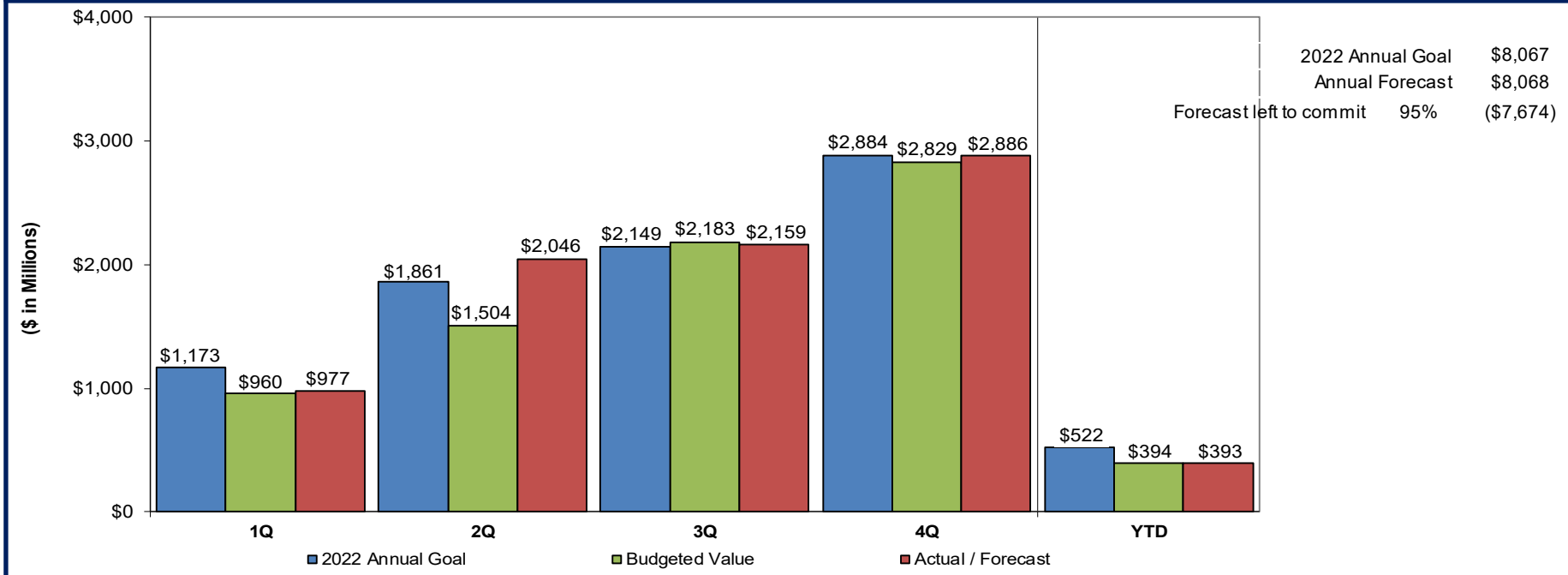
MTA Capital Program
Commitments & Completions

through
February 28, 2022

Metropolitan Transportation Authority

Capital Projects – Commitments – February 2022

MTA-wide 2022 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

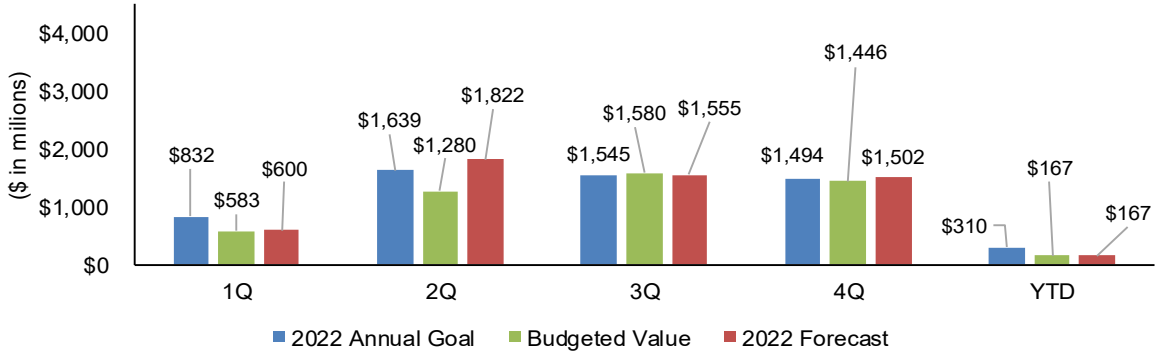
In 2022 the MTA plans to commit $8.1B worth of capital projects. Through February, the MTA has committed $393M vs a $522M year-to-date goal. The shortfall is mostly due to $116M worth of awards that have been delayed from February to March. By year end, the MTA forecasts meeting its $8.1B goal.

In 2022 the MTA is tracking 34 "major" commitments across the agencies and business units with a total value of $5.9B. These represent about 73% of the total commitment plan's value. There are 15 major commitments at NYCT, 2 at MTA Bus, 5 at the LIRR, 4 at MNR, 3 at Expansion and 5 at B&T. At the end of each quarter in 2022 schedule variances will be reported on the following pages.

NYCT/MTA Bus Capital Projects – Commitments – February 2022 – Budget Analysis and Schedule Variances

NYCT and MTA Bus Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$832	$1,639	$1,545	$1,494	$310
2022 Forecast	$600	$1,822	$1,555	$1,502	$167
Budgeted Value	$583	$1,280	$1,580	$1,446	$167



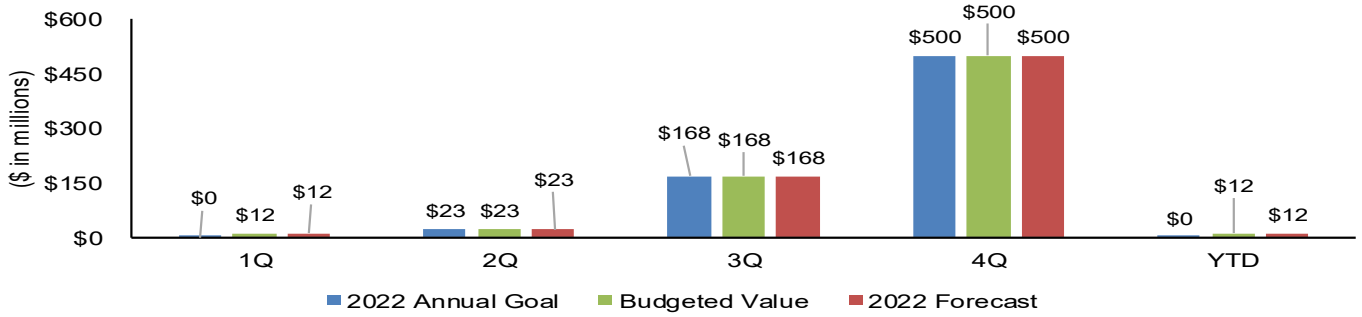
Q1 Schedule Variances

There are no major schedule slippages to report for NYCT and MTA Bus.

LIRR Capital Projects – Commitments – February 2022 – Budget Analysis and Schedule Variances

LIRR Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$0	$23	$168	$500	$0
2022 Forecast	$12	$23	$168	$500	$12
Budgeted Value	$12	$23	$168	$500	$12



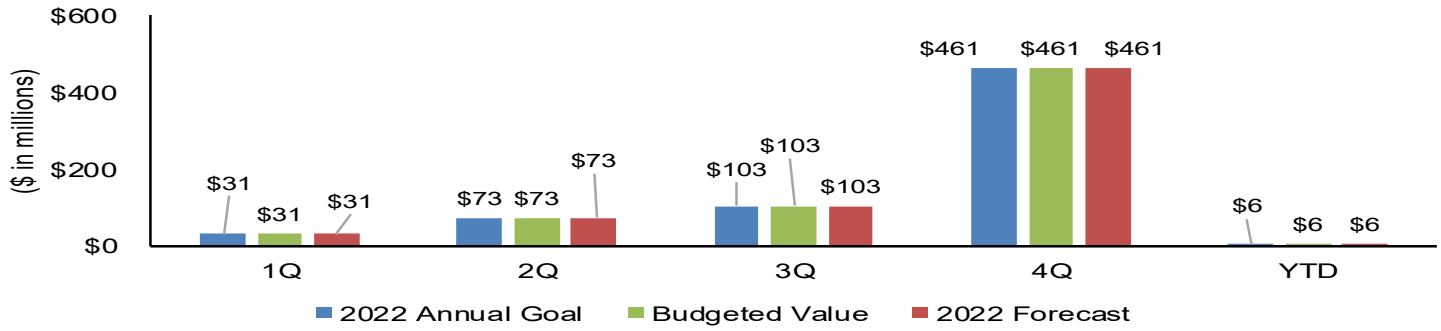
Q1 Schedule Variances

There are no major schedule slippages to report for the Long Island Rail Road.

MNR Capital Projects – Commitments – February 2022 – Budget Analysis and Schedule Variances

MNR Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$31	$73	$103	$461	$6
2022 Forecast	$31	$73	$103	$461	$6
Budgeted Value	$31	$73	$103	$461	$6



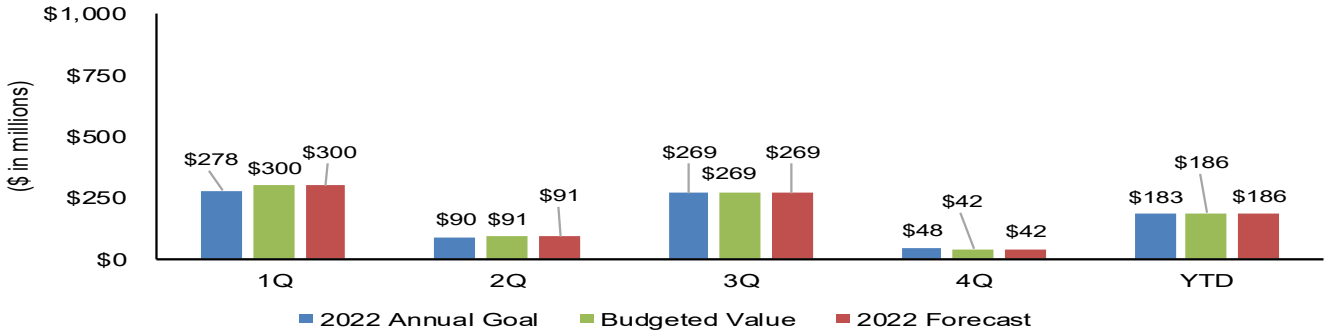
Q1 Schedule Variances

There are no major schedule slippages to report for Metro-North Railroad.

MTA Network Expansion Projects – Commitments – February 2022 – Budget Analysis and Schedule Variances

MTA Network Expansion Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$278	$90	$269	$48	$183
2022 Forecast	$300	$91	$269	$42	$186
Budgeted Value	$300	$91	$269	$42	$186



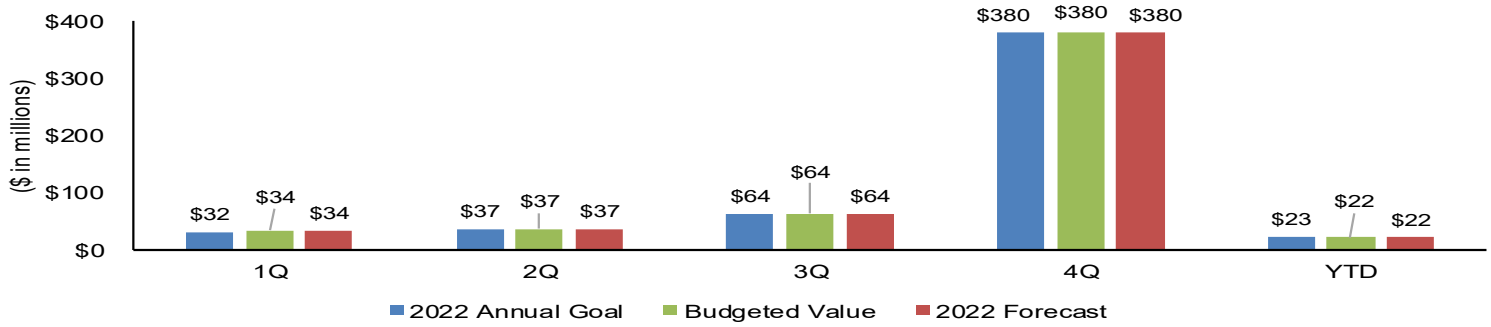
Q1 Schedule Variances

There are no major schedule slippages to report for Network Expansion.

B&T Capital Projects – Commitments – February 2022 – Budget Analysis and Schedule Variances

B&T Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$32	$37	$64	$380	$23
2022 Forecast	$34	$37	$64	$380	$22
Budgeted Value	$34	$37	$64	$380	$22



Q1 Schedule Variances

There are no major schedule slippages to report for MTA Bridges and Tunnels.

Metropolitan Transportation Authority

Capital Projects – Completions – February 2022

Goal \ Actual		MTA-wide 2022 Major Completions												Post
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022
Total	53	2	1	3	8	3	12	1	5	3	3	4	8	0
Jan-22	1	1												
Feb-22	2				1		1							
Mar-22	5			3	1					1				
Apr-22	6				6									
May-22	3					3								
Jun-22	11						11							
Jul-22	3	1	1					1						
Aug-22	5								5					
Sep-22	2									2				
Oct-22	3										3			
Nov-22	4											4		
Dec-22	8												8	

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

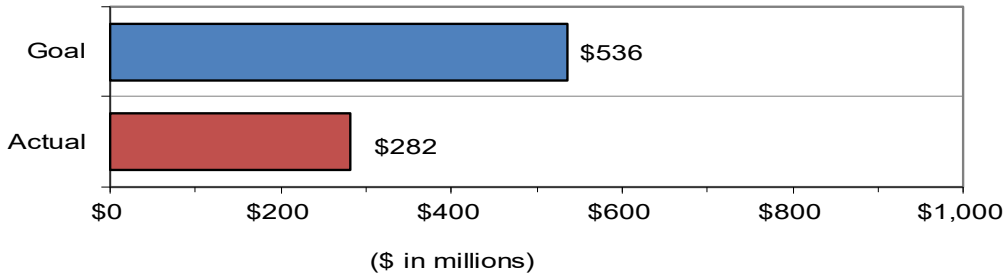
Completions Summary

In 2022 the MTA plans to complete $9.2B of projects. Through February, the MTA has completed $282M vs. a $536M year to date goal. The shortfall is partly due to two power projects whose completions have been delayed (both explained on the following pages as "major" completions). Several other completions at NYCT have also been delayed and contribute to the overall shortfall. By year end, the MTA forecasts meeting its $9.2B goal.

In 2022 the MTA is tracking 53 "major" completions across the agencies with a total value of $6.8B, representing 73% of the total completion plan's value. There are 22 major completions at NYCT, 1 at MTA Bus, 5 at the LIRR, 13 at MNR, 6 at Network Expansion and 6 at B&T.

Budget Analysis

2022 Annual Goal		$9,234
Annual Forecast		$9,220
Forecast left to complete	97%	($8,938)

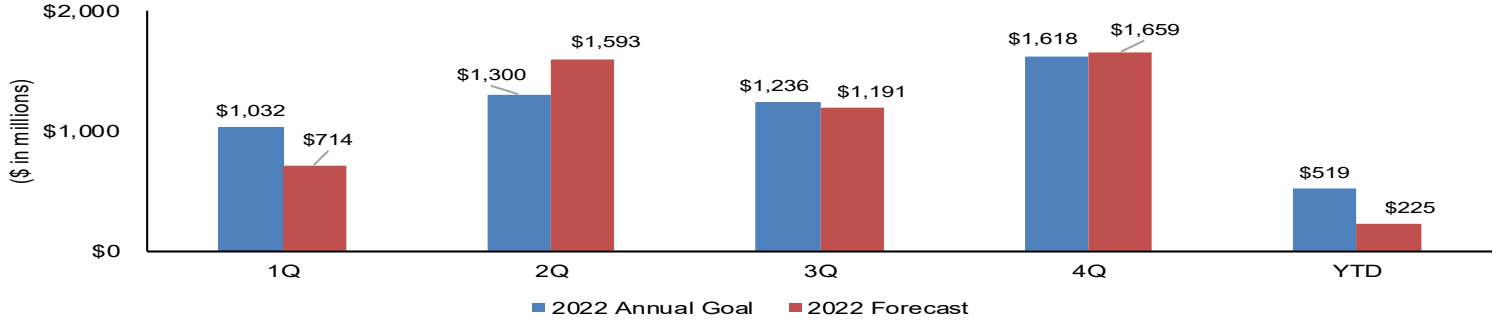


Metropolitan Transportation Authority

NYCT/MTA Bus Capital Projects – Completions – February 2022 – Budget Analysis and Schedule Variances

NYCT and MTA Bus Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$1,032	$1,300	$1,236	$1,618	$519
2022 Forecast	$714	$1,593	$1,191	$1,659	$225
2022 Goal (Rolling Stock)	$185	$287	$80	$407	$99
Forecast (Rolling Stock)	$185	$287	$80	$407	$99



Schedule Variances

2 NYCT/MTA Bus Amber Completions

Amber delays are within 2 months of goal.

Project	Completion	Goal	Forecast
Power			
New Substation: Harrison Pl / Canarsie *(New Item)*	Construction	Feb-22 $ 51.3	Apr-22 $ 51.3
The revised date reflects the delayed completion of equipment w iring and breaker energization.			
Stations			
ADA: Livonia Avenue / Canarsie *(New Item)*	Construction	Mar-22 $ 84.3	Apr-22 $ 84.3
The completion date reflects the additional time required to complete steel repairs and station painting.			

1 NYCT/MTA Bus Red Completion

Red delays are beyond 2 months of goal.

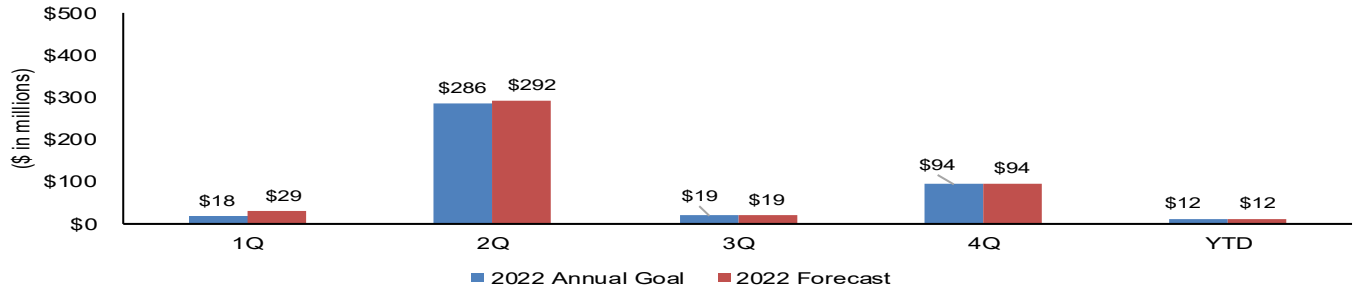
Project	Completion	Goal	Forecast
Power			
Power Upgrade: RCC, PCC - Ph. 2 *(New Item)*	Construction	Feb-22 $ 63.4	Jun-22 $ 63.4
The revised date reflects the additional time needed to complete the equipment monitoring system.			

LIRR Capital Projects – Completions – February 2022 – Budget Analysis and Schedule Variances

LIRR Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$18	$286	$19	$94	$12
2022 Forecast	$29	$292	$19	$94	$12

2022 Goal (Rolling Stock)	$0	$198	$0	$0	$0
Forecast (Rolling Stock)	$0	$198	$0	$0	$0



Schedule Variances

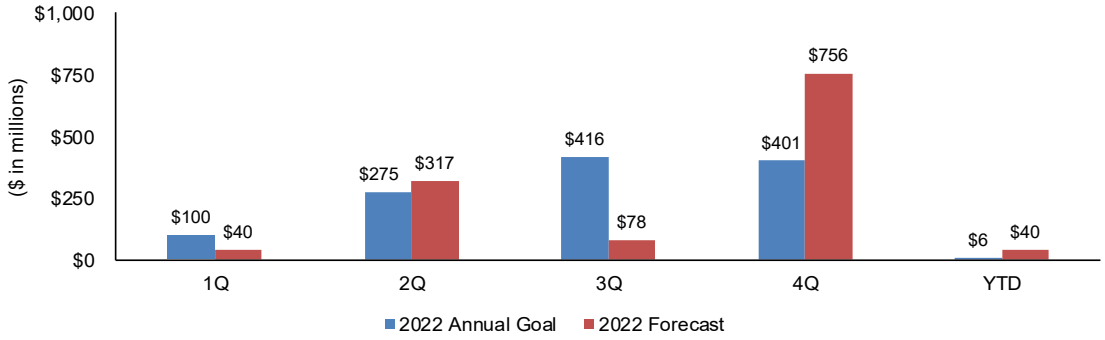
There are no major schedule slippages to report for the Long Island Rail Road.

Metropolitan Transportation Authority

MNR Capital Projects – Completions – February 2022 – Budget Analysis and Schedule Variances

MNR Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$100	$275	$416	$401	$6
2022 Forecast	$40	$317	$78	$756	$40
2022 Goal (Rolling Stock)	$0	$0	$0	$230	$0
Forecast (Rolling Stock)	$0	$0	$0	$230	$0



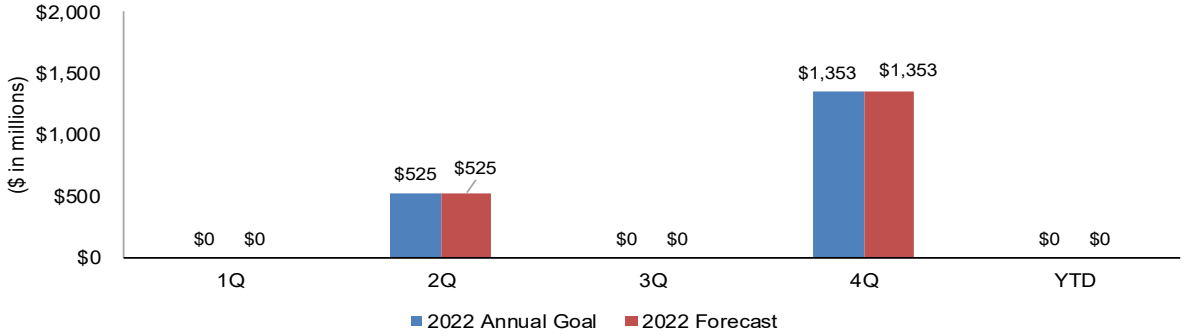
Schedule Variances

Project	Completion	Goal	Forecast
1 Metro-North Red Completion			
Red delays are beyond 2 months of goal.			
Power			
86th / 110th Substations *(New Item)*	Construction	Mar-22	Sep-22
		$30.3	$30.3
This project is delayed due to completion of an asset study, completion of the removable panel air filter system, and equipment testing w hich has extended the overall project completion date to September 2022.			

MTA Network Expansion Projects – Completions – February 2022 – Budget Analysis and Schedule Variances

MTA Network Expansion Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$0	$525	$0	$1,353	$0
2022 Forecast	$0	$525	$0	$1,353	$0



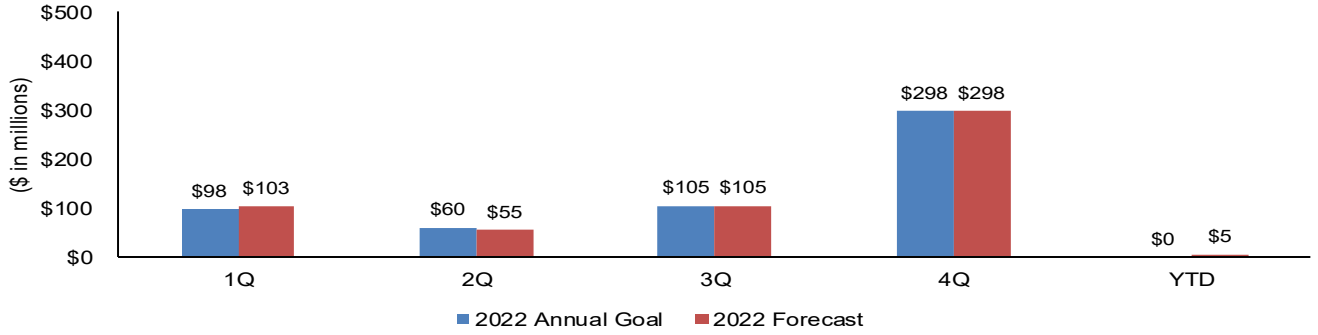
Schedule Variances

There are no major schedule slippages to report for Network Expansion.

B&T Capital Projects – Completions – February 2022 – Budget Analysis and Schedule Variances

B&T Budget Analysis

Summary Chart Data	1Q	2Q	3Q	4Q	YTD
2022 Annual Goal	$98	$60	$105	$298	$0
2022 Forecast	$103	$55	$105	$298	$5



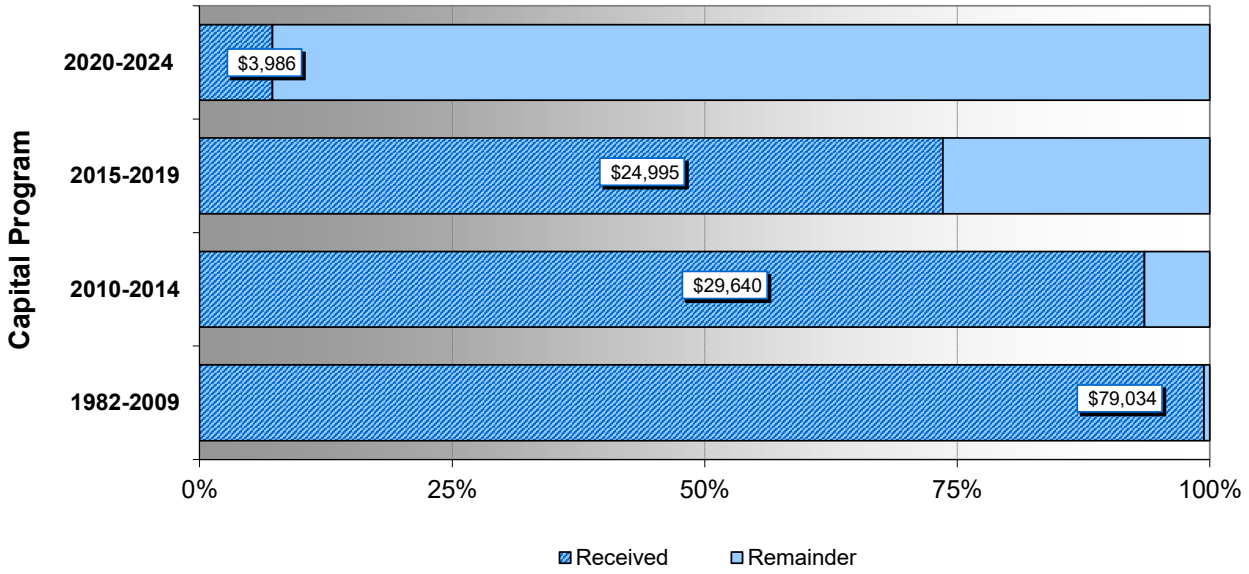
Schedule Variances

There are no major schedule slippages to report for MTA Bridges and Tunnels.

Status of MTA Capital Program Funding

Capital Funding (February 2022)

$ in millions



Capital Funding Detail (February 2022)

$ in millions

2010-2014 Program	Funding Plan Current	Receipts Thru January	Receipts This month	Receipts Received to date
Federal Formula, Flexible, Misc	$5,862	$5,857	$ -	$5,857
Federal High Speed Rail	173	173	-	173
Federal New Start	1,278	1,278	-	1,278
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	113	-	113
MTA Bonds (Payroll Mobility Tax)	11,625	10,647	-	10,647
Other (Including Operating to Capital)**	1,270	1,124	-	1,124
B&T Bonds	2,022	1,864	-	1,864
Hurricane Sandy Recovery				
Insurance Proceeds/Federal Reimbursement	6,697	6,697	-	6,697
PAYGO	171	171	-	171
Sandy Recovery MTA Bonds	659	225	-	225
Sandy Recovery B&T Bonds	230	23	-	23
Total	**31,696**	**29,640**	**-**	**29,640**

2015-2019 Program	Funding Plan Current	Receipts Thru January	Receipts This month	Receipts Received to date
Federal Formula, Flexible, Misc	$6,681	$5,528	$ -	$5,528
Federal High Speed Rail	$122	$122	-	$122
Federal Core Capacity	100	-	-	-
Federal New Start	500	-	-	-
Federal Security	18	15	-	15
State Assistance	9,091	5,248	-	5,248
City Capital Funds	2,667	2,050	-	2,050
MTA Bonds	8,474	8,175	-	8,175
Asset Sales/Leases	943	315	-	315
Pay-as-you-go (PAYGO)**	2,156	1,572	-	1,572
Other	273	68	-	68
B&T Bonds & PAYGO/Asset Sale	2,942	1,902	-	1,902
Total	**33,969**	**24,995**	**-**	**24,995**

2020-2024 Program	Funding Plan Current	Receipts Thru January	Receipts This month	Receipts Received to date
Capital from Central Business District Tolling	$15,000	$ -	$ -	$ -
Capial from New Revenue Sources	10,000	461	-	461
MTA Bonds and PAYGO	9,785	202	-	202
Other Contribution	520	-	-	-
Federal Formula	7,435	2,799	-	2,799
State of New York	3,000	-	-	-
City of New York	3,007	127	-	127
Federal New Start (SAS Ph2)	2,905	-	-	-
Federal Flexible	275	51	-	51
Federal Other	71	71	-	71
Federal Security	10	10	-	10
B&T Bonds	3,327	266	-	266
Total	**55,334**	**3,986**	**-**	**3,986**

Fourth Quarter 2021 TLR Summary

- Overall, a total of 332 projects were reviewed this quarter:
  - 25 in Design
  - 4 in Post-Design to Construction
  - 303 in Construction

- Of these:
  - 220 (66%) were designated Green
  - 52 (16%) were designated Red
  - 60 (18%) triggered variances in prior quarters

Of the 52 Reds that triggered a Key Performance Indicator (KPI) this quarter, 49 were for Schedule, 2 were for Cost and 1 triggered for both Cost and Schedule. Of the 52 Reds, 49 are in Construction, 1 in Design and 2 are in Procurement.

- For every designated Red project, C&D has prepared a brief variance report that summarizes the problems encountered and the corrective actions taken this quarter.

- The IEC has noted 27% (14 of 52) projects, of which 11 are in-house, have triggered schedule variances due to limited MTA resource availability. These 14 variances are caused by a lack of both track inspectors and EMD Telecommunications workers, for which hiring is underway as part of workforce planning. The IEC will continue to monitor this issue.

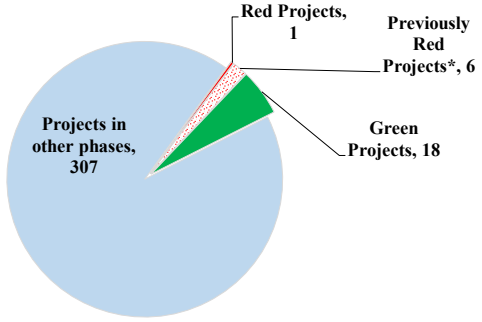
Metropolitan Transportation Authority

4th Quarter 2021 Traffic Light Report on the MTA Capital Program

A total of 332 Projects were Reviewed for the 4th Quarter 2021

The 332 active projects include 25 projects in Design, 4 in Post-Design to Construction Award, 303 in Construction

25 of 332 Projects in Design

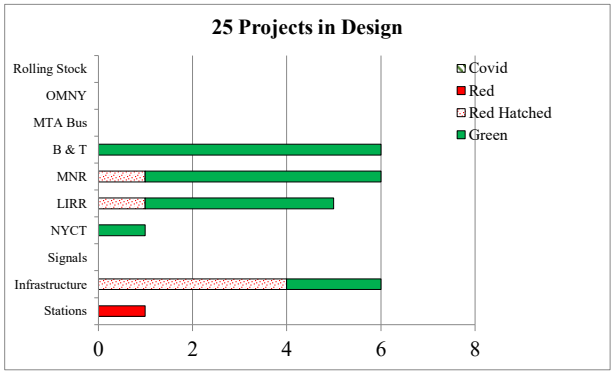


* see Terms and Definitions page

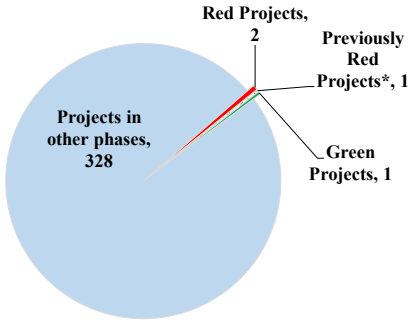
Fourth Quarter 2021: 25 projects were reviewed in this phase with 18 designated green, 6 as previously red and 1 red. The 1 red project's root cause was due to the repackaging of a Design-Build bundle.

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

Third Quarter 2021: 32 projects were reviewed in this phase with 21 designated green, 7 as previously red and 4 red.



4 of 332 Projects in Post-Design to Construction Award

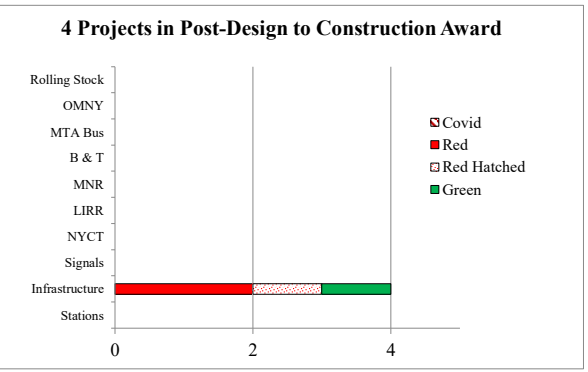


* see Terms and Definitions page

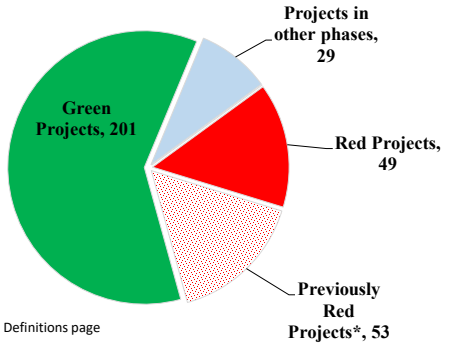
Fourth Quarter 2021: 4 projects were reviewed in this phase with 1 designated as green, 1 previously red, and 2 red. The root causes which caused the 2 projects to trigger schedule slips were coordination with Amtrak and an extended bid process.

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

Third Quarter 2021: 9 projects were reviewed in this phase with 2 designated as green, 4 previously red, and 3 red.



303 of 332 Projects in Construction

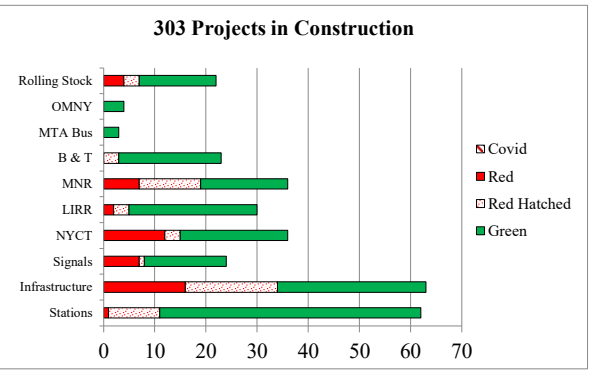


* see Terms and Definitions page

Fourth Quarter 2021: 303 projects were reviewed in this phase with 201 designated green, 53 previously red, and 49 red. The 49 projects had root causes of MTA resource support, Con Ed coordination, contractor performance, track access, and unforeseen site conditions.

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

Third Quarter 2021: 259 projects were reviewed in this phase with 175 designated green, 44 previously red, and 40 red.



Project Terms and Definitions
4th 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: 25
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: 4
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: 303
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): 0

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 1p0% (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 in Planning are not displayed in the current quarter's TLR, until the project reaches the design phase, but continue to be maintained in the TLR project database for 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.

4th 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									
T7041213	Renewal: Woodhaven Blvd JAM	Construction	$57,245,815	0	1.00	▼	0	▬	G
T7041251	Platform Components: 5 Locs CNR	Construction	$3,781,498	0	.15	▬	0	▬	G
T70412L2	Platform Components: 14 St 6 AV	Construction	$8,079,176	0	.69	▼	0	▬	G
T7041307	ADA: Times Square Complex, Ph 3 - Shuttle	Construction	$217,588,378	90	1.00	▬	0	▬	G
T7041314	ADA: Court Square XTN (Elevator Phase)	Construction	$24,600,433	0	.85	▼	0	▬	G
T7041315	ADA: 149 Street-Grand Concourse Complex	Construction	$114,670,180	33	.98	▬	0	▬	G
T7041316	ADA: Woodhaven Boulevard JAM	Construction	$39,189,417	0	1.00	▼	0	▬	G
T7041324	ADA: 68 St-Hunter College LEX	Construction	$143,843,507	0	1.09	▼	0	▬	G
T7041327	ADA & Station Improvements: Westchester Sq PEL	Construction	$90,197,678	0	1.00	▼	0	▬	G
T7041330	ADA: 14th St 6th Av/7th Av Complex DES	Construction	$12,509,911	0	1.35	▼	0	▬	G
T7041331	ADA: Livonia Ave CNR	Construction	$87,290,194	65	1.00	▬	1	▲	G
T7041332	ADA: 170 Street JER	Construction	$61,939,167	93	1.00	▬	0	▬	G
T7041335	ADA: Queensboro Plaza FLS	Construction	$77,283,278	0	.92	▼	0	▬	G
T7041338	ADA: Tremont Ave BXC	Construction	$54,345,378	33	.99	▬	0	▬	G
T7041346	ADA: 6 Av CNR	Construction	$59,193,122	0	1.01	▬	0	▬	G
T7041347	ADA: 14 St 6AV	Construction	$29,691,326	0	.68	▼	0	▬	G
T7041348	ADA: 14 St BW7	Construction	$55,195,340	0	.99	▼	0	▬	G
T7041350	Additional elevator 34 St BW7 PSNY-33rd	Construction	$16,541,862	25	1.00	▬	0	▬	G
T8040707	Replace 3 Hydraulic Elevators: 34th BW7 PSNY-33rd	Construction	$21,586,064	30	.99	▬	0	▬	G
T8040708	Replace 5 Elevators at 2 Locations JAM	Construction	$40,858,814	0	1.14	▲	0	▬	G
T8041229	Platform Components: 6 Avenue / Canarsie	Construction	$32,806,122	0	1.00	▲	0	▬	G
T8041303	ADA: Dyckman St (NB) BW7	Construction	$21,579,539	35	1.00	▬	0	▬	G
T8041304	ADA: 6 Ave / Canarsie	Construction	$33,373,926	0	1.00	▲	0	▬	G

4th 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									
T8041305	ADA: 14 St / Broadway/ 7th Ave	Construction	$29,873,986	0	1.00	▲	0	▬	G
T8041317	ADA: Grand St CNR	Construction	$28,958,238	35	1.00	▬	0	▬	G
T8041319	ADA: 7th Ave CUL	Construction	$40,867,099	35	1.00	▬	0	▬	G
T8041327	ADA: Lorimer St CNR	Construction	$64,853,338	35	1.00	▬	0	▬	G
T8041328	ADA: Metropolitan Ave XTN	Construction	$49,961,618	35	1.00	▬	0	▬	G
T8041332	ADA: East 149th St PEL	Construction	$42,117,238	35	.97	▬	0	▬	G
T8041337	ADA: Beach 67th St FAR	Construction	$45,434,386	35	1.00	▬	0	▬	G
T8070312	LSCRP 8th Ave CNR	Construction	$34,975,533	0	1.00	▲	0	▬	G
S8070108	ADA: New Dorp SIR	Construction	$36,957,704	35	.97	▬	12	▲	G
Stations									
All Other Stations Projects									
T6040706	Replace 2 Hydraulic Elevators at GCT LEX	Construction	$21,420,939	15	.94	▬	0	▬	G
T7040701	Replace 11 Hydraulic Elevators / Various	Construction	$73,783,585	53	1.00	▬	0	▬	G
T7040702	Replace 12 Traction Elevators BW7	Construction	$109,693,900	95	.99	▬	0	▬	R
T7040703	Replace 8 Traction Elevators / Various	Construction	$61,836,814	14	1.00	▬	0	▬	G
T7040704	Replace 6 Traction Elevators 8AV	Construction	$47,017,367	100	1.00	▬	0	▬	G
T7040707	Replace 7 Escalators / Various (Bx/M)	Construction	$54,989,538	0	.80	▬	0	▬	G
T7040708	Replace 2 Escalators: Pelham Pkwy WPR	Construction	$15,816,293	9	1.00	▬	0	▬	G
T7040709	Replace 6 Escalators / Various	Construction	$46,244,598	10	1.00	▬	0	▬	G
T7040713	Replace 5 Escalators / Various (Bk/M)	Construction	$33,906,056	0	.72	▬	0	▬	G
T7040714	Replace 1 Hydraulic Elevator: Grand Central FLS	Construction	$7,904,814	15	.57	▬	-2	▼	G
T7041402	Access Improvements: Grand Central, Phase 2	Construction	$23,808,366	0	.38	▼	0	▬	G
T7041404	Reconstruction: Times Sq Complex, Ph3 - Shuttle	Construction	$29,816,315	90	1.00	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Stations									
All Other Stations Projects									
T7041422	Station Capacity Enhancements: Main St FLS	Construction	$55,818,505	0	.84	▬	0	▬	G
T7160729	RTO Facility Repair: 3 Avenue-138 Street PEL	Construction	$15,262,920	94	1.00	▬	3	▲	R
T8040711	4 Escalators at 2 Locs Dekalb 4Av & 181 St BXC	Construction	$51,134,817	0	1.08	▲	0	▬	G
T8040713	Replace 8 Escalators: Grand Central - 42 St / FLS	Construction	$90,857,244	0	1.18	▲	0	▬	G
T8041210	Water Condition Remedy: Various Locations	Construction	$28,470,391	0	1.00	▼	0	▬	G
T8041215	Design: Station Components DES	Construction	$31,800,572	34	1.10	▲	0	▬	G
T8041216	Platform Components: E Broadway 6AV	Construction	$14,566,008	99	.98	▬	0	▬	R
T8050204	2020 Mainline Track Repl: Rutgers	Construction	$17,495,732	99	.94	▼	0	▬	R
T8160711	EFR Consolidation: 2 Ave / 6Ave	Construction	$17,916,657	0	1.00	▲	0	▬	G
T7041322	ADA: 95 St 4AV	Design	$49,546,132	40	1.41	▬	3	▲	R
Infrastructure									
T6100454	207th St. OH Shop: Boiler Upgrades & Site Remed	Construction	$13,268,006	94	1.03	▼	3	▲	R
T6120403	Replace Bus Radio System	Construction	$219,935,125	66	1.01	▼	0	▬	R
T6160611	Replace Fire Alarm Systems at 13 Locations	Construction	$27,529,906	63	.99	▬	0	▬	G
T6160717	Livingston Plaza Repairs	Construction	$26,420,913	75	.51	▬	2	▲	R
T7060503	Replace Supervisory Vent Controls - Var Locs	Construction	$30,122,072	56	1.00	▬	3	▲	R
T7060506	Rehab Forsyth St Vent Plant	Construction	$93,548,145	35	1.03	▬	0	▬	R
T7070303	Struct Rehab: Livonia Yard Overpass & Retain Wall	Construction	$27,083,332	87	1.00	▬	3	▲	R
T7070316	Overcoat: Broadway - End of Line MYR	Construction	$58,258,534	53	.99	▬	0	▬	G
T7070317	Overcoat: 48 St - 72 St FLS	Construction	$57,133,383	100	1.00	▬	2	▲	R
T7070323	LSCRP: Brooklyn (EPK)	Construction	$82,731,099	44	.99	▬	0	▬	G
T7070344	Repairing 'A' and 'B' Column Base Conditions WPR	Construction	$17,000,070	100	.97	▬	2	▲	R
T7080602	Upgrade Async Network to SONET, Rings A and C	Construction	$31,035,437	80	1.00	▬	6	▲	R

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
T7080603	PBX Upgrade	Construction	$48,564,396	93	1.17	▬	14	▲	R
T7080617	LiftNet Transition to Ethernet	Construction	$15,792,305	100	.99	▬	0	▬	G
T7080651	Help Point: Upgrades and CAI Removals	Construction	$20,961,761	95	1.03	▬	0	▬	R
T7090202	Substation Renewal: Av Z CUL	Construction	$32,172,288	89	.99	▬	12	▲	R
T7090203	Substation Rnwl & New Rectifier: Centrl SS 6AV	Construction	$43,260,960	78	.99	▬	0	▬	G
T7090206	Replace HT Switchgear - Various Locs	Construction	$30,476,773	85	1.00	▬	9	▲	R
T7090222	New Substation: Maspeth Av-Humboldt St CNR	Construction	$46,240,962	100	.89	▬	-1	▼	R
T7090223	New Substation: Harrison Pl CNR	Construction	$52,773,517	99	.89	▬	3	▲	R
T7090406	Rehab CBH # 85 & New Ducts: Bedfrd-N 6 St SS CNR	Construction	$13,361,050	100	.99	▬	-1	▼	R
T7100402	207th St Maint & OH Shop Roof & Component Repl	Construction	$59,951,102	62	1.00	▬	0	▬	R
T7100403	DCE Shop Components Ph 2: 239 St, Concourse, ENY	Construction	$49,241,158	91	1.05	▬	0	▬	R
T7160716	RCC and PCC Power Upgrade	Construction	$63,370,962	98	1.00	▬	4	▲	R
T8050241	Jamaica Direct Fixation	Construction	$57,617,884	0	1.00	▼	0	▬	G
T8050242	63rd Street Direct Fixation	Construction	$107,548,150	0	1.00	▲	0	▬	G
T8060505	Rehab Deep Wells & Control Upgrade Nostrand Line	Construction	$22,695,247	4	1.01	▬	0	▬	G
T8060506	Rehab Fan Plant Damper Systems - 7 Locations	Construction	$33,771,531	7	1.00	▬	0	▬	G
T8060514	Fan Plant SCADA Head-End Upgrade	Construction	$18,757,610	0	1.00	▲	0	▬	G
T8070318	LSCRP 161 -192 Sts BXC	Construction	$127,988,147	0	1.06	▲	0	▬	G
T8070319	Vents 161 - 192 Sts BXC	Construction	$11,715,519	0	1.03	▲	0	▬	G
T8080605	Antenna Cable Replacement: Various Locations	Construction	$24,899,548	47	1.36	▲	0	▬	G
T8080641	Asych Fiber Optic Network Ring F	Construction	$27,039,952	0	1.00	▲	0	▬	G
T8080642	PA/CIS Electronics Replacement - Canarsie Line	Construction	$7,544,786	32	1.00	▬	3	▲	R
T8090405	Rebuild Ducts: Central Platform	Construction	$7,348,335	89	1.00	▬	0	▬	G
T8100412	Livonia Maint Shop Phase I	Construction	$21,955,333	7	1.01	▼	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
T8160705	Livingston Plz Elec, Mechanical, Generator Phase B	Construction	$69,028,494	0	1.00	▲	0	▬	G
T8160706	EMD Facility: Hoyt-Schermerhorn FUL	Construction	$14,001,893	35	1.00	▬	4	▲	R
S7070102	SIR Station Component Program	Construction	$18,917,569	100	.99	▬	-1	▼	G
S7070106	New Power Substation: New Dorp	Construction	$24,976,307	96	1.02	▬	5	▲	R
S7070107	New Power Substation: Clifton	Construction	$30,646,073	96	1.00	▬	5	▲	R
S7070111	Relocate HQ to Clifton Shop	Construction	$9,127,751	92	.99	▬	0	▬	R
S7070113	SIR Clifton Yard Track and Switch Replacement	Construction	$17,070,406	74	.98	▬	0	▬	G
S8070109	Track and Switch Rehab: SIR Mainline (Addtnl Work)	Construction	$50,326,217	29	.99	▼	0	▬	G
U6030226	Bus Radio System	Construction	$32,057,283	82	1.15	▬	0	▬	R
U7030211	Bus Radio System - MTA Bus Share	Construction	$39,516,593	66	1.00	▼	0	▬	R
T8080603	Fiber Optic Cable Replacement: Various Locations	Design	$42,573,885	0	.99	▬	0	▬	G
Signals / Train Controls									
T50803QB	CBTC QBL Phase 1	Construction	$80,085,069	86	1.37	▬	6	▲	R
T6080319	CBTC Queens Blvd Ln West Ph 1	Construction	$115,225,996	95	.97	▬	0	▬	R
T6080661	ISIM-B Module 3A RCC Build Out	Construction	$25,405,019	78	1.00	▬	3	▲	R
T7080301	CBTC: QBL West Ph2 (50 St - Union Tpke)	Construction	$471,239,306	85	1.11	▬	2	▲	G
T7080304	CBTC: 8AV (59 St - High St)	Construction	$219,828,312	38	1.00	▬	0	▬	G
T7080307	Interlocking Modernization: Ditmas CUL	Construction	$131,074,754	73	1.00	▬	9	▲	R
T7080322	AC to DC Line Relay Upgrade BCT	Construction	$25,168,851	100	1.00	▬	0	▬	G
T7080324	Code Cable Replacement BW7	Construction	$41,314,985	43	1.00	▬	0	▬	G
T7080326	Life Cycle Replacement of Code Systems	Construction	$51,725,537	57	1.00	▬	0	▬	G
T7080327	Life Cycle Mod - Speed Enforcement Systems	Construction	$65,429,183	26	1.00	▬	0	▬	G
T7080332	CBTC: CUL (Church Av to W8 St)	Construction	$116,051,095	73	.99	▬	9	▲	R
T7080333	Interlocking Modernization: Ave X CUL	Construction	$195,790,640	73	1.00	▬	9	▲	R

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Signals / Train Controls									
T7080335	Interlocking Modernization: 30 St & 42nd St / 8AV	Construction	$258,886,569	50	1.00	▬	0	▬	G
T7080342	CBTC: Carborne Equipment Purchase	Construction	$85,037,224	21	1.00	▬	0	▬	G
T7080343	2018 M/L Switch Repl: 7 Switches CBTC CUL	Construction	$39,229,364	73	1.00	▼	9	▲	R
T7080344	2019 M/L Switch Repl: 10 Switches CBTC 8AV	Construction	$27,563,382	50	1.00	▬	0	▬	G
T7080349	Signal Quality Enhancements (SAP)	Construction	$18,195,000	64	1.00	▬	0	▬	G
T7080614	ISIM-B Module 3: Rail Traffic Systems	Construction	$91,696,705	57	1.00	▬	0	▬	G
T8080313	CBTC: Flushing Line Equipment Removals	Construction	$19,615,806	95	1.00	▬	3	▲	R
T8080314	Single Chip UWB Interoperability (Proof of Concept	Construction	$35,091,350	19	1.00	▬	0	▬	G
T8080318	SigMod: Queens Blvd and East 3 Interl. - Install	Construction	$409,580,018	0	1.00	▲	0	▬	G
New York City Transit									
T6040401	MetroCard-Electronic Components Replacement	Construction	$16,340,035	89	1.00	▬	3	▲	R
T6120323	Flatbush & Ulmer Park: Window Replacement	Construction	$9,312,141	4	1.00	▼	0	▬	G
T7041274	Station Lighting: 7 Locs / Various	Construction	$7,686,619	100	1.00	▬	0	▬	G
T7100409	Heavy Shop Equipment	Construction	$14,729,150	47	1.00	▬	0	▬	R
T7120306	Generator: Yukon Depot	Construction	$11,816,772	40	1.00	▲	0	▬	G
T7120307	Roof, Office, HVAC: Fresh Pond Depot	Construction	$15,166,684	31	1.00	▬	0	▬	G
T7120321	Artic Modification Windows/Façade: ENY Depot	Construction	$18,061,652	42	1.00	▬	0	▬	G
T8040404	Wide Turnstiles: Procurement/Installation	Construction	$25,118,512	5	1.00	▬	2	▲	G
T8041223	Station Ventilators Ph 21 - 4 Locs/ Manh & BX	Construction	$10,260,856	34	1.00	▬	0	▬	G
T8050206	Mainline Track Replacement 2020 / 8th Avenue	Construction	$20,726,225	68	1.00	▬	4	▲	R
T8050207	Mainline Track Replacement 2020 / Broadway-7th Ave	Construction	$35,259,977	90	1.00	▬	4	▲	R
T8050208	Mainline Track Replacement 2020 / Flushing	Construction	$59,886,344	71	1.00	▬	2	▲	G
T8050209	Mainline Track Replacement 2020 / Lexington	Construction	$27,991,990	95	1.27	▬	2	▲	R
T8050210	Mainline Track Replacement 2020 / Brighton	Construction	$15,212,679	26	1.00	▬	4	▲	R

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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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									
T8050211	Mainline Track Replacement 2020 / Jamaica	Construction	$28,061,426	50	1.00	▬	7	▲	R
T8050213	Mainline Track Replacement 2020 / 6th Avenue	Construction	$19,911,465	90	1.00	▬	4	▲	R
T8050214	Mainline Track Replacement 2020 / Astoria	Construction	$21,026,790	58	1.00	▬	3	▲	R
T8050215	Mainline Track Replacement 2020 / Dyre	Construction	$8,040,213	95	1.03	▬	-2	▼	G
T8050223	Continuous Welded Rail 2020	Construction	$35,009,063	83	1.00	▬	3	▲	R
T8050227	Mainline Track Replacement 2021 / 11th st Cut	Construction	$19,926,544	55	1.00	▬	0	▬	G
T8050230	Mainline Track Replacement 2021 / Concourse	Construction	$15,611,732	22	1.00	▬	0	▬	G
T8050231	Mainline Track Replacement 2021 / Bway-7th	Construction	$23,596,471	87	.86	▼	2	▲	R
T8050232	Mainline Track Replacement 2021 / Jamaica	Construction	$27,039,948	28	1.00	▬	0	▬	G
T8050234	Mainline Track Replacement 2021 / Jerome	Construction	$8,621,107	36	1.00	▬	0	▬	G
T8050235	Mainline Track Replacement 2021 / Flushing	Construction	$29,054,120	0	1.00	▬	0	▬	G
T8050236	Mainline Track Replacement 2021 / Pelham	Construction	$12,650,700	92	1.53	▲	0	▬	R
T8050237	Mainline Track Replacement 2021 / Lenox - WPR	Construction	$8,079,477	0	1.00	▬	9	▲	R
T8050243	Mainline Track Replacement 2021 / Lexington	Construction	$19,122,747	73	1.00	▬	4	▲	R
T8050306	Mainline Track Switches 2020 / Queens	Construction	$7,531,710	5	1.00	▬	0	▬	G
T8050310	Mainline Track Switches 2020 / White Plains Rd	Construction	$21,100,168	91	1.00	▬	4	▲	R
T8050311	Mainline Track Switches 2020 / Broadway	Construction	$12,433,728	93	1.00	▬	1	▲	G
T8050317	Mainline Track Switches 2021 / Pelham	Construction	$10,461,600	65	.90	▼	0	▬	G
T8050318	Mainline Track Switches 2021 / 6th Ave / Culver	Construction	$8,959,970	85	1.00	▬	0	▬	G
T8070320	Rehab of Emergency Exits	Construction	$7,500,000	54	1.00	▬	0	▬	G
T8130204	Purchase 27 Flat Cars	Construction	$21,772,241	76	1.00	▬	-2	▼	G
T8120402	Miscellaneous Depot Investments	Design	$8,772,184	0	.50	▼	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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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									
L50304TQ	MLC-Hicksville North Siding	Construction	$44,028,748	90	1.00	▬	-4	▼	G
L60304TU	Jamaica Capacity Improvements - Phase One	Construction	$301,653,239	89	1.00	▬	0	▬	R
L60701AR	Replacement of Richmond Hill Substation	Construction	$16,617,791	92	1.00	▬	3	▲	R
L70204VZ	Elmont Station	Construction	$106,050,000	72	1.00	▬	0	▬	G
L70206EG	PSNY-33rd Corridor (Phase 2 Construction)	Construction	$435,879,160	35	1.00	▬	0	▬	G
L70401BS	Bridge Waterproofing	Construction	$8,048,756	95	1.00	▬	0	▬	G
L70502LN	Babylon to Patchogue	Construction	$45,639,479	16	.99	▬	0	▬	G
L70701XB	Substation Components	Construction	$24,306,295	60	.66	▬	0	▬	R
L70701XU	Substation Repl Pkg 2: Construction	Construction	$23,825,077	25	.98	▬	0	▬	G
L8020418	Mets-Willets EIC Relocation	Construction	$28,866,050	0	1.00	▼	16	▲	R
L8020604	PSNY-33rd Phase 2 LIRR 20-24 Plan Contribution	Construction	$18,806,909	32	1.00	▬	0	▬	G
L8020701	GCT Facility Needs	Construction	$19,779,440	1	.65	▬	0	▬	G
L8030101	Construction Equipment & Geometry Cars	Construction	$72,296,500	15	1.31	▬	34	▲	G
L8030102	Various Right of Way Projects	Construction	$10,000,000	5	1.00	▬	0	▬	G
L8030105	2020 - Annual Track Program	Construction	$186,824,746	6	1.12	▲	0	▬	G
L8030106	2021- Annual Track Program	Construction	$43,228,952	99	.72	▼	0	▬	G
L8040107	Bridge Repl & Rehab: Cherry Valley Rd	Construction	$40,800,000	1	1.90	▲	0	▬	G
L8050101	Comm. Pole Line	Construction	$4,800,000	48	.60	▼	0	▬	G
L8050102	Comm Component Replacement	Construction	$4,800,000	0	.60	▼	0	▬	G
L8050204	Centralized Train Control	Construction	$50,000,000	0	1.00	▬	0	▬	G
L8050205	Signal Replacement and Interlocking Improvements	Construction	$42,693,457	31	.49	▬	0	▬	G
L8070102	Lighting Improvements	Construction	$18,000,000	0	1.00	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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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									
L8070103	Power Component Repairs and Replacements	Construction	$35,000,000	20	.73	▬	0	▬	G
L8070104	3rd Rail Upgrades	Construction	$43,000,000	8	1.00	▬	0	▬	G
L8070106	Substation Component Renewal	Construction	$20,000,000	0	2.73	▼	0	▬	G
L70304WU	Jamaica Capacity Improvements Ph 2 DES	Design	$42,490,000	83	1.00	▬	0	▬	R
L80204DD	ADA Accessibility and Components 24 Stations DES	Design	$10,000,000	2	1.00	▬	0	▬	G
L8020501	Parking Rehabilitation & Access Improvements	Design	$6,160,000	0	.37	▬	0	▬	G
L8060401	Rehabilitation of Employee Facilities - Various Lo	Design	$34,466,696	0	.80	▬	1	▲	G
Metro-North Railroad									
M6020208	Customer Communication / Connectivity Improvements	Construction	$16,520,172	97	.98	▬	2	▲	R
M6040102	West of Hudson Signal Improvements	Construction	$63,461,327	100	.93	▬	0	▬	G
M6050101	Substation Bridge 23 - Construction	Construction	$41,452,052	98	.99	▬	3	▲	R
M6050103	Harlem & Hudson Lines Power Improvements	Construction	$43,312,347	96	1.02	▬	3	▲	R
M7010101	Locomotive Purchase	Construction	$291,750,993	3	1.13	▬	0	▬	R
M7010102	M-8 Fleet Purchase	Construction	$113,867,497	85	.97	▬	0	▬	G
M7020204	Harlem Line Station Improvements	Construction	$21,074,271	0	.97	▬	0	▬	G
M7020211	Customer Communication-Systems	Construction	$12,702,514	94	.95	▬	2	▲	R
M7020217	Purdy's Elevator Improvements	Construction	$7,644,155	0	.94	▬	0	▬	G
M7020301	Strategic Facilities	Construction	$12,239,230	26	.86	▬	0	▬	G
M7030109	Purchase MoW Equipment	Construction	$19,807,994	66	1.02	▬	0	▬	R
M7030203	Undergrade Bridge Rehabilitation	Construction	$79,293,218	86	.95	▬	0	▬	G
M7030209	Harlem River Lift Bridge	Construction	$9,577,878	50	.92	▬	0	▬	G
M7030303	Undergrade Bridge Rehabilitation	Construction	$11,147,503	41	.92	▬	0	▬	G
M7040102	Harmon to Poughkeepsie SignalSystem	Construction	$112,114,795	56	1.11	▬	9	▲	R
M7040111	West of Hudson Signal Improvements	Construction	$21,079,000	100	1.00	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Metro-North Railroad									
M7040112	Harlem Wayside Comm & Signal Improvements	Construction	$72,344,852	84	1.38	▬	8	▲	R
M7050101	Replace MA's in Signal Substations	Construction	$22,668,445	49	.93	▬	0	▬	R
M7050104	Harlem & Hudson Power Rehabilitation	Construction	$13,286,001	60	.88	▬	0	▬	G
M7050105	Harlem and Hudson Power Improvements	Construction	$27,555,443	93	1.11	▲	0	▬	R
M7050113	H&H Power (86th St / 110th St)	Construction	$12,741,984	97	1.10	▬	3	▲	R
M7060101	Harmon Shop Replacement - Phase V	Construction	$427,015,252	49	.98	▬	0	▬	G
M7080113	Customer Communication-CM	Construction	$15,658,399	84	.98	▬	2	▲	R
M8010102	Locomotive Replacement	Construction	$489,967,483	3	1.33	▬	0	▬	R
M8020207	Small Business Mentoring Program - Stations	Construction	$24,996,800	0	1.00	▼	0	▬	G
M8020208	North White Plains Platform Repair	Construction	$11,683,340	0	1.00	▼	0	▬	G
M8030103	Turnouts - Mainline, GCT, & Yards	Construction	$93,207,246	56	1.07	▬	2	▲	G
M8030108	2020 Cyclical Track Program	Construction	$19,260,000	30	1.00	▬	0	▬	G
M8030110	2021 Cyclical Track Program	Construction	$21,000,000	37	1.00	▬	0	▬	G
M8030211	Park Avenue Viaduct Interim Repairs	Construction	$10,180,000	69	.95	▬	0	▬	G
M7030103	Rock Slope Remediation	Design	$8,024,057	100	.58	▬	0	▬	R
M7030201	Overhead Bridge Program - E of H	Design	$64,112,719	0	.97	▬	0	▬	G
M7030301	Rock Slope Remediation	Design	$9,576,763	100	.74	▬	0	▬	G
M7060103	Brewster YD Improvements - Design	Design	$5,129,117	68	.68	▬	-24	▼	G
M7060104	West of Hudson Capacity Improvements	Design	$23,386,956	8	.96	▬	20	▲	G
M8030105	Rebuild Marble Hill Retaining Wall - Phase 1	Design	$1,875,607	0	.12	▼	0	▬	G
Bridges & Tunnels									
D701BW07	Fender Protection around Tower Piers (Const)	Construction	$18,078,696	97	.85	▬	0	▬	G
D701HH07	Structural Rehabilitation	Construction	$34,224,253	69	.82	▬	-4	▼	R
D701RK19	Seismic/Wind Retrofit & Structural Rehab Ph1	Construction	$47,414,841	87	.83	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Bridges & Tunnels									
D701RK70	Miscellaneous Structural Rehabilitation	Construction	$28,488,082	87	.81	▬	0	▬	G
D701TN53	Approach Viaduct Seismic Retrofit/Structural Rehab	Construction	$191,835,189	34	.85	▬	0	▬	G
D701VN32	Steel Repair & Concrete Rehabilitation	Construction	$35,805,892	73	.84	▬	0	▬	R
D702TN49	Replacement of Grid Decks on Suspended Span	Construction	$284,128,730	66	.90	▬	4	▲	G
D702VN84	Reconstruction of VN Approach Ramps - Phase1	Construction	$190,429,595	76	.85	▬	-10	▼	G
D704HC07	Rehabilitation of HCT Ventilation Systems	Construction	$77,133,914	98	.87	▬	0	▬	G
D707HH30	Replacement of HHB Overcoat System	Construction	$16,710,482	94	.84	▬	-4	▼	R
D707TN49	Painting of Suspended Span	Construction	$17,644,527	66	.82	▬	4	▲	G
D707VN49	Paint Suspended Span Upper & Lower Level Steel	Construction	$72,751,527	99	.98	▬	-1	▼	G
D801BW14	Miscellaneous Structural Rehabilitation	Construction	$18,734,443	0	.66	▼	0	▬	G
D801HH36	Dyckman Street Substations Upgrade	Construction	$50,664,411	0	1.00	▲	0	▬	G
D801RK70	Structural Repairs/Flag Repairs	Construction	$57,707,983	58	.92	▬	3	▲	G
D801RK83	Lift Span Fender Upgrades	Construction	$28,782,193	0	.87	▲	0	▬	G
D804MP09	Electrical Rehabilitation (Elevator)	Construction	$19,749,461	0	.78	▲	0	▬	G
D806MPX1	Operational Improvement	Construction	$9,440,661	0	.83	▬	0	▬	G
D806VNX1	Install Safety Fencing on Both Levels of the VNB	Construction	$36,380,463	25	.83	▬	0	▬	G
D807BWPT	BW Facility-Wide Painting Program	Construction	$14,908,542	0	.74	▲	0	▬	G
D807MPPT	MP Facility-Wide Painting Program	Construction	$17,456,956	51	.84	▬	0	▬	G
D807RKPT	RK Facility-Wide Painting Program	Construction	$75,238,057	62	.95	▬	0	▬	G
D801RK04	Ward's Island/Queens Anchorage Rehabilitation	Design	$127,962,248	90	.74	▬	-2	▼	G
D801RK93	Reconstruct / Relocate RI Ramps (QR & RM)	Design	$77,694,763	6	.84	▬	0	▬	G
D801TN52	Miscellaneous Structural Rehabilitation	Design	$24,376,962	10	.89	▬	-40	▼	G
D804BW96	Lighting, Power Redundancy & Resiliency Imprv	Design	$38,656,173	29	.70	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Bridges & Tunnels									
D804VN12	Misc. Bridge Lighting & Electrical Improvemen	Design	$23,806,132	20	.90	▬	0	▬	G
MTA Bus									
U6030232	HVAC Upgrade at College Point Bus Depot	Construction	$9,521,950	84	1.00	▬	0	▬	G
U7030207	Storerooms and Depot Reconfiguration: LaGuardia	Construction	$7,418,500	14	1.00	▬	0	▬	G
U7030209	Rehab and Facility Upgrade: College Point	Construction	$9,364,126	59	1.00	▬	0	▬	G
One Metro New York Program									
T7040401	New Fare Payment System, Phase 2	Construction	$463,323,580	42	1.00	▬	0	▬	G
L70204UV	NEW FARE PAYMENT SYSTEM	Construction	$8,920,000	42	1.00	▬	0	▬	G
L8020406	Fare Collection Program	Construction	$40,770,897	0	1.16	▬	0	▬	G
M8020206	New Fare Payment Equipment	Construction	$33,434,305	0	1.00	▬	-24	▼	G
Cross Agency									
Rolling Stock									
T7010101	Purchase 440 B-Division Cars	Construction	$1,402,231,935	12	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	$146,174,452	52	.96	▬	4	▲	R
T7030206	Purchase 50 Express Buses	Construction	$34,002,485	57	1.00	▬	0	▬	G
T7030215	AVLM for Paratransit Vehicles	Construction	$26,828,317	56	1.00	▬	3	▲	R
T7030216	Purchase 45 Standard Electric Buses	Construction	$56,660,028	0	1.03	▲	0	▬	G
T7030223	Purchase 110 Standard Hybrid Buses (New Flyer)	Construction	$99,287,668	78	1.00	▬	2	▲	G
T7130208	Purchase 12 3-Ton Crane Cars	Construction	$32,211,961	27	1.00	▬	0	▬	G
T7130211	Purchase Locomotives	Construction	$256,092,473	20	1.00	▬	0	▬	G
T7130215	Conversion of 10 R77E Locomotives	Construction	$34,272,847	30	1.00	▬	0	▬	G
T8030206	Purchase 19 Express Buses	Construction	$15,470,653	0	.85	▬	0	▬	G
T8030208	Purchase 126 Hybrid (Nova)	Construction	$107,949,896	4	1.00	▬	2	▲	R
T8030209	Purchase 209 Standard Diesel (Nova)	Construction	$141,211,796	3	1.00	▬	3	▲	R

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Cross Agency									
Rolling Stock									
T8030210	Purchase 84 Hybrid-Electric (New Flyer)	Construction	$71,210,653	4	1.00	▬	2	▲	G
T8030211	Purchase 139 Standard Diesel (New Flyer)	Construction	$98,808,397	1	1.00	▬	0	▬	R
T8030213	Purchase 15 Standard All-Electric Buses	Construction	$17,264,987	0	1.00	▲	0	▬	G
U7030202	Purchase 257 Express Buses	Construction	$166,665,518	37	1.00	▬	4	▲	R
U7030219	Purchase 25 Standard Diesel Buses	Construction	$16,419,960	0	.97	▼	0	▬	G
U8030216	Purchase 25 Standard Diesel Buses	Construction	$17,682,210	0	1.00	▲	0	▬	G
U8030217	Purchase 85 Standard Diesel Buses	Construction	$61,917,132	0	1.00	▲	0	▬	G
L70101ME	M-9 PROCUREMENT	Construction	$611,800,000	0	1.00	▬	0	▬	R
Construction & Development									
Stations									
ET050210	Track: Rutgers Tube	Construction	$10,053,493	99	.93	▼	0	▬	R
ET060214	Tunnel Lighting: Rutgers Tube	Construction	$7,438,437	99	.93	▼	0	▬	R
ET060232	2 Pump Rooms: Rutgers Tube	Construction	$21,842,457	99	1.04	▬	0	▬	R
ET060233	1 Fan Plant (#6375): Rutgers Tube	Construction	$10,526,563	99	1.00	▬	0	▬	R
ET080213	Signals: Rutgers Tube	Construction	$13,108,069	99	.93	▼	0	▬	R
ET090219	Comm/Power Cable Repl: Rutgers Tube	Construction	$48,209,527	99	1.00	▬	0	▬	R
ET060332	Sandy Resiliency: 3 Pump Rooms (53rd St Tube)	Construction	$26,066,455	87	1.58	▬	9	▲	R
ET040317	Upgrade Emergency Booth Comm System (EBCS)	Construction	$78,166,385	71	.99	▬	0	▬	G
ET040339	Sandy Mitigation: 138 St / JER	Construction	$8,091,329	30	.92	▼	0	▬	G
Infrastructure									
ET100315	Sandy Mitigation: Protection of Additional Yards	Design	$95,000,000	5	1.00	▬	0	▬	G
ET100211	Power Cable/Comm. Equipt. Repl- Coney Island Yard	Construction	$164,562,094	74	1.00	▬	3	▲	R
ET100307	Coney Island Yd: Long Term Perimeter Protection	Construction	$339,440,463	74	.97	▬	3	▲	R
ET100209	Power Cable Replacement- 148th Street Yard	Construction	$14,512,409	100	1.00	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
ET100309	Long Term Perimeter Protection: 148th St Yard	Construction	$74,272,313	100	.96	▬	0	▬	G
ET100210	Power Cable Replacement- 207th Street Yard	Construction	$42,710,741	83	1.00	▼	0	▬	R
ET100219	Sandy Repairs: 207 St Yard Track	Construction	$62,722,733	99	1.03	▬	0	▬	G
ET100220	Sandy Repairs: 207 St Yard Switches	Construction	$30,984,884	88	.62	▬	0	▬	G
ET100310	Long Term Perimeter Protection: 207th St Yard	Construction	$170,433,844	60	1.03	▬	0	▬	G
ET100312	Sandy Mitigation: 207th Street Yard Portal	Construction	$54,881,539	70	2.02	▬	0	▬	G
ET100314	Sandy Mitigation: 207th Street Sewers	Construction	$153,283,849	25	1.08	▬	0	▬	R
ET090304	Mitigation: Montague Substations - Various Locs	Construction	$8,983,827	31	.87	▬	0	▬	G
ET120307	Flood Mitigation at 4 NYCT Depots	Construction	$26,588,897	100	1.01	▬	0	▬	R
ES070211	Flood Repairs- Clifton Shop (Long-Term)	Construction	$34,657,710	92	.99	▬	0	▬	R
ES070302	SIR Mitigation: Clifton Shop / Yard	Construction	$161,348,190	92	.99	▬	0	▬	R
ES070303	SIR Mitigation: St. George	Construction	$55,619,816	98	1.03	▬	1	▲	R
ET070209	Sandy Repairs: Rockaway Line Wrap Up	Construction	$49,507,727	2	.99	▬	0	▬	G
ET070310	Rockaway ROW Debris Shielding	Design	$34,425,323	20	1.43	▼	3	▲	R
ET070311	Sandy Mit: New Crossover at Beach 105th St. / RKY	Design	$130,057,621	20	2.20	▬	3	▲	R
ET070313	Rockaway Park Yard Compressor Room (ROW)	Design	$16,505,037	20	2.14	▬	6	▲	R
ET090308	Sandy Mitigation: Deployable Substations	Design	$47,272,495	100	1.00	▼	0	▬	R
ET070308	Sandy Mitigation: Steinway Portal	Post Des to Const Awd	$28,377,531	100	1.42	▬	6	▲	R
ET090307	Hardening of Substations at 24 Locations	Post Des to Const Awd	$98,317,710	30	1.00	▬	3	▲	R
ET090310	Sandy Mitigation: Back-up Power Control Center	Post Des to Const Awd	$14,162,517	60	.83	▬	0	▬	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Infrastructure									
ET100218	Sandy Repairs: 207th St Yard Signals	Construction	$298,018,139	53	.99	▬	0	▬	G
ET160312	Sandy Mitigation: Tiffany Central Warehouse	Post Des to Const Awd	$26,225,217	50	1.04	▬	4	▲	R
Signals / Train Controls									
ET050218	Sandy Repairs: ML Switches 200-207 St/8AVE	Construction	$33,765,637	0	1.05	▲	0	▬	G
ET080207	Signals: 200 St - 207 St / 8th Ave	Construction	$70,633,973	0	1.01	▼	0	▬	G
ET050217	Sandy Repairs: ML Track 200-207 St/8AVE	Construction	$46,785,995	0	1.08	▲	0	▬	G
New York City Transit									
ET160310	Sandy Mitigation: Consolidated Revenue Facility	Construction	$11,278,804	18	.75	▬	0	▬	G
Long Island Rail Road									
EL0303ZH	Emergency Management Equipment Mitigation	Construction	$30,000,000	63	1.00	▬	5	▲	R
EL0602ZD	West Side Storage Yard Restoration	Construction	$45,971,106	53	1.04	▲	0	▬	G
EL0603ZS	Long Island City Yard Resiliency - CR	Construction	$26,287,019	0	1.00	▼	0	▬	G
EL0402ZA	East River Tunnel Signal Sys & Infra Restoration	Design	$179,871,202	90	1.00	▬	0	▬	G
Metro-North Railroad									
EM040205	Comm & Signal Infrastructure Restoration-Ph. 1 & 2	Construction	$110,496,673	81	1.12	▬	0	▬	R
EM040301	Power and Signals Mitigation Phase 1	Construction	$53,348,130	81	1.62	▬	0	▬	R
EM040302	Hudson Line Power and Signal Resiliency	Construction	$38,373,937	81	1.09	▬	0	▬	R
EM050206	Power Infrastructure Restoration-Ph. 1 & 2	Construction	$183,178,255	81	1.03	▬	0	▬	R
EM050208	Power Infrastructure Restoration-Substations	Construction	$47,862,479	97	1.04	▬	4	▲	R
EM050209	Power Infrastructure Restoration-HRLB	Construction	$8,209,735	95	.98	▬	0	▬	R
Bridges & Tunnels									
ED010307	BWB Mitigation - Flood Wall & Other	Design	$8,302,575	29	1.00	▬	-1	▼	G

4th Quarter 2021 Traffic Light Report
Projects in Design and Construction

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ACEP	Description	Phase	Total Project EAC	% Phase Complete	Cost Index	Cost Trend	Schedule Variance (Months)	Schedule Trend	Traffic Light
Construction & Development									
Bridges & Tunnels									
ED040308	Power Resiliency at RFK Bridge: Substation Upgrade	Construction	$33,120,089	78	.89	▬	2	▲	G
Cross Agency									
Rolling Stock									
ET060317	Sandy Resiliency: Conversion of 2 Pump Trains	Construction	$30,056,595	3	1.00	▼	0	▬	G

Stations Business Unit Response to the IEC Traffic Light Report

Stations BU Program Overview

The Stations Business Unit currently oversees 203 active projects, including 60 projects in construction, with a budget of $9.8B. Notable projects under construction include ADA: Hunter College on the 6 line; ADA: 14th St Complex on the 1,2,3, F, and M lines; and ADA: 149th Grand Concourse on 2, 4, and 5 lines and Tremont Av on the B and D lines.
The IEC's Traffic Light Report currently tracks 128 tasks (ACEPs) in the Stations program, with 63 in the final report. Of those, two tasks were flagged red, representing two projects. The paragraphs below describe why these project tasks (ACEPs) were flagged, and what C&D is doing to remediate.
The BU seeks to identify and remediate program-related issues, including finding opportunities to save on funding across projects. One of the strategies includes partnerships with private developers who can perform the work. In addition, the BU and project leaders are also in constant communication with NYCT to prioritize available resources.

Individual project descriptions

ET060332: Sandy Resilience: 3 Pump Rooms (53rd St Tube) (Construction phase)
Trigger: Schedule

This project upgrades three tunnel pump rooms, serving the 53rd Street Tube, with all associated mechanical, electrical, and communications systems and relocates the pump controls outside the flood zone.
The new electrical system requires a connection to the existing fan plant electrical distribution system, including Con Edison services cables, duct bank, property line boxes, and switchgear, which was in such poor condition. Con Edison refused to re-energize due to safety concerns until the existing electrical system, including the switchgear, was repaired or replaced. Replacement of the switchgear requires time to design and procure new switchgear and primarily due to the current supply-chain issues has caused the overall project schedule slippage and cost increase. TA Labor service / track access was initially scheduled for the 2nd quarter 2022 but was pushed out to the 3rd quarter due to service limitations. The team has been working with the contractor, suppliers, and Con Ed to expedite the fabrication, delivery, and installation of long lead-time materials. Funding for the additional work has been approved and should address any budgetary issues. C&D expects the project to achieve completion by the 3rd quarter 2022.

T7041322: ADA 95th St / 4th Ave (Design phase)
Trigger: Schedule

This project will install two new elevators and other accommodations to make Bay Ridge 95th St / 4th Ave Station ADA compliant. As part of ADA Package 4, this project is bundled with other ADA projects at Northern Blvd, Parkchester E 177th St, and 137th St – City College stations, and component work also at 137th St – City College station.

After the contract award to the bridging document consultant, C&D deliberately swapped one of the original stations; The Hoyt/Schermerhorn Station was dropped, and the Northern Blvd Station was added to Package 4

due to the opportunity for the work to be performed by a private developer. The overall ADA Package 4 design completion date slipped 3 months, from March 2022 to June 2022, due to the need for the development of a new ADA design based upon the additional surveys required.

C&D Infrastructure Business Unit Response to the IEC Traffic Light Report

Infrastructure Program Overview

The C&D Infrastructure Business Unit is responsible for all infrastructure construction projects on the NYCT and SIR – Staten Island Railway network. This includes line structures (e.g., tunnels, bridges); line equipment (e.g., lighting, pumps, ventilation plants); power substations and cabling, shops and yards, depots; and other facilities that are essential to NYCT's and SIR's operation.
C&D Infrastructure has following active projects by select phases and Estimate at Completion (EAC) budget: Construction - 124 projects, EAC $4B; Design/Definition - 136 projects, EAC $4B; Procurement - 21 projects, EAC $555M.

Notable projects under construction include upgrading MTA's Bus Radio System; flood mitigation at the 207th Street Yard and the Coney Island Yard; rehabilitating the Forsyth Street Fan Plant; upgrading the Power Control Center & Rail Control Center; and rehabilitating HVAC systems at College Point.

The IEC's Traffic Light Report currently tracks tasks (ACEPs) in the C&D Infrastructure program. Of those, 22 tasks were flagged red for C&D Infrastructure. This includes 4 tasks in the Security program (reviewed separately).

The C&D Infrastructure Business Unit continues to identify and remediate issues at the program level. Several projects, for instance, were impacted by MTA resource support and Con Ed delays. Project leadership has developed mitigation strategies to recover time and keep projects within budget. For Con Ed delays, regular meetings are scheduled with Con Ed management.

Individual project descriptions

ET100307 Sandy Mitigation: Coney Island Yard - Long-Term Perimeter Protection (Construction phase)
ET100211 Sandy Repairs: Coney Island Yard - Cables & Communications Equipment (Construction phase)
Trigger: Schedule

The two projects below are part of a bundle to construct perimeter protection walls with flood gates; install water drainage system with portable pumps to improve yard drainage; and to provide debris protection along the railroad creek bridges.

- **C34836-1 Coney Island Yard Long-Term Perimeter Protection** will provide the Coney Island Yard Complex with high walls and flood gates for perimeter flood protection against a major coastal storm surge event. It will also provide an additional drainage system and portable pump stations designed to handle a 100-year rain-storm event. The railroad creek bridges that pass over Coney Island Creek will be equipped with debris shields.

- **C34836-2 Power Cable/Communication Equipment Replacement** will replace traction power cables and communication cables at Coney Island Yard.

The contract's Substantial Completion date was extended three months, from September 2022 to December 2022, due to the need for four Circuit Breaker Houses to be rehabilitated.

The additional scope included repairing the existing roof, interior, and exterior walls; furnishing new battery switches and negative test boxes; and providing new lighting, heaters, and power feeds. This additional scope was funded in a separate WAR.

Initially, the rehabilitation of the four Circuit Breaker Houses was to be included in a future project. However, due to their deteriorated condition, it became necessary to address the situation immediately to protect the new power cables and equipment being installed under the base contract.

By including the Circuit Breaker House rehabilitation work in the base contract, it allows C&D Infrastructure to take advantage of efficiencies for procurement, construction, and cost. The proper sequencing of work also minimizes disruption to the Yard and saves on support services by performing work concurrently.

S7070106 New Power Substation: New Dorp (Construction phase)
S7070107 New Power Substation: Clifton (Construction phase)
Trigger: Schedule

These projects will construct two new substations on Staten Island, in the vicinity of Clifton and New Dorp Stations. The substations will augment the electrical power. This will improve the reliability of train service along the right-of-way. Substantial Completion has been moved five months to April 2022 due to the delay in Con Ed scheduling High Tension feeder and substation energization. Project progress is noted below:

- **Clifton**: Con Ed energized both High Tension feeders at Clifton substation. C&D Infrastructure is working with Staten Island Railway and the contractor to place the Clifton substation in service during the 2nd quarter 2022.
- **New Dorp**: Con Ed energized the first High Tension feeder on February 26, 2022. The second High Tension feeder energization is anticipated to happen in the 2nd quarter 2022.

T6100454 207th Street Overhaul Shop Boiler Upgrades & Site Remediation (Construction phase)
Trigger: Schedule

This project will upgrade two boilers to burn #2 Fuel Oil and Natural Gas. This will allow the facility to meet the NYS Department of Environmental Conservation Facility (DEC) Air Permit requirements. Remediation of petroleum-contaminated soil and groundwater at 207th Street Yard is also required under this contract to help NYC Transit close the NYS DEC Spill No. associated with this site.

This quarter's project delay, a three month slip to March 2022, is due to Con Ed requiring the re-inspection and re-certification of a gas line, previously installed under another project, and additional requirements, prior to providing gas service to the shop. Miscellaneous remedial work can only commence when the boilers are shutdown, at the end of the heating season in mid-May, which has caused the Substantial Completion to slip an additional three months to June 2022. This requires a future budget modification.

T7060503 Replace Supervisory Vent Controls Various Locations (Construction phase)
Trigger: Schedule

This project will replace the local Supervisory Control System at 11 fan plant locations in the Bronx, Manhattan, and Brooklyn. It will bring the remote control of the fan plants to the Rail Control Center in Manhattan.

The project delay, of three months to August 2022, is due to the lack of support for fire watch from the Maintenance of Way (MOW) department. The Supervisory Control Cabinet is located in the control room of the emergency ventilation fan plant. The electronic equipment inside the Supervisory Control Cabinet is outdated and is being replaced with the new Allen Bradley components. Since the fan plant will be out-of-service, fire watch staff is needed identify a fire or smoke condition and to evacuate passengers the tunnel to the nearest station in this event.

To mitigate a further delay, MOW is developing an alternate operating procedure to enable the contractor to work. Depending on the level of support and the pending Track General Order, the project's Substantial Completion date may need to be extended.

T7070303 Elevated Structural Rehabilitation Livonia Yard Overpass & Retaining Wall (Construction phase)
Trigger: Schedule

This project will repair the concrete retaining and abutment walls surrounding Livonia Car Maintenance Facility, Eastern Parkway Line, Brooklyn and repair steel and concrete at the Linden Boulevard overpass. The project delay, of three months to March 2022, is due to COVID 19 which is affecting the steel supply chain.

T7070317 Overcoat Painting Below Track-Level 48th to 72nd Street Flushing (Construction phase)
Trigger: Cumulative Schedule slip

This project is to provide overcoat painting and perform select structural repairs on the Flushing Line from 48th Street to 72nd Street in Queens. The project was delayed, four months over the last two quarters, due to site conditions at the lower-level signals room at 114th Street and at the sewer-house trap. The Substantial Completion date was extended due to the following added scope:

- COVID-19 steel-supply delay
- Demo Lower-Level Signals Room at 114th Street
- Replace Sanitary Sewer House Trap at Column No. 232W

There is no need for a budget modification because of a sufficient amount of contingency available for the AWOs. The project achieved Substantial Completion in December 2021.

T7080602 Upgrade Asynchronous Fiber Optic Network to SONET, Rings A and C (Construction phase)
Trigger: Schedule

This project will upgrade the existing Fiber Optic Network equipment to a new technology on the A and C Rings. The schedule has slipped six months, to June 2022, due to the lack of in-house subject matter experts from Electronic Maintenance Division (EMD), required to support migration/cutover of the newly installed equipment at all 26 locations.
To mitigate a further delay to the project, C&D Construction Management Office (CMO) staff performed circuit verifications at 26 locations; and C&D CMO staff will be performing migration/system cut over at 26 locations. EMD Management has agreed for C&D to access existing live equipment maintained by the user's group.

T7080603 Private Branch Exchange Upgrade (PBX): Phase 2 (Construction phase)
Trigger: Schedule

This project will upgrade obsolete New York City Transit telephone system equipment with modern equipment. The project delay of 14 months, to December 2022, is due to:

- Additional design and construction were required to correct the lack of Direct Current redundant power at seven PBX sites. Initial Design utilized the existing as-built drawings, which showed redundant power. When the initial survey was completed, it was discovered there was none. This in turn caused the number of communication bulletins to increase.
- Lack of in-house EMD support for access to the existing system due to staffing issues mentioned above

A budget modification to address the $7M shortfall has been submitted and is awaiting approval. Currently there is no mitigation to decrease the schedule slip due to these issues.

T7090202 Substation Renewal Avenue Z Culver (Construction phase)
Trigger: Schedule

This project provides the renewal of the Avenue Z substation in the Borough of Brooklyn. This renewal will result in the improved reliability of train service by ensuring adequate electrical power distribution along the right-of-way.

The project delay, of 12 months to November 2022, is due to a storm drain back-up during a heavy rain event which caused damage to newly installed equipment. The decision for the refurbishment of the damaged DC switchgears was made by Maintenance of Way, in December 2021.

C&D is awaiting Owner Controlled Insurance Program's (OCIP's) final disposition on the damages. OCIP is to provide a determination for the claim by the end of March 2022. The claim resolution will be for repairing damaged equipment - not impact costs - which will be resolved at a later date.

T7090206 Replace High Tension Switchgear at 7 Substations (Construction phase)
Trigger: Schedule

This project replaces the High Tension switchgear at seven locations throughout Brooklyn and the Bronx. It will modernize the switchgear and provide an adequate level of reliability to the electrical power system. This quarter's schedule slip of nine months, from January 2022 to October 2022, is caused by Con Ed not scheduling inspection, energization, and completing Con Ed specific work.

Project is further delayed by one year, to October 2023, due to the addition of the rehabilitation of the 41st Street substation. During Hurricane Ida in September 2021, damage to the 41st Street and 57th Street substations was due to flooding. The 57th Street substation was temporarily repaired; and the 41st Street substation was beyond repair. In the event, the 57th Substation goes offline, it could affect service on the IND line. Therefore, it is necessary to rehabilitate the 41st Street substation to ensure one substation is in operation.

T7090223 New Substation Harrison Place, Canarsie Line (Construction phase)
Trigger: Schedule

This project involves the construction of a new underground substation at Harrison Place in the Borough of Brooklyn to increase the power capacity, on the Canarsie Line, to support the increase in train service. The project delay, of three months to February 2022, is due to Con Ed's delay to energize the second feeder. The second feeder at Harrison was energized in January 2022. There was a further delay to April 2022 because C&D Infrastructure requires an additional Con Ed outage for the contractor to reconnect the current transformer phase wiring as the wiring was inadvertently disconnected at the site.

T7160716 Power Upgrade: Rail Control Center (RCC); Power Control Center (PCC) Phase 2 (Construction phase)
Trigger: Schedule

This project will upgrade HVAC and electrical distribution systems at both the PCC and RCC facilities in Manhattan. The Substantial Completion delay of four months, from October 2021 to February 2022, is due to the following:

- **Power outage at RCC:** AWO was issued to upgrade the Uninterrupted Power Supply and generator monitoring system. The work duration is unknown at this time as the work is dependent on negotiations and the vendor's availability.
- **Nortel Power Plant in PBX (business telephone system):** The PBX Room and batteries in the Battery Room need to be removed.
  - This is complicated by the fact that the Nortel Power Plant is providing back-up power to the existing switchboard which is being replaced under another contract. PBX software was migrated in the beginning of January 2022.
  - Switchboard has critical load issues. Power will need to be disconnected for removal of the Nortel Power Plan which cannot be done at this time. To mitigate this situation, negotiations are ongoing. This will require a change order and future budget modification.

Subsequent to the reporting period the Substantial Completion date had a further slip into the 2nd quarter 2022.

T8080642 Public Address Customer Information Screen Electronics Replacement - Canarsie Line (Construction phase)
Trigger: Schedule

This project will update nine Stations on the Canarsie Line Passenger Station Local Area Network (PSLAN) system to support the Public Address and Customer Information Screen (PACIS). This includes supporting infrastructure and edge system components such as Partial-to-Full PSLAN and associated communication room upgrades. Upon completion of this project, a full PSLAN infrastructure layout will be available along the Canarsie Line.

The project delay of three months, from August 2022 to November 2022, is due to a user request to add an additional location for Access Node installation and the design for this scope is in process. The work will be added via an in-house change order. Once an estimate for the work is provided, determination will be made if additional funding is required.

T8160706 Electronic Maintenance Division (EMD) Facility Hoyt-Schermerhorn, Fulton Line (Construction phase)
Trigger: Schedule

This project will reconfigure the existing EMD facility on the mezzanine level of Hoyt-Schermerhorn Station and will upgrade all systems for EMD use. The project delay, of four months to April 2022 is due to:

- EMD not vacating the facility in a timely manner to begin asbestos abatement
- In-house procurement of equipment (Mechanical/HVAC - Dry coolers, AC units)

Subsequent to the reporting period, Substantial completion slipped further to the 3rd quarter 2022. To mitigate further delays, C&D Infrastructure is following-up with ICC regarding procurement of equipment. Budget Modification is required for EFA and Change Orders.

ET070308 Sandy Mitigation Steinway Portal (Procurement phase)
Trigger: Schedule

This project will comprehensively modify the Steinway under-river tube to render it resiliently protected against coastal storm flooding. Work includes the construction of retaining walls on both sides of the Steinway tunnel portal. The coastal storm flooding mitigation plan is to construct two 25-foot long by 15-foot-high reinforced concrete walls capable of withstanding a CAT+ 3 flood along the Amtrak and Long Island Railroad's property lines. The plan is to support install a Flex-Gate Portal for the NYC Transit trackway.

The six-month delay, to September 2022, in the project's award is due to difficulties in securing an AMTRAK easement agreement. To mitigate the delay, coordination is underway by MTA Real Estate and AMTRAK to finalize temporary and permanent construction easement agreements. The AMTRAK easement is pending.

ET160312 Sandy Mitigation: Tiffany Central Warehouse (Procurement phase)
Trigger: Schedule

This project will repair and strengthen the building exterior wall at Tiffany Central Warehouse located in the Bronx. The replacement wall will be built to withstand flood loads from future storm events. This project (C43762) is combined with two other Core projects (C-33891 and C33941).

The Construction Award delay, of four months to February 2022, is due to contractor reviews and approval taking longer than expected and numerous Requests for Information during the bid process. Subsequent to the reporting period, the award has slipped an additional month to March 2022.

Signals and Train Controls Response to the IEC Traffic Light Report

Signals and Train Controls Program Overview

The Signals Business Unit currently oversees 29 active projects, including 18 projects in construction, with a budget of $3.3B. Notable projects under construction include CBTC QBL West, Culver and 8th Avenue lines.
The IEC's Traffic Light Report currently tracks 33 tasks (ACEPs) in the Signals program, with 24 in the final report. Of those, 8 tasks were flagged red, representing 4 projects. The table below describes why these project tasks (ACEPs) were flagged, and what C&D is doing to remediate.
The BU is also seeking to identify and remediate issues at the program level, i.e., across projects.

Individual Project Descriptions

T50803QB: Communication Based Train Controls (CBTC) Queens Blvd Line Phase 1 (Construction phase)
Trigger: Schedule

This project will provide CBTC on the Queens Boulevard Avenue West Line (QBL-W) consisting of three separate contracts, broken out into two phases, 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. The Thales contract is to furnish, test, and commission CBTC Equipment within the 71st Ave. -Forest Hills Relay Room control limits.
The last section of CBTC was placed in-service on February 7, 2022, and the remaining active signals on the express tracks, between Roosevelt and Continental were removed during President's Day Weekend.

The Substantial Completion for Siemens/Thales contracts slipped six months, from December 2021 to June 2022, due in part to outstanding deliverables, training, and completion of the ATS System (Siemens) and Zone controller upgrades (Thales) and the delivery and demonstration of interoperable cars.

T7080307: Ditmas Interlocking: CBTC Culver (Construction phase)
T7080332: CBTC Culver (Church Ave to W8th Street) (Construction phase)
T7080333: Ave X Interlocking: CBTC Culver (Construction phase)
T7080343: Mainline Track Switches: CBTC Culver (Construction phase)
Trigger: Schedule

This project will provide a CBTC system on the Culver Line, in the borough of Brooklyn.
Substantial Completion for this contract is delayed 9 months, from August 2022 to May 2023, primarily due to inadequate dapping and shimming of fiber-reinforced foamed urethane railroad track ties. The ties are a necessary component to the installation of the special work at Avenue X. Contractor is working on schedule adjustments to mitigate some of the impact.

T6080661: Integrated Service Information and Management (ISIM) B-DIV: Module 3A Rail Control Center (RCC) Build Out (Construction phase)
Trigger: Schedule

This project will provide consistent and timely information about the current state of B-Division service to staff, moving the organization toward centralized monitoring and control. The successful delivery of ISIM will lead to improved service, safety, and security. This project will renovate the south side of the operation theater. Renovation work includes architectural, structural, mechanical, electrical, and communication work to prepare for installation of a large-scale display under ISIM-B Module 3.

This project was delayed three months, from to November 2021 to February 2022, due to issues pertaining to the HVAC and fire alarm systems at the RCC. The contractor was not permitted to tie-in the new air handler unit. Due to critical nature of the Rail Control Center (RCC), the contractual HVAC system is required to be operative prior to removal of the existing partition wall to compensate for the additional heat load.

A temporary chiller system was installed mid-October. The contractor was required to tie into the air handler after the temporary chiller was installed. The wall was removed in January. The contractor is setting up for tie-in of the HVAC and FA systems. Tie-in completion will be completed by March.
Substantial completion is forecasted to March 2022 due to discovery of unforeseen obstacles; limited restricted access to the contractor by RCC facility due to recent spike in COVID cases.

T8080313: CBTC: Flushing – Equipment Removals, Phase 2 (Times Square – Main St) (Construction phase)
Trigger: Schedule

This project was added as an AWO to the contract for CBTC installation on the 8th Avenue Line. The work consists of the removal and disposal of out-of-service equipment and associated hardware accessories, which includes Signal air-line equipment and associated air pipes, Signal cables and all systems associated with the support of the cables and steel platforms and concrete pedestal. The Work shall be performed from the south end of Times Square Station to the Main Street Station on the Flushing line and include the tracks at the Corona Yard.

The project is delayed 3 months, from December 2021 to March 2022, due to non-availability of General Orders (GOs). Rapid Train Operations has informed the project management team that the required GOs won't be available until the end of March 2022.

NYCT Department of Fare Collection Response to the IEC Traffic Light Report

Individual Project Description

T6040401: MetroCard-Electronic Components Replacement (Construction phase)
Trigger: Schedule

This project will replace the obsolete main electronic components of selected part of the existing fare collection equipment systemwide. This work is being done in coordination with the New Fare Payment Systems (NFPS) project to preserve functionality in the existing equipment during a transition period, which is currently anticipated to occur in 2022. The project is being managed by NYCT Subways Electronic Maintenance Division (EMD).

This quarter, the project slipped three months, from December 2021 to March 2022 due to the suspension of work activities due to Covid-19 and the availability of in-house support staff, in particular the technical specialists necessary for the installation. Subsequent to the reporting period, the Substantial Completion slipped an additional two months. EMD has developed a plan with the management team to ensure the successful completion of the project in May 2022.

NYCT Department of Subways Response to the IEC Traffic Light Report

NYCT Department of Subways Program Overview

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 eleven Track project tasks (ACEP) in the NYCT DOS program.
NYCT schedules track work to take advantage of General Orders 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 description below describes why these track projects were flagged, and what NYCT is doing to remediate.

Individual Project Descriptions

T8050206: 2020 Mainline Track Replacement – 8th Avenue Line
T8050207: 2020 Mainline Track Replacement – Broadway-7th Avenue
T8050210: 2020 Mainline track Replacement – Brighton Line
T8050211: 2020 Mainline Track Replacement – Jamaica Line
T8050213: 2020 Mainline Track Replacement – 6th Avenue Line
T8050214: 2020 Mainline Track Replacement – Astoria Line
T8050223: 2020 Continuous Welded Rail
T8050243: 2021 Mainline Track Replacement – Lexington Line
T8050310: 2020 Mainline Switches – White Plains Road Line

(All projects are in the Construction phase)
Trigger: Schedule

All the Mainline Track projects noted above were red due to schedule slippages ranging from three to seven months.

These nine Mainline Track Replacement projects slipped due to delayed inspections and the completion of remaining punch list work as a result of limited staff to perform inspections. Track Engineering is currently in the process of hiring additional personnel.

T8050236: 2021 Mainline Track Replacement – Pelham Line (Construction phase)
Trigger: Cost

This project is red due to a 1.53 cost index. The $2.8M overrun is because continuous General Orders (more efficient) were not available and Maintenance of Way Track Department required additional non-continuous General Orders (less efficient).

T8050237: 2021 Mainline Track Replacement – Lenox-WPR Line (Construction phase)
Trigger: Schedule

This project is red due to a nine-month schedule slippage, from April 2022 to Jan 2023. This Mainline Track Replacement project slipped due to prioritizing the completion of the scope under contract M43902 – 2020 Mainline Track Replacement – Lenox-WPR Line which achieved Substantial Completion September 2021.

Long Island Rail Road Business Unit Response to the IEC Traffic Light Report

Long Island Rail Road Program Overview

The LIRR Business Unit currently oversees 116 active projects, including 46 projects in construction, with a budget of $3.1B. Notable projects under construction include Jamaica Capacity Improvements, Ocean Avenue Substation, Queens Interlocking, and the Annual Track Program. Non-C&D LIRR projects tracked by the LIRR Business Unit include 47 active projects with a budget of $620M (22 in construction, $270M).
The IEC's Traffic Light Report currently tracks 69 tasks (ACEPs) in the LIRR program, with 35 in the final report. Of those, 2 tasks were flagged red, representing 2 projects. The descriptions below describe why these project tasks (ACEPs) were flagged, and what C&D is doing to remediate.

Individual project descriptions

EL0303ZH: Emergency Management Equipment Mitigation (Construction phase)
Trigger: Schedule

As part of LIRR's efforts to prepare for future extreme weather events, Emergency Management Equipment will be purchased for systemwide utilization but with emphasis in flood prone areas, including major yards and towers, which play a vital role in train operation. The current driver for Substantial Completion, for this project, is dependent on the procurement, delivery, and testing of the Mobile Substation unit. The main cause of the schedule slip, five months from April 2022 to September 2022, is due to the KEMA laboratory not being able to test and certify the mobile substation equipment within the time frame planned in the original Baseline Schedule. This delay was because the shutdown of another major testing plant caused KEMA's facility to be very overwhelmed. KEMA advised that no testing slots are available until March 2022. This delay has contributed to the revision of the Substantial Completion date to the first quarter of 2023, subsequent to the reporting period.

Furthermore, the proposed Grapple Plus Truck by vendors did not meet specifications and all bids were rejected. The LIRR Engineering identified a Canadian truck which meets the specifications but did not meet the "Buy America" clause. As such, LIRR Engineering proposed to procure one Hi-Rail Swing Crane and two Pay Loaders which will comply with the "Buy America" requirements. This change request was approved by the FTA November 2021. Additional Tasks have been created for the Hi-Rail Swing Crane and Payloaders. As a result, the overall SC of the project is now driven by the procurement of the High Rail Swing Crane and SC has been revised further from the first quarter 2023 to March 2024.

L60701AR: Richmond Hill Substation Replacement (Construction phase)
Trigger: Schedule

This project includes the demolition of the existing substation and construction of a new substation within its footprint. The replacement of this substation will maintain a State of Good Repair and support LIRR performance goals. The four-month schedule slip, from October 2021 to February 2022 is due to the continued delay in Con Ed supporting the energization of the High Voltage feeders to facilitate the completion of field testing and achieving Substantial Completion. However, Con Ed provided a High Voltage Feeder to the substation in late January and as a result final field testing was able to be completed in February 2022 which actualizes the Substantial Completion for this project.

Metro-North Railroad Response to the IEC Traffic Light Report

Metro-North Railroad Program Overview

The C&D Metro-North Business Unit currently oversees 69 active projects, including 30 projects in construction, with a budget of $2.4B. Notable projects under construction include the Superstorm Sandy Power and Communication & Signals Restoration project, Harmon Shop Improvements, and the Grand Central Trainshed project.

The IEC's Traffic Light Report currently tracks 70 tasks (ACEPs) in the MNR program, with 42 in the final report. Of those, 8 tasks were flagged red, representing seven projects. The description below describes why these project tasks (ACEPs) were flagged, and what C&D is doing to remediate.

MNR project descriptions

EM050208: Power Infrastructure Restoration – Substations (Construction phase)
Trigger: Schedule

This project is for the replacement of three damaged Hudson Line substations (A13/Riverdale, A25/Tarrytown, A33/Croton-Harmon) and are part of a contract to restore power and signal infrastructure to the Hudson Line damaged during the Super Storm Sandy. The four month schedule slip, from December 2021 to April 2022 was due to limited FA staff to support the new substation third rail connections and various yard manhole splices. The COVID pandemic limited force account staff support from December 2021 to January 2022. The short circuit testing plan to cutover the new substation is under review pending completion of new connections by the MNR Power Group. To mitigate further schedule delays, coordination is on-going with the Power group personnel for prioritizing support for the cutover of all track connections and commissioning of the remaining last new DC traction power substation at Croton Harmon. Subsequent to the reporting period, Substantial Completion slipped further to June 2022.

M6050101: Substation Bridge 23 (Construction phase)
Trigger: Schedule

During the month of December 2021, after the Substation had passed all required testing the 30 day burning test commenced, when the Substation runs nonstop for 30 days. However, after almost 2 weeks of testing, one of the relays supplied by the Vendor/Subcontractor tripped requiring the Operations Department to take the Substation offline. This caused the Substantial Completion date to slip three months, from December 2021 to March 2022, this quarter. Further testing has revealed saturation current in the Current Transformer (CT) caused the relay to trip, which requires additional testing of the CT, by an independent testing agency. The contractor has agreed to hire the Advance Testing Company to find a solution for this problem. Testing is anticipated to be completed in March. Subsequent to the reporting period, Substantial Completion slipped further to the second quarter of 2022.

M6050103 Harlem & Hudson Lines Power Improvements (Construction phase)
M7050113 Harlem & Hudson Power (86th St / 110 St) (Construction phase)
Trigger: Schedule

During the Fourth Quarter 2021, the forecasted Substantial Completion date slipped three months from December 2021 to March 2022. This slip was due to Construction Contractor's failure to submit the Test Procedure of newly installed equipment (rectifiers, transformers, DC/AC switchgears, breakers, and wiring) as per schedule for approval. The test procedure was not submitted and approved until the end of November 2021. To mitigate any further delay, the 3rd Party CM helped the Construction Contractor develop an equipment test procedure for approval by MNR to expedite the testing process. Subsequent to the reporting period, Substantial Completion slipped further to the third quarter of 2022.

M7040102 Harmon to Poughkeepsie Signal System (Construction phase)
Trigger: Schedule

This project consists of contractor procurement, engineering, installation and testing of fiber optic and copper cables and related installation materials, enclosures, equipment, conduits, and hardware on the Hudson Line from Croton Harmon to Poughkeepsie. The nine-month schedule slip, from March 2023 to December 2023, then to April 2024 subsequent to the reporting period, was due to insufficient track outages for on-going cable plowing. Additionally, plowing cannot proceed when temperatures are very low and the ground is frozen. It causes undermining of the track structure. MTA C&D is in discussion with the MNR Transportation Department to request priority outages for on-going plowing activities. A recovery schedule was put together by the contractor. The total 13-month schedule slip has associated costs of $40M and a budget modification will be requested for this and the existing $12M shortfall.

M7050105: Harlem & Hudson Power Improvement – City Water Substation (Construction phase)
Trigger: Cost

This project will provide a new power substation near Mount Kisco which will mitigate existing undervoltage conditions on a section of the Harlem Line. The temporary generator providing the in-house power to the substation caught fire and damaged part of the substation. The generator released gas and the environmental remediation of the contaminated soil took almost three months to complete. The project team received the repair scope and schedule from the Contractor in February. The team is working with MTA OCIP to come up with the final settlement cost and start the repair work. Due to existing water leaks in the substation vault, a permanent dewatering well system was added to the scope and the 100% design documents were provided to the Contractor in December 2021. Contractor submitted a cost proposal of $8.4M to perform the additional work and associated testing. This, in conjunction with some required long lead equipment, caused the Substantial Completion date to slip 12 months, to June 2023, subsequent to the reporting period. MNR project team is currently reviewing the Contractor cost and schedule proposal to identify mitigation strategies to improve the forecasted completion schedule and determine if there are cost saving opportunities. Subsequent to the reporting period, the EAC increased an additional $5M.

M7040112 Harlem Wayside Communication & Signal Improvements (Construction phase)
Trigger: Schedule

This project consists of Contractor procurement, engineering, installation and testing of fiber optic and copper cables and related installation materials, enclosures, equipment, conduits, and hardware on the Harlem Line from CP112 located south of the Woodlawn passenger station to CP154 located north of the Southeast passenger station. The eight-month project delay from March 2022 to November 2022 was due to restricted weeknight track outages. MTA C&D is in discussion with the MNR Transportation Department to request priority and longer weekend outages for removal and installation of new poles and cables.

Bus Procurement Response to the IEC Traffic Light Report

Bus Procurement Project Descriptions

U7030202: Purchase 257 Express Buses (Construction phase)
Trigger: Schedule

The purpose of this project is for the purchase of 257, 45-foot, diesel express buses to be operated by MTA Bus. The buses will be used for the replacement of the over-aged fleet throughout the City that are beyond their useful life. The express buses will be designed to operate in revenue service for a useful life of 12 years or 500,000 miles and will meet Environmental Protection Administration (EPA) emission standards as well as Americans with Disabilities Act (ADA) standards.

The additional four-month schedule slip this quarter, from July 2022 to November 2022, is due in part to the effect of COVID-19 on the supply of resources and manufacturing parts. The schedule was adjusted according to the manufacturers' scheduled arrival estimates of the needed parts and resources. All Buses are expected to be delivered by December 2022.

T7030203: Purchase of 165 Hybrid (Nova) (Construction phase)
T8030209: Purchase 209 Standard Diesel (Nova) (Construction phase)
Trigger: Schedule

The purpose of this project is for the purchase of 165 Hybrid buses and 209, 40-foot, diesel transit buses to be operated by MTA NYC Transit. The buses will be used for the replacement of the fleet throughout the City that are beyond their useful life. The buses will be designed to operate in revenue service for a useful life of 12 years or 500,000 miles and will meet Environmental Protection Administration (EPA) emission standards as well as Americans with Disabilities Act (ADA) standards.

This quarter both projects slipped three and four months, with new milestone completion/delivery dates of April 2022 and November 2022 respectively. The delivery of buses has been delayed due to supply chain, COVID-19 effects on resources, and technical issues from various Original Equipment Manufacturers. The technical issues consist of door reliability, air compressor wiring, and a recurring engine code.

To mitigate the issues, protocols have been implemented by Nova. The contractor is working with its vendors to secure materials in advance along with attempts to procure alternate vendors. A weekly coordination meeting between NYCT and the contractor has been implemented to mitigate future issues as they arise.

NYCT Department of Paratransit Response to the IEC Traffic Light Report

Individual Project Description

T7030215: AVLM for Paratransit Vehicles (Construction phase)
Trigger: Schedule

NYCT Paratransit Division provides Access-A-Ride (AAR) service throughout the five boroughs of New York City and surrounding counties. The Automatic Vehicle Location Monitoring (AVLM) System can operate within the five boroughs of New York City and bordering counties of Westchester & Nassau. This project will provide for a new Real-Time dispatch & Scheduling System and integration work with existing Scheduling systems, AVLM and IVR Modules.

The project's Substantial Completion has slipped three months, from June 2022 to September 2022, due to the software being defective and not fulfilling the system requirements. The contractor and the senior executive team worked out a remediation plan and a new schedule that the contractor is required to meet. Subsequent to the reporting period, the project may slip further, to December 2022, due to the same reason above.

Projects in CPOC's Risk-Based Monitoring Program
(4th Quarter 2021 Traffic Light Report – Period Ending December 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 Programs			**Project**
2010-14	**2015-19**	**2020-24**	
Integrated Capital Projects			
	X		Second Avenue Subway - Phase 2
X	X		East Side Access & Regional Investments
	X		Penn Station Access
		X	Penn Station – 33rd St Corridor
	X		LIRR Expansion Project – Mainline Third Track - Floral Park to Hicksville
Signals and Communications			
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 – Queens Blvd East
	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 – 42 Connection Project
	X		OMNY New Fare Payment System – Phase 2
	X		ADA 149th St/Tremont Ave Stations
	X		ADA Accessibility Package A
		X	ADA Accessibility Package 2
		X	ADA 68th St / Hunter College

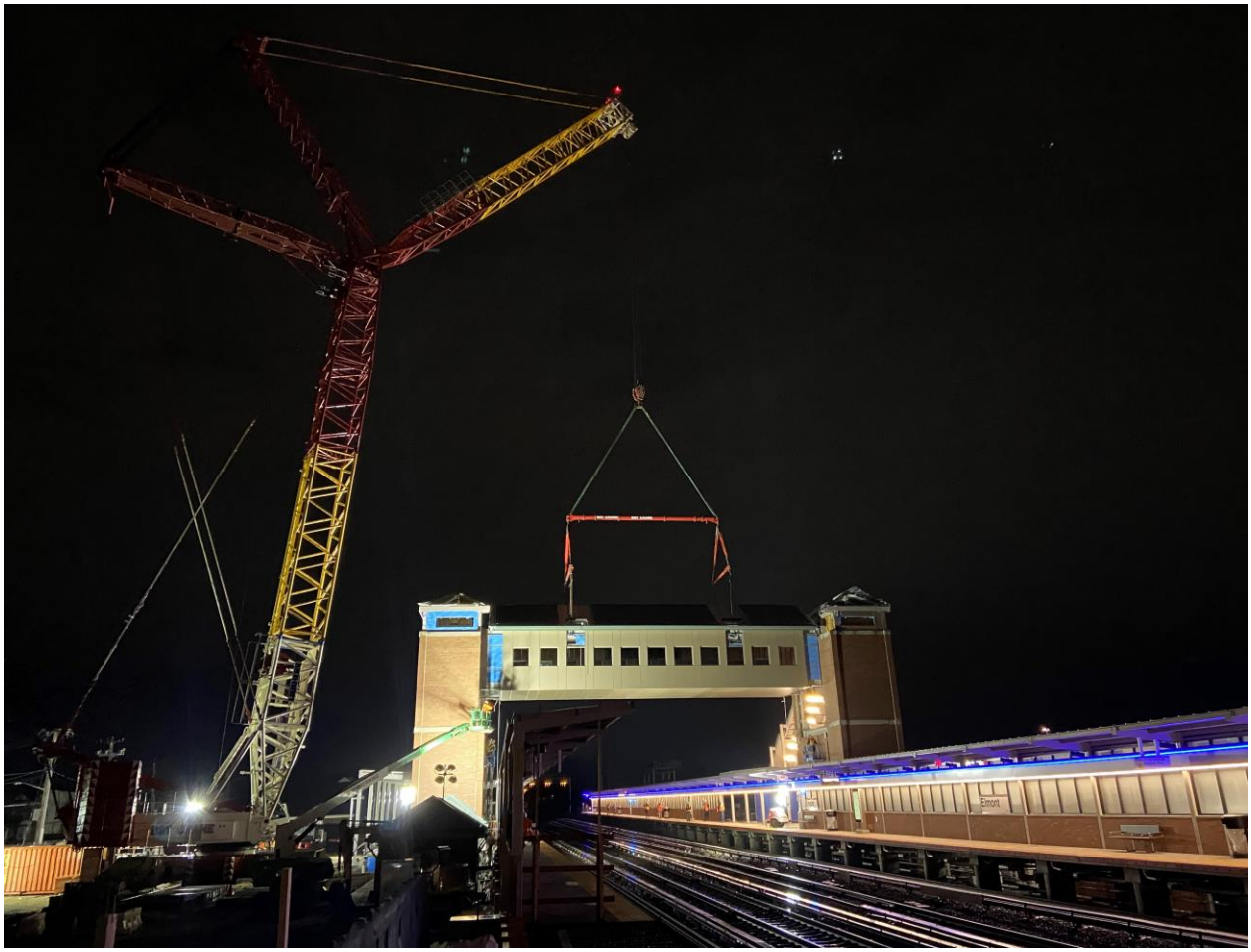
Projects in CPOC's Risk-Based Monitoring Program
(4th Quarter 2021 Traffic Light Report – Period Ending December 31, 2021)

Capital Program			Project
2010-14	2015-19	2020-24	
Shops and Yards			
	X		Harmon Shop Replacement Phase V, Stage 2
	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			Reconstruct Clifton Repair Shop
Sandy Program			Coney Island Yard Long Term Perimeter Protection
Sandy Program			207th Street Yard Long Term Perimeter Protection

Contracts Department

Stephen Plochochi, Senior Vice President

PROCUREMENT PACKAGE
March 2022



The picture above depicts the installation of the pedestrian overpass at the Elmont Station on the Main Line of the Long Island Rail Road. The work was done as part of Contract 6353 and took place over an outage during the weekend of March 18th – 20th.

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PROCUREMENTS

The Procurement Agenda this month includes fifteen (15) actions for a proposed expenditure of $242M.

Subject	Request for Authorization to Award Various Procurement Actions
Contract Department Stephen Plochochi, Senior Vice President	

Date: March 23, 2022

Board Action

Order	To	Date	Approval	Info	Other
1	Capital Program Committee	3/28/22	X		
2	Board	3/30/22	X		

Internal Approvals

	Approval		Approval
X	Deputy Chief Development Officer, Delivery	X	President
X	Deputy Chief Development Officer, Development	X	Executive Vice President & General Counsel

Purpose

To obtain the approval of the Board to award various procurement actions and, to inform the Capital Program Committee of these procurement actions.

Discussion

MTA Construction & Development proposes to award Competitive Procurements in the following categories:

Schedules Requiring Two-Thirds Vote	# of Actions	$ Amount
C. Competitive Requests for Proposals (Award of Purchase/Public Work Contracts)	2	$108,411,000
SUBTOTAL	2	$108,411,000

Schedules Requiring Majority Vote	# of Actions	$ Amount
F. Personal Services Contracts	11	$118,154,956
SUBTOTAL	11	$118,154,956
I. Modifications to Purchase and Public Work Contracts	1	$ 13,725,339
SUBTOTAL	1	$ 13,725,339

MTA Construction & Development proposes Ratifications in the following category:

Schedules Requiring Majority Vote	# of Actions	$ Amount
K. Ratification of Completed Procurement Actions	1	$ 1,579,432
SUBTOTAL	1	$ 1,579,432
TOTAL	15	$241,870,727

Budget Impact

The approval of these procurement actions will obligate capital funds in the amounts listed. Funds are available in the capital budget for these purposes.

Recommendation

The procurement actions be approved as proposed. (The items are included in the resolution of approval at the beginning of the Procurement Section.)

MTA Construction & Development

BOARD RESOLUTION

WHEREAS, in accordance with Sections 1265-a and 1209 of the Public Authorities Law and the All Agency Procurement Guidelines, the Board authorizes the award of certain non-competitive purchase and public works contracts, and the solicitation and award of request for proposals in regard to purchase and public work contracts; and

WHEREAS, in accordance with the All Agency Procurement Guidelines, the Board authorizes the award of certain non-competitive miscellaneous service and miscellaneous procurement contracts, certain change orders to purchase, public work, and miscellaneous service and miscellaneous procurement contracts;

WHEREAS, in accordance with Section 2879 of the Public Authorities Law and the All-Agency Guidelines for Procurement of Services, the Board authorizes the award of certain service contracts and certain change orders to service contracts.

NOW, the Board resolves as follows:

1. As to each purchase and public work contract set forth in annexed Schedule A, the Board declares competitive bidding to be impractical or inappropriate for the reasons specified therein and authorizes the execution of each such contract.

2. As to each request for proposals (for purchase and public work contracts) set forth in Schedule B for which authorization to solicit proposals is requested, for the reasons specified therein, the Board declares competitive bidding to be impractical or inappropriate, declares it is in the public interest to solicit competitive request for proposals and authorizes the solicitation of such proposals.

3. As to each request for proposals (for purchase and public work contracts set forth in Schedule C for which a recommendation is made to award the contract), the Board authorizes the execution of said contract.

4. As to each action set forth in Schedule D, the Board declares competitive bidding impractical or inappropriate for the reasons specified therein, and ratifies each action for which ratification is requested.

5. The Board authorizes the execution of each of the following for which Board authorization is required: i) the miscellaneous procurement contracts set forth in Schedule E; ii) the personal service contracts set forth in Schedule F; iii) the miscellaneous service contracts set forth in Schedule G; iv) the modifications to personal/miscellaneous service contracts set forth in Schedule H; v) the contract modifications to purchase and public work contracts set forth in Schedule I; vi) the modifications to miscellaneous procurement contracts set forth in Schedule J.

6. The Board ratifies each action taken set forth in Schedule K for which ratification is requested.

MARCH 2022
LIST OF COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL

Procurements Requiring Two-Thirds Vote:

Schedule C. Competitive Requests for Proposals (Award of Purchase/Public Work Contracts)
(Staff Summaries required for all items greater than $1M)

1. RailWorks Transit LLC **$ 58,134,000** ***Staff Summary Attached***
Contract No. 6378
1,442 Calendar Days

MTA Construction & Development requests Board approval to award a publicly advertised and competitively solicited contract for design-build services for the Long Island Rail Road Babylon Interlocking Signal System Project.

2. TAP Electrical Contracting **$ 50,277,000** ***Staff Summary Attached***
Contract No. C52072
609 Calendar Days

MTA Construction and Development requests Board approval to award a publicly advertised and competitively solicited contract for design-build services for closed-circuit television cameras at locations throughout the New York City Transit Subway System.

Procurements Requiring Majority Vote:

Schedule F. Personal Services Contracts
(Staff Summaries required for all items greater than $1M)

3-12. Multiple Vendors **$100,000,000 (Est. Aggregate)** ***Staff Summary Attached***
Contract Nos. CM-1641 thru CM-1648
and CM-1705 and CM-1706
36 Months

MTA Construction and Development requests Board approval to award ten (10) competitively solicited All-Agency Indefinite Quantity contracts to five (5) firms to perform asbestos and lead disturbance management and air monitoring services for miscellaneous construction projects. Two (2) contracts will be awarded to each firm, one federally funded and one state funded.

14. Atkins-HNTB JV **$ 18,154,956** ***Staff Summary Attached***
Contract No. PS21002
24 Months

MTA Construction and Development requests Board approval to award a publicly advertised and competitively solicited contract for general engineering consultant services for New York City Transit communications based train control.

Schedule I. Modifications to Purchase and Public Work Contracts
(Staff Summaries required for all items greater than $1M)

15. Thales Transport and Security, Inc. **$ 13,725,339** ***Staff Summary Attached***
Contract No. S-48013-2.

MTA Construction & Development requests Board approval to exercise Option 1 of the contract for additional R211 CBTC Carborne Equipment for the 8th Avenue Line.

Dept & Dept Head Name: Andrew Wilson, LIRR Business Unit, Delivery Department	
Contracts Department Ian Goldrich, SVP and Deputy General Counsel	

Board Reviews

Order	To	Date	Approval	Info	Other
1	Capital Program Committee	3/28/22	X		
2	MTA Board	3/30/22	X		

Internal Approvals

	Approval		Approval
X	Deputy Chief, Development	X	President
X	Deputy Chief, Delivery	X	Executive VP & General Counsel

SUMMARY INFORMATION

Vendor Name	Contract Number
RailWorks Transit LLC	6378

Description
Design-Build Services for Babylon Interlocking Signal System

Total Amount
$58,134,000

Contract Term (including Options, if any)
1,442 Calendar Days

Options(s) included in Total Amount: ☐ Yes ☒ No
Renewal? ☐ Yes ☒ No

Procurement Type
☒ Competitive ☐ Non-Competitive

Solicitation Type
☒ RFP ☐ Bid ☐ Other:

Funding Source
☐ Operating ☒ Capital ☒ Federal ☐ Other:

Purpose/Recommendation

MTA Construction & Development ("C&D") requests Board approval to award a publicly advertised and competitively solicited contract to RailWorks Transit LLC (the "Design-Builder") for design-build services for the Long Island Rail Road ("LIRR") Babylon Interlocking Signal System Project (the "Project") in the amount of $58,134,000 and for a duration of 1,442 Calendar days.

Discussion

Contract 6378 ("the Contract") will upgrade the LIRR Babylon Interlocking's signal system located on the Montauk Branch. An interlocking is a location where several sets of tracks converge and then diverge and requires a series of signals to prevent conflicting train movements through the interlocking. The Contract provides for the final design for the replacement/renewal of the five signal systems in the Babylon Interlocking, as well as providing tie ins to the signals to the east and west of the Project's limits. The new signal system is necessary to upgrade and modernize the interlockings. The majority of the signal equipment in the Project's limits has not been upgraded since the 1960's and has exceeded its useful life. The cost of signal maintenance continues to increase and train service disruptions due to the age of the signal equipment are a regular occurrence. The replacement of these outdated systems will also allow for greater efficiency and better service reliability in the operation of the interlocking as a whole.

A one-step Request for Proposal ("RFP") process was conducted for this Contract. The requirements were publicly advertised in the New York State Contract Reporter, N.Y. Daily News, and on the MTA website. In response to the RFP, proposals were received from (i) E-J Electric Installation Co. ("E-J Electric") and (ii) RailWorks Transit LLC ("RailWorks").

The proposals were evaluated and scored by a selection committee consisting of representatives from C&D and LIRR, utilizing pre-established selection criteria considering the following factors: Technical Approach; Planning and Scheduling; Qualifications and Experience; and Cost. Based upon the technical evaluations, the selection committee held discussions with each entity regarding technical clarifications and to confirm each firm's overall understanding of the Project.

Following the technical clarification discussions, revised proposals were requested from E-J Electric and RailWorks addressing the technical clarifications discussed and revising the proposal price accordingly. The result of the revised proposals were as follows:

E-J Electric $69,956,318
RailWorks $59,250,000

After review of the revised proposals, the selection committee unanimously determined that the proposal submitted by Railworks provided the best value to the MTA. In addition, Railworks has extensive experience with signal and civil work, having worked on projects with larger scope and greater complexity, demonstrating that RailWorks will be capable of executing the work required for the Project. E-J Electric's proposed technical approach met the project requirements, but did not provide comparable value as its proposal offered no greater benefit to justify its higher price.

C&D entered into negotiations with RailWorks for a Best and Final Offer ("BAFO") with an eye towards reducing RailWorks' revised proposal price of $59,250,000. RailWorks then submitted a BAFO of $58,134,000. A cost and price analysis was performed and the final negotiated price was determined to be fair and reasonable.

In connection with previous contracts awarded to RailWorks, RailWorks was found to be responsible notwithstanding Significant Adverse Information ("SAI") pursuant to all All-Agency Responsibility Guidelines, and such responsibility findings were approved by the MTA Chairman/CEO in consultation with the MTA General Counsel in February 2016. In addition, as a result of the review of RailWorks' responsibility since the prior contract award, new significant adverse information was identified and RailWorks was found to be responsible notwithstanding such new significant adverse information and the award of the contract is subject to the approval of such responsibility finding by the MTA Chairman/CEO in consultation with the MTA General Counsel.

D/M/WBE Information
The MTA Department of Diversity and Civil Rights ("DDCR") has established 22.5% DBE goals for the Contract. Although this is a design-build contract with some undefined scope, RailWorks is projecting to meet the required DBE goal requirements. RailWorks has achieved its MWDBE goals on recently completed MTA contracts.

Impact on Funding
Federal funding for this contract is included in the MTA's 2020-2024 Capital Program Budget.

Alternatives
None recommended. Currently C&D and the LIRR lack available in-house technical resources to perform the scope of work associated with the Contract.

Dept & Dept Head Name:
Infrastructure Business Unit, Delivery/Dana Hecht

Contracts Department:
Teresa McLoughlin Rice, Assistant Chief Officer and Tower Lead

Board Reviews

Order	To	Date	Approval	Info	Other
1	Capital Program Committee	3/28/22	X		
2	Board	3/30/22	X		

Internal Approvals

Order	Approval	Order	Approval
X	Deputy Chief, Development	X	President
X	Deputy Chief, Delivery	X	Executive VP & General Counsel

SUMMARY INFORMATION

Vendor Name	Contract Number
TAP Electrical Contracting Service, Inc.	C52072

Description
Design-Build Services for CCTV Cameras at Locations Throughout the NYC Transit Subway System

Total Amount

1. C52072 Award:	$ 50,277,000
2. Stipend Payments:	$ 198,000

Contract Term
609 Calendar Days

Option(s) included in Total Amount? ☐ Yes ☒ No ☐ N/A

Renewal? ☐ Yes ☒ No

Procurement Type
☒ Competitive ☐ Non-competitive

Solicitation Type
☒ RFP ☐ Bid ☐ Other:

Funding Source
☐ Operating ☒ Capital ☐ Federal ☒ State

Purpose/Recommendation

MTA Construction & Development ("C&D") requests Board approval to award a publicly advertised and competitively solicited contract to TAP Electrical Contracting Service, Inc. ("TAP") for design-build services for closed-circuit television cameras ("CCTV Cameras") at locations throughout the New York City Transit ("NYCT") subway system in the amount of $50,277,000 with a duration of 609 calendar days. In accordance with MTA policy regarding the use of design-build contracts, and to enhance competition and defray proposal costs, this solicitation includes a stipend of $66,000 to be paid to each of the three unsuccessful proposers, for a total stipend payment amount of $198,000.

Discussion

Contract C52072 (the "Contract") requires the Design-Builder to design, furnish and install CCTV Cameras at the entrances and exits of the fare array control areas of eighty-eight (88) stations throughout the NYCT subway system. Once installed, these systems will be integrated into the existing Physical Security Information Management System ("PSIM") at the NYCT Command Control & Communications Center in Brooklyn. The installation of new security CCTV Cameras is an integral part of the ongoing effort by the MTA to increase security for customers and employees in the stations and safeguard critical infrastructure.

A two-step procurement process was conducted for this contract. In Step 1, a Request for Qualifications was advertised resulting in the submission of eight (8) Statements of Qualifications ("SOQ") which were evaluated against pre-established Threshold Criteria (addressing completeness, timeliness, capacity, responsibility, and financial capability) and substantive evaluation criteria (addressing key personnel and organization, project approach, prior experience, past performance, and diversity compliance). On the basis of this evaluation, the following four firms were selected to receive a Request for Proposal ("RFP") in Step 2:

- CRC Associates, Inc. ("CRC")
- E-J Electric Installation Co. ("E-J")
- TAP Electrical Contracting Service, Inc.
- TC Electric, LLC. ("TC")

Each of the selected firms submitted a technical and price proposal in response to the RFP. The selection committee, consisting of representatives from C&D Delivery, Development and Contracts, first reviewed the technical proposals, attended the oral presentations and evaluated each submission against preestablished selection criteria which assessed the proposers' design and construction approach, overall project schedule, management plan, experience, record of performance, safety and quality control/quality assurance plans, quality and the thoroughness of the proposal and oral presentation.

The selection committee next opened the cost proposals which were as follows:

CRC	$69,956,318
E-J	$73,705,000
TAP	$50,757,000
TC	$62,374,500

Each technical proposal was supported by experienced design and construction teams. TC and CRC's Technical Proposals also included pre-approved Alternate Technical Concepts ("ATC") to expedite the work and minimize impacts on the travelling public. E-J, TAP and TC offered schedule proposals that would shorten the overall duration of the Contract and completion of the Work. Although all four firms submitted acceptable Technical Proposals, the selection committee subsequently determined that E-J's technical and cost proposals were not in a competitive range with the other three proposers. Accordingly, the selection committee unanimously recommended that CRC, TAP and TC each be invited for negotiations.

Negotiations with CRC, TAP and TC each included detailed discussions of the proposer's design and construction approach, project schedule and overall cost. Following negotiations, each proposer was asked to submit its Best and Final Offer ("BAFO") which were submitted as follows:

CRC	$55,195,000
TAP	$50,277,000
TC	$56,490,000

All three proposers included a reduction from its original price; however, TAP's BAFO was still the lowest compared to the other two proposers. In addition, TAP's BAFO included the best schedule reduction of 301 days, compared to the 110 days reduction proposed by TC and the 37 days reduction proposed by CRC. The Contract includes liquidated damages for Contractor delays to each milestone and Substantial Completion.

After reviewing the BAFOs, the selection committee unanimously recommended TAP for award of the Contract. The selection committee determined that TAP's proposal offered the best overall value considering the schedule reduction, the strength and qualifications of its key personnel, and its past performance. TAP's price is $4,918,000 less than the next lowest cost proposal and is considered fair and reasonable.

DBE/MBE/WBE/SDVOB Information

The MTA Department of Diversity and Civil Rights ("DDCR") has established MBE/WBE/SDVOB goals of 15%/15%/6%. Although this is a design-build contract with some undefined scope, TAP is projecting to meet the required MBE/WBE/SDVOB goals. TAP has achieved its DBE/MBE/WBE goals on previously completed MTA contracts.

Impact on Funding

Funding for the design-build services contract and stipend for the three unsuccessful proposers are included in the NYCT portion of the MTA's 2020-2024 Capital Program. The MTA provides 100% of the funding for this project.

Alternatives

None recommended. Currently, MTA lacks available in-house technical personnel to perform the scope of work

Dept & Dept Head Name:	**SUMMARY INFORMATION**	
Delivery/Mark Roche, Deputy Chief Development Officer	**Vendor Name**	**Contract Number**
	See the list below	CM-1641 - CM-1644 (State) CM-1705 (State) CM-1645 – CM-1648 (Federal) CM-1706 (Federal)
Contracts Department: Laura A. Smith, Chief Officer	**Description** All-Agency Indefinite Quantity Asbestos and Lead Disturbance Management and Air Monitoring Services	

Board Reviews

Order	To	Date	Approval	Info	Other
1	Capital Program Committee	3/28/22	X		
2	Board	3/30/22	X		

Internal Approvals

Order	Approval	Order	Approval
X	Deputy Chief, Development	X	President
X	Deputy Chief, Delivery	X	Executive VP & General Counsel

Total Amount
$100,000,000 Est. Aggregate

Contract Term
36 Months

Option(s) included in Total Amount? ☐ Yes ☒ No ☐ N/A

Renewal? ☒ Yes ☐ No

Procurement Type
☒ Competitive ☐ Non-competitive

Solicitation Type
☒ RFP ☐ Bid ☐ Other:

Funding Source
☐ Operating ☒ Capital ☒ Federal ☒ State

Purpose/Recommendation

MTA Construction and Development ("C&D") requests Board approval to award ten (10) competitively solicited All-Agency indefinite quantity contracts ("Contracts") to five (5) firms to perform asbestos and lead disturbance management and air monitoring services for miscellaneous construction projects. Two (2) contracts will be awarded to each firm, one federally funded and one state funded with a total estimated aggregate amount of $100 million over a 36-month contract term. These contracts will be "zero-dollar" based with no minimum guarantee of any assignments. The selected firms and their respective contracts are:

Consultants	Contract Nos.
1. Core Environmental Consultants ("Core") (certified DBE and WBE)	CM-1641 (State) / CM-1645 (Federal)
2. Entech Engineering, P.C. ("Entech") (certified WBE)	CM-1642 (State) / CM-1646 (Federal)
3. EPM-HVA Joint Venture ("EPM-HVA") (EPM is a certified DBE and WBE)	CM-1643 (State) / CM-1647 (Federal)
4. LiRo Engineers, Inc. ("LiRo)	CM-1644 (State) / CM-1648 (Federal)
5. STV Incorporated ("STV")	CM-1705 (State) / CM-1706 (Federal)

Discussion

C&D is seeking to award Contracts for services related to a variety of environmental activities as required to support the capital program. The services include lead paint and asbestos disturbance management. Under both categories, the consultants will perform site surveys to investigate and identify lead and asbestos-containing materials; design and specification development; project monitoring; air monitoring; sample collection and analysis; and support services including preparing final reports and maintaining all required records and documentation. The consultant shall act as the on-site representative for C&D and will have the authority to direct the actions of the

abatement contractor as necessary. Work under this contract series will be performed on an as-needed task order basis. Specific work requirements for a project will be defined in the scope of work for each task order that, in general, will be competed among the consultants and task order awards can be issued up to the total estimated aggregate budget amount of $100 Million.

Combining the federal and state funded requirements into one solicitation created a more efficient and streamlined procurement process and resulted in five firms being retained to perform all services, regardless of the funding source. These Contracts will replace the existing federal funded contracts CM-1563 and CM-1564 and the state funded contracts CM-1515, CM-1516 and CM-1517A currently in place for these services.

Procurement Process

On August 5, 2021, C&D Contracts issued notification of a one-step Request for Proposal ("RFP") to 39 general engineering consultant ("GEC") firms from MTA's prequalified list of engineering firms, requesting the submission of technical and cost proposals. The solicitation was also advertised in the Daily News, Engineering News-Record, New York State Contract Reporter and on the C&D Website. On September 17, 2021, the following nine (9) firms submitted proposals: Atlas Group Services, Core, Entech, EPM-HVA[1], LiRo, Safety Dynamics LLC, STV, TRC Engineers, Inc., and WSP USA Inc. The Selection Committee, consisting of representatives from C&D and New York City Transit, reviewed the written technical proposals utilizing the selection criteria set forth below, listed in relative order of importance:

- Experience in Relevant Areas
- Experience of Project Team/Key Personnel
- Management Approach
- Quality Assurance Plan
- Current Workload of Prime and Sub-Consultants
- Diversity Practices (State funded contracts only)

Virtual presentations were conducted with all nine (9) proposers for both the federally and state funded contract series. The selection of firms for the federally funded contracts series (CM-1645-1648 and CM-1706) utilized a qualification-based procurement process established by the Federal Brooks Act. Under the Federal Brooks Act, contracts for Architecture, Engineering and other federally defined services are negotiated with the firm(s) that is/are determined to be the most technically qualified by the selection committee based on established selection criteria. Price is not a consideration in the selection or ranking of the proposers. Since five (5) awards were anticipated, negotiations were conducted with the five (5) most technically qualified proposers. After review of the technical proposals and oral presentations, the selection committee ranked EPM-HVA, STV, LiRo, Entech and Core as the highest rated proposers and negotiations were conducted with all five (5) firms.

Negotiations were conducted, focusing on direct labor rates, overhead, fees and pricing for sample units. C&D provided the total hours and out-of-pocket expenses to all firms to ensure a fair and equitable evaluation of the cost. The overhead rates were reviewed by MTA Audit and adjusted pursuant to MTA Audit recommendations.

Best and Final Offers ("BAFOs") were received from all five (5) firms and evaluated against C&D's in-house budget estimate based on hours distributed among various titles, overhead, and fees. Based on the evaluation of the cost components of the initial and revised cost proposals, in-house estimate, and the competitive nature of the RFP, the BAFOs for the federal contract series were determined to be fair and reasonable.

The selection of firms for the state funded contracts series (CM-1641-1644 and CM-1705), was determined by utilizing a "Best Value" procurement process. The selection committee first reviewed the written technical proposals from all the proposers utilizing the selection criteria listed above. After the technical evaluations were completed the selection committee then reviewed the cost proposals from each of the proposers and then ranked each of the proposers considering both their technical and cost proposals in accordance with the selection criteria. The selection committee again shortlisted five (5) proposers EPM-HVA, STV, LiRo, Core and Entech determining

[1] EPM-HVA initially proposed as HVA Engineering, D.P.C. with Environmental Planning & Management, Inc. ("EPM") as a subconsultant. During the procurement process, HVA Engineering, D.P.C. partnered with Environmental Planning & Management, Inc. to create the joint venture in the name EPM-HVA Joint Venture.

that these five (5) firms' proposals provided the best value to C&D when considering both their technical and cost proposals. Negotiations were then conducted with each of the five shortlisted firms focusing on the same factors as discussed above.

BAFOs were received from all five (5) firms and evaluated against C&D's in-house budget estimate based on hours distributed among various titles, overhead, and fees. Based on the evaluation of the cost components of the initial and revised cost proposals, in-house estimate, and the competitive nature of the RFP, the BAFOs for the state contract series were determined to be fair and reasonable.

The selected proposers presented detailed technical proposals and exhibited a comprehensive knowledge of asbestos and lead design and air monitoring services. Moreover, each proposer demonstrated a clear understanding of the scope of work requirements and a clear and concise plan of approach that aligned with standard industry processes and procedures. The proposers also identified potential challenges and provided solutions to matters specific to MTA facilities. Additionally, all assigned key personnel submitted by each proposer reflected the requisite qualifications and experience relevant to asbestos and lead management services.

Both federal and state funded contracts incorporate a performance incentive that is applied to the fee. The incentive provides an opportunity for the consultants to earn additional profit through exemplary performance in managing the contract and a reduction in the fee if its performance requires improvement.

All five (5) firms were found to be responsible and financially qualified to perform these contracts.

D/M/WBE Information
The MTA Department of Diversity and Civil Rights ("DDCR") has established a Disadvantage Business Enterprise ("DBE") goal of 20% for the federally funded contracts. DDCR has established a Women Owned Business Enterprise ("WBE") goal of 15%, a Minority Owned Business Enterprise ("MBE") goal of 15% and a Service-Disabled Veteran-Owned Business ("SDVOB") goal of 6% for the state funded contracts. DDCR has determined that all five (5) firm's utilization plans meet the DBE and MBE/WBE/SDVOB requirements established for contracts. Entech, LiRo and STV have achieved their DBE/MBE/WBE goals on recently completed MTA contracts. Core and EPM-HVA JV have not completed any MTA contracts with goals; therefore, no assessment of their DBE/MBE/WBE performance can be determined at this time.

Impact on funding
CM-1645-1648 and CM-1706 will be funded primarily with federal funds and CM-1641-1644 and CM-1705 will be 100% MTA funded. These Contracts are all "zero-dollar" based, and therefore funds will be provided on a task-order basis by the capital project requiring these services.

Alternatives
That C&D self-perform the services to be provided under the Contract. This is not recommended as C&D lacks the in-house resources to provide the required services.

Dept & Dept Head Name:
Signals & Train Controls, Delivery/Daniel Creighton, VP & Co-Business Lead

Contracts Department:
Laura A. Smith, Chief Officer

Board Reviews

Order	To	Date	Approval	Info	Other
1	Capital Program Committee	3/28/22	X		
2	Board	3/30/22	X		

Internal Approvals

Order	Approval	Order	Approval
X	Deputy Chief, Development	X	President
X	Deputy Chief, Delivery	X	Executive VP & General Counsel

SUMMARY INFORMATION

Vendor Name	Contract Number
Atkins-HNTB JV	PS21002

Description
General Engineering Services for the New York City Transit Communications Based Train Control

Total Amount
$18,154,956

Contract Term
24 Months

Option(s) included in Total Amount? ☐ Yes ☐ No ☒ N/A

Renewal? ☐ Yes ☒ No

Procurement Type
☒ Competitive ☐ Non-competitive

Solicitation Type
☒ RFP ☐ Bid ☐ Other:

Funding Source
☐ Operating ☒ Capital ☐ Federal ☐ State

Purpose/Recommendation

MTA Construction & Development ("C&D") requests Board approval to award a publicly advertised and competitively solicited contract to Atkins-HNTB JV for general engineering consultant services ("GEC") for New York City Transit ("NYCT") communications based train control ("CBTC") for a contract term of twenty-four (24) months in the not-to-exceed amount of $18,154,956.

Discussion

Contract PS21002 (the "Contract") is for GEC services to provide design, engineering, procurement support and program administration services to assist the MTA in implementing the next phase of its CBTC program for NYCT subway service. The CBTC program is a key element of MTA's plan to modernize the NYCT subway signal system with new and more efficient technology to improve safety, reliability, and provide for future capacity growth. The project scope includes the wayside elements of the following three (3) subway lines: Fulton Street (IND, B-Division), Sixth Avenue & 63rd Street Line (IND, B-Division), and Crosstown (IND, B-Division). This CBTC Program is intended to increase the trains-per-hour capacity of the Subway system, improve reliability of the signal system, reduce costs by replacing the existing systems with CBTC train control systems and make best use of available new technology.

The GEC Consultant will provide conceptual design, preliminary design, and bridging documents for each Line to facilitate a Design-Build delivery process and will support C&D during the Request For Proposal process.

Procurement Process

On December 27, 2021, C&D issued notification of a one-step Request For Proposals to 53 GEC firms from MTA's prequalified list of engineering firms, requesting the submission of technical and cost proposals. The solicitation was also advertised in the Daily News, Engineering News-Record, New York State Contract Reporter and on the C&D Website. On February 3, 2022, the following four (4) firms submitted proposals: AECOM, Jacobs Civil Consultants and TY Lin International Joint Venture, Atkins-HNTB JV, Mott

MacDonald NY, Inc. ("Mott") and SYSTRA Engineering, Inc. The selection committee, consisting of representatives from C&D, reviewed the written technical proposals utilizing the selection criteria set forth below, listed in relative order of importance:

- Qualifications and Experience of Key Personnel
- Project Understanding and Technical Approach
- Experience of Proposer Organization
- Management Approach
- Capability and Effective Use of Resources
- Past Performance on Similar Contracts
- Diversity Practices

Oral presentations were conducted with all four (4) proposers. Following each of the oral presentations, an interview of the proposed key personnel was conducted by the selection committee. The selection of the firms was determined by utilizing a "Best Value" procurement process. The selection committee first reviewed the written technical proposals from all the proposers then attended the oral presentations. After the evaluations were completed the selection committee then reviewed the cost proposals from each of the proposers and then ranked each of the proposers considering both their technical and cost proposals in accordance with the selection criteria.

The selection committee recommended Atkins-HNTB JV and Mott, for negotiations, determining that these two (2) proposers offered the best value to C&D when considering both their technical and cost proposals. Both Atkins-HNTB JV and Mott presented detailed technical proposals and exhibited a comprehensive knowledge of CBTC systems and the Design-Build requirements of the project with the Atkins-HNTB JV team being rated technically higher than Mott.

Negotiations were conducted focusing on adherence to the critical timeline of deliverables, levels of effort, staffing, direct labor rates, overhead, fee, and the performance incentive criteria. The overhead rates were reviewed and adjusted pursuant to MTA Audit recommendations.

During the negotiation process it became clear to the selection committee that Atkins-HNTB JV's understanding and approach to the work, coupled with their team's knowledge, experience and ability to adhere to the aggressive timelines required for developing the design-build solicitation packages made them the preferred proposer. As a result, the selection committee unanimously decided to eliminate Mott from further consideration, complete negotiations and request a Best and Final Offer ("BAFO") only from Atkins-HNTB JV.

After negotiations concluded, Atkins-HNTB JV submitted a Best and Final Offer of $18,154,956. The selection committee reviewed the BAFO in accordance with the selection criteria and unanimously voted to recommend award of the contract to Atkins-HNTB JV. Based on the evaluation of the cost components of the initial and revised cost proposals, and in-house estimate, the BAFO was determined to be fair and reasonable.

This Contract incorporates a performance incentive to provide the GEC Consultant with the opportunity to earn additional profit through the completion of contract tasks before the established contract durations. The performance incentive also reduces the profit if the GEC Consultant does not complete the contract tasks within the established contract durations specified in the scope of services.

In connection with a previous contract awarded to Atkins North America Inc. ("Atkins"), Atkins was found to be responsible notwithstanding significant adverse information ("SAI") pursuant to the All-Agency Responsibility Guidelines and such responsibility finding was approved by the Chairman and Chief Executive Officer in consultation with the MTA General Counsel in January 2016. No new SAI has been found relating to Atkins and Atkins-HNTB JV has been found to be responsible.

D/M/WBE INFORMATION

The Department of Diversity and Civil Rights ("DDCR") has established a Minority Owned Business Enterprise ("MBE") goal of 15%, a Women Owned Business Enterprise ("WBE") goal of 15%, and a Service-Disabled Veteran-Owned Business ("SDVOB") goal of 6% for this Contract. DDCR has determined that Atkins-HNTB JV responded satisfactorily to the MBE/WBE/SDVOB and Equal Employment Opportunity submission requirements established for this Contract.

Atkins North America, Inc. and HNTB New York Engineering and Architecture, P.C. have both achieved their Disadvantage Business Enterprise and MBE/WBE goals on recently completed contracts.

Impact on Funding
Funding for this project is available in the 2020-2024 Capital Program.

Alternatives
That C&D self-perform the services to be provided under the Contract. This is not recommended as C&D lacks the in-house resources to provide the required services.

Schedule I: Modifications to Purchase and Public Work Contracts

MTA Construction & Development

Item No. 14

Vendor Name (& Location)	**Contract Numbers**	**Option #**
Thales Transport and Security, Inc.	S-48013-2	1
Description R211 Carborne Equipment for Communication Based Train Technology on the Eighth Avenue Line	**Original Amount:**	$ $23,325,902
Contract Term (including Options, if any) 60 months	**Prior Modifications:**	$ 0
	Exercised Options:	$ 0
Option(s) included in Total Amount? ☐ Yes ☒ No ☐ N/A	**Current Amount:**	$ $23,325,902
Procurement Type ☒ Competitive ☐ Non-competitive		
Solicitation Type ☒ RFP ☐ Bid ☐ Other: Option	**This Request**	$ $13,725,339
Funding Source ☐ Operating ☒ Capital ☐ Federal ☐ Other:	**% of This Request to Current Amount:**	58%
Requesting Dept/Div & Dept/Div Head Name: Delivery, Mark Roche	**% of Modifications (including This Request) to Original Amount:**	58%

Discussion

Contract S-48013-2 (the "Contract") provides communication-based train control ("CBTC") carborne equipment for New York City Transit's ("NYCT") R211 subway cars that will operate on the 8th Avenue Line. MTA Construction & Development ("C&D") requests Board approval to exercise Option 1 of Contract S-48013-2 – for additional R211 CBTC Carborne Equipment for the 8th Avenue Line in the amount of $13,725,339.

The Contract was awarded to Thales Transport and Security, Inc. ("Thales") on March 27, 2019, and approved by the Board on October 23, 2019, following a declaration by NYCT's Vice President, Materiel of an Immediate Operating Need. The Contract required Thales to furnish and deliver carborne CBTC equipment to outfit 92 (five car) R211 operating units produced by Kawasaki under a contract with NYCT. The Contract also included an option, exercisable by the MTA until March 31, 2022, for Thales to furnish and deliver additional carborne CBTC equipment for an additional 128 (five car) R211 operating units for the amount of $13,725,339. C&D is now requesting Board authorization to exercise the Thales option.

The Thales option will provide necessary CBTC equipment for the additional 128 R211 operating units to be produced by Kawasaki pursuant to an option in the Kawasaki contract that NYCT intends to exercise in the near term. While it would be preferable to exercise both options at the same time, the Thales option will expire at the end of the month and additional work is required before the Kawasaki option can be exercised. C&D estimates demonstrate that the cost of the Thales option would be significantly higher if we had to renegotiate its terms today. For that reason, we are recommending that we exercise that option now so as not to lose out on the favorable pricing.

MARCH 2022

LIST OF RATIFICATIONS FOR BOARD APPROVAL

Procurements Requiring Majority Vote:

Schedule K. Ratification of Completed Procurement Actions (Involving Schedule E – J)
(Staff Summaries required for all items)

15.	**E-J Electric Installation Co.** **Contract No. CS084.84** **Fifty Two Months**	**$ 1,579,432**	***Staff Summary Attached***

MTA Construction and Development requests the Board ratify contract modification No. 84 to the contract to allow the Contractor to furnish and install Pilot Protection Systems between Traction Power Substation C08 and the adjacent mainline substations G02 and G03.

Schedule K: Ratification of Completed Procurement Actions
Item No. 15

Vendor Name (& Location) E-J Electric Installation Co. (Long Island City, NY)	
Description Traction Power Systems Package No. 4	
Contract Term (including Options, if any) 52 Months	
Option(s) included in Total Amount? ☐ Yes ☐ No ☒ N/A	
Procurement Type ☒ Competitive ☐ Non-competitive	
Solicitation Type ☒ RFP ☐ Bid ☒ Other: Modification	
Funding Source ☐ Operating ☒ Capital ☒ Federal ☐ Other:	
Requesting Dept/Div & Dept/Div Head Name: East Side Access, R. Troup.	

Contract Number	**AWO/Modification #**
CS084	84

Original Amount:	$	71,248,884
Prior Modifications:	$	27,001,964
Exercised Options:	$	-0-
Current Amount:	$	98,250,848
This Request	$	1,579,432
% of This Request to Current Amount:		2%
% of Modifications (including This Request) to Original Amount:		40%

Discussion

Contract CS084 (the "Contract") provides for the installation and testing of the traction power system for the East Side Access ("ESA") Project (the "Project"). MTA Construction and Development requests that the Board ratify contract modification No. 84 to the Contract to allow the Contractor to furnish and install Pilot Protection Systems between Traction Power Substation ("TPSS") C08 and the adjacent mainline substations G02 and G03 at a total cost, inclusive of direct costs and Impact Costs, of $1,579,432 and for an extension of the Contract Substantial Completion date by 144 calendar days from December 31, 2021, to May 24, 2022.

The Contract requires the installation of a Pilot Protection System. Adjacent substations provide power to the same portion of track and, when a circuit breaker trips at one substation, the corresponding circuit breaker at the other substation must also trip. The Pilot Protection System provides the coordination between the circuit breakers at the two substations. Although the Contract provides for Pilot Protection between each of the TPSSs to be constructed as part of the Project, the Contract omitted a requirement to provide a Pilot Protection System to coordinate circuit breaker protection between the last substation installed under the Contract and the adjacent mainline substations. The omission of this Pilot Protection System from the Contract design drawings has been referred to the ESA Cost Recovery Panel for further review to determine whether to pursue recovery against the designer.

The total increase in contract price sought by the Contractor in its proposal for the Work was $1,979,559, consisting of $1,106,326 in direct costs of the Work, plus impact costs for 166 calendar days of compensable delay in the amount of $873,233. Negotiations were held and the parties agreed to Compensable Delay of 144 calendar days, moving Substantial Completion from December 31, 2021, to May 24, 2022, for a total cost, including Impact Costs, of $1,579,432, which is deemed to be fair and reasonable.

To avoid delay to the Contract schedule, the President approved a retroactive memorandum and on January 26, 2022, the Contractor was directed to proceed with furnishing and installing the Pilot Protection System up to a Not-To-Exceed amount of $895,000.

In connection with previous contracts awarded to E-J Electric Installation Company ("E-J"), E-J was found to be responsible notwithstanding Significant Adverse Information ("SAI") pursuant to the All-Agency Responsibility Guidelines, and such responsibility findings were approved by the MTA Managing Director in consultation with the MTA General Counsel in August 2018. No new SAI has been found relating to E-J and E-J has been found to be responsible.