



Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

July 2020

Committee Members

P. Foye, Chair
N. Zuckerman, Vice Chair
N. Brown
R. Glucksman
D. Jones
R. Linn
D. Mack
S. Metzger
J. Samuelsen
V. Tessitore

Capital Program Oversight Committee Meeting

2 Broadway, 20th Floor Board Room

New York, NY 10004

Wednesday, 7/22/2020

10:00 AM - 5:00 PM ET

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES JUNE 24, 2020

- Minutes from June '20 - Page 3

3. COMMITTEE WORK PLAN

- 2020 - 2021 CPOC Committee Work Plan - Page 4

4. C&D CAPITAL PROGRAM UPDATE

- Update on East Side Access - Page 6

- IEC Project Review on East Side Access - Page 40

- Update on LIRR Expansion - Page 46

- IEC Project Review on LIRR Expansion - Page 62

- Update on Second Avenue Subway Phase 2 - Page 66

- IEC Project Review on Second Avenue Subway Phase 2 - Page 72

5. CAPITAL PROGRAM STATUS

- Commitments, Completions, and Funding - Page 76

MINUTES OF MEETING
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE

June 24, 2020

New York, New York

10:00 A.M.

Because of the ongoing COVID-19 public health crisis, the MTA Chairman convened a one-day, virtual Board and Committee meeting session on June 24, 2020, which included the following committees:

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

To see a summary of the CPOC Committee meeting, please refer to the June 24, 2020 Board minutes in the July Board Book available here on the Board materials website:

<https://new.mta.info/transparency/board-and-committee-meetings/july-2020>



2020 - 2021 CPOC Committee Work Plan

I. Recurring Agenda Items

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

II. Specific Agenda Items

September

C&D Capital Program Update

- Stations

Quarterly Traffic Light Reports

October

C&D Capital Program Update

- Infrastructure

LIRR and MNR Update on Positive Train Control (PTC)
Update on Capital Program Security Projects (in Executive Session)

November

C&D Capital Program Update

- Signals and Train Control

Update on OMNY Program
Update on Minority, Women and Disadvantaged Business Participation
Update on Small Business Development Program

December

C&D Capital Program Update

- Integrated Projects

LIRR and MNR Update on Positive Train Control (PTC)
Quarterly Traffic Light Reports

January

Rolling Stock Procurement Update

February

C&D Capital Program Update

- B&T

March

C&D Capital Program Update

Quarterly Traffic Light Reports

April

C&D Capital Program Update

Update on Capital Program Security Projects (in Executive Session)

May

C&D Capital Program Update

June

Update on OMNY Program

Update on Minority, Women and Disadvantaged Business Participation

Quarterly Traffic Light Reports

July

C&D Capital Program Update

Capital Program Oversight Committee Report

East Side Access, July 2020



Project Benefits

- A new 8-track LIRR terminal beneath Grand Central Terminal
- Long Island Rail Road riders will now have faster, direct access to East Midtown, the heart of the Manhattan Central Business District
- Along with the Third Track and Double Track projects, ESA will enable MTA to support growth of Long Island's workforce
- Saves commuters headed for Manhattan's East Side up to 40 minutes per day, which adds up to 10 days per year of time saved
- Drives economic development – both in Manhattan and Long Island
- Modernization of Harold Interlocking will strengthen and expand regional rail network



Project Scope



1 New tunnels, a passenger concourse and 8 track train terminal beneath Grand Central Terminal.

2 New train yards and maintenance facilities in the Bronx for MNR and Queens for LIRR.

3 New and modernized vent facilities in Queens and Manhattan.

4 Harold Interlocking rebuilt to accommodate increased train movements and replace aging infrastructure.



April 2018 Comprehensive Replan

- New priority-based, detailed program scheduling methodology
- New Program Management Organization (PMO) to administer this new approach to schedule
- Dedicated team created to implement streamlined change order process, prioritizing schedule critical issues
- Reaffirmed 2022 project completion date
- Updated Estimate at Completion to \$11.1B



Manhattan – Terminal Pre-Cast Platform and Mezzanine Levels in April 2018

Important Terms / Milestones

- CS179 MS 12B14 – Track Integrated Systems Testing – Allows LIRR trains access under fully signalized traffic control through all portions of ESA network
- CS179 MS 13 – Milestone for Substantial Completion – Includes all integrated testing (concourse, caverns, track). Final contract required for full LIRR takeover
- ORD – Operational Readiness – All regulatory issues satisfied (FRA, FTA Safety and Security Certification); all LIRR crew training completed (physical characteristics); and station personnel and maintenance personnel trained
- RSD – Revenue Service Date – LIRR ready to start revenue service

Construction Schedule Summary



East Side Access

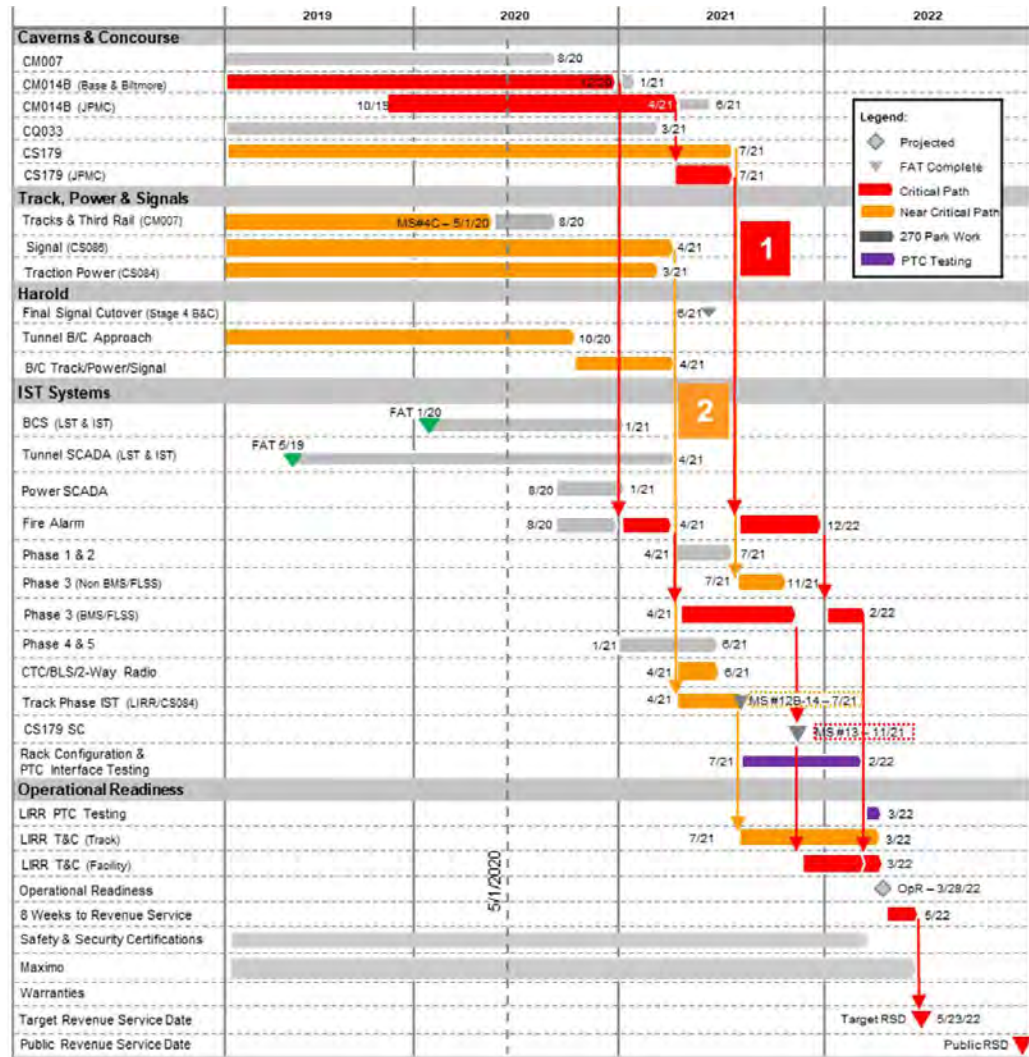
ESA Program Revenue Service Critical Paths

1 Critical Path (2/2022 MS 13)
 Building Management System (BMS) / Fire, Life, Safety, System Integrated Systems Testing (FLSS IST)

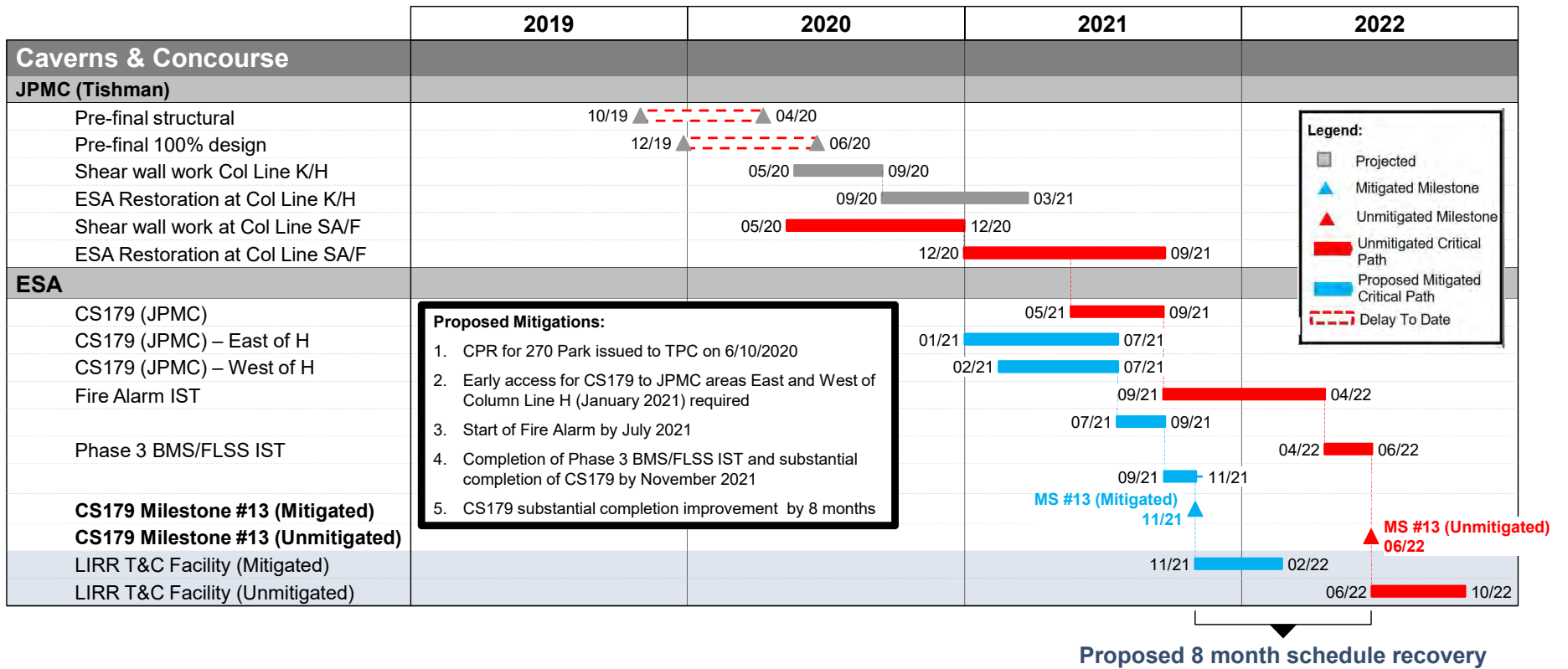
2 Near Critical Path (7/2021 MS 12B14)
 Track Phase IST

Schedule Risks:

1. JP Morgan Chase (270 Park) Work & Testing
2. Installation Progress in the Tunnels by all contracts
3. Covid-19 Productivity



Impacted Critical Path - Proposed JPMC Zone 4 Mitigation through CS179



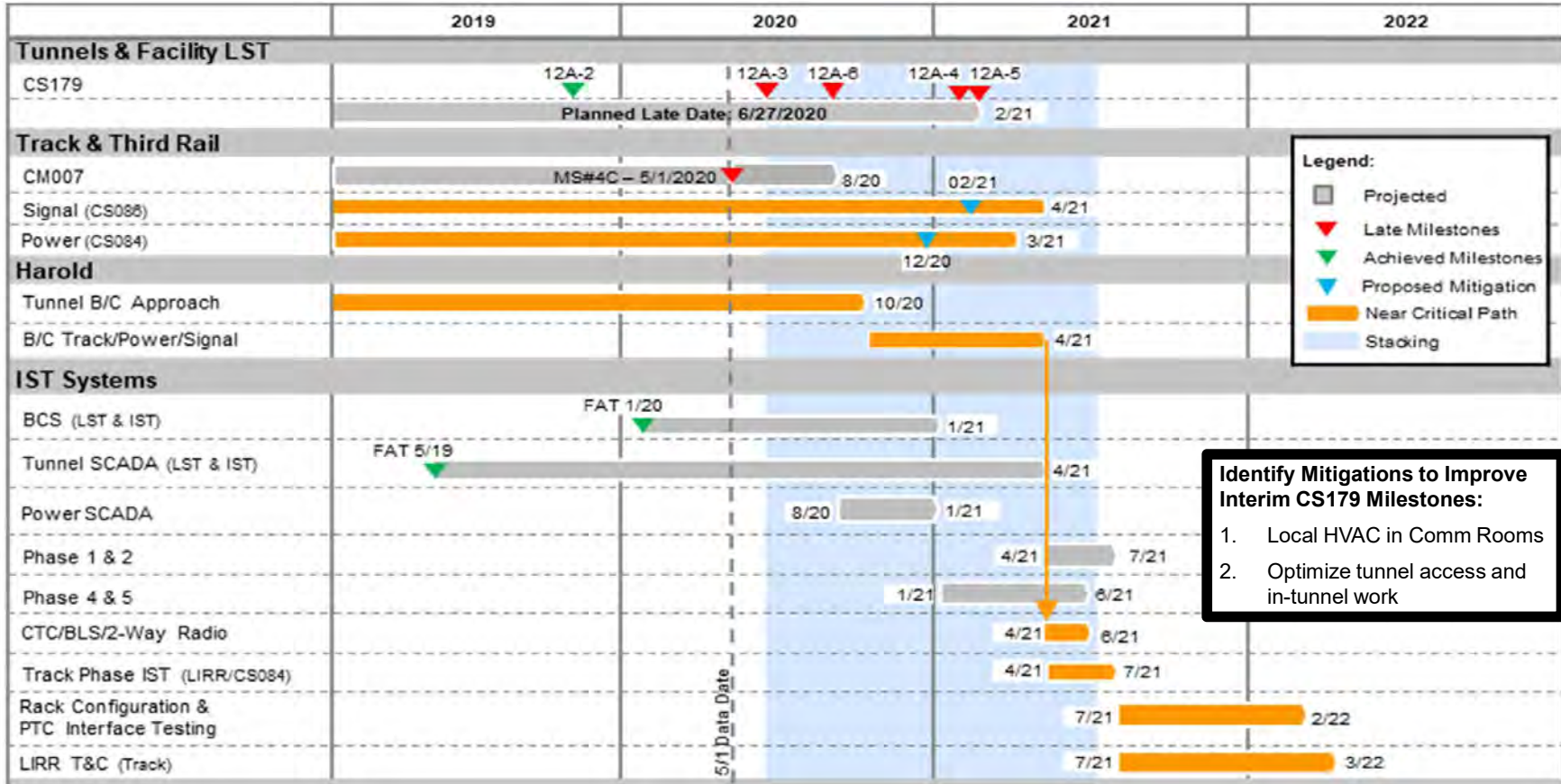
Legend:

- Projected
- ▲ Mitigated Milestone
- ▲ Unmitigated Milestone
- Unmitigated Critical Path
- Proposed Mitigated Critical Path
- - - Delay To Date

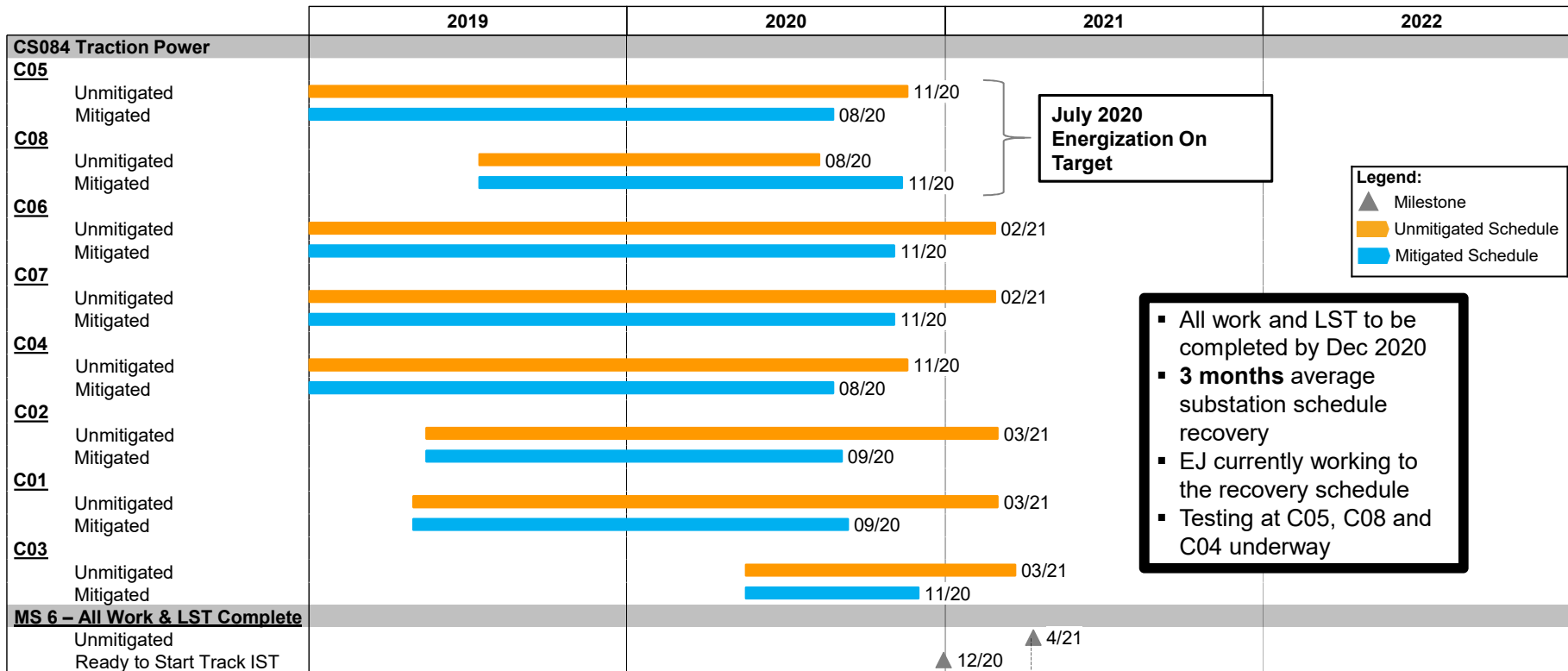
Schedule updated 6/24/20 based on JPMC's recovery position paper



Near Critical Path – Tunnel Completion through CS179, CS084 & CS086



CS084 Schedule Accelerated to Start Track IST 4 Months Early



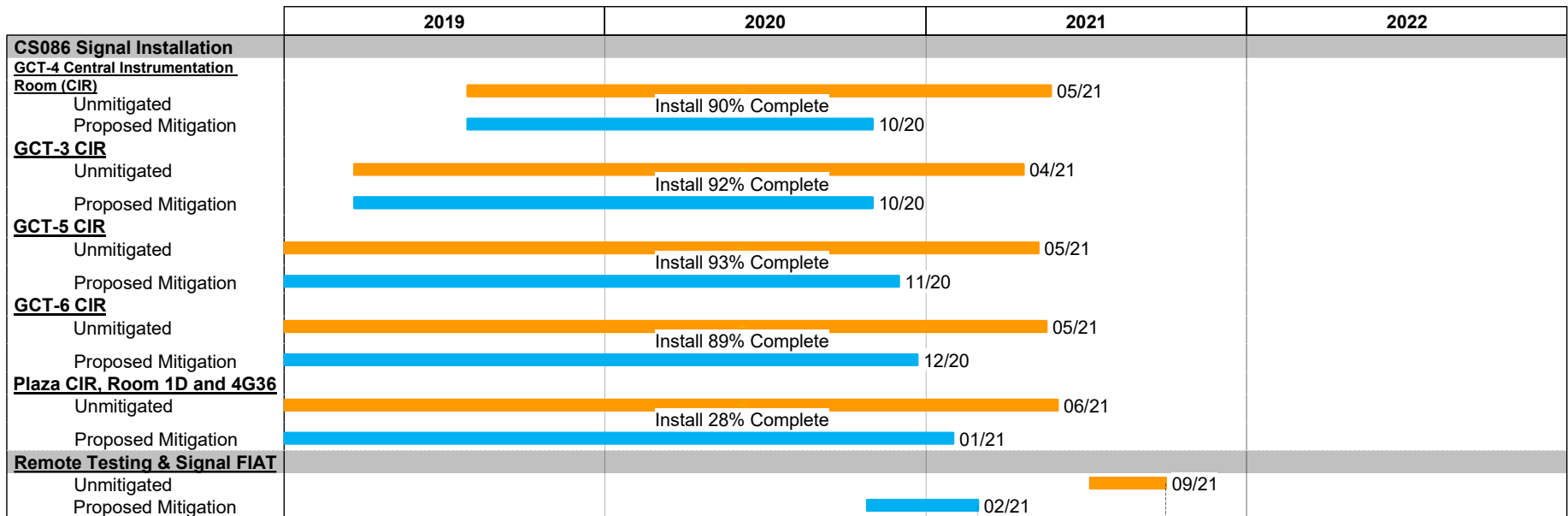
- All work and LST to be completed by Dec 2020
- **3 months** average substation schedule recovery
- EJ currently working to the recovery schedule
- Testing at C05, C08 and C04 underway

- ✓ Schedule Negotiated; MOD to follow
- ✓ Contractor working to the accelerated schedule; C08/C05 to be energized in July

Accelerates Start of Track IST by 4 Months



CS086 Schedule Recovery



Accelerates Signal Field Installation Acceptance Testing (FIAT) by 7 Months (Proposed)

- ✓ Draft recovery schedule received
- ✓ Contractor currently working to the accelerated schedule
- CS086 JV proposal submitted 6/9/2020; Negotiations target completion July



Risk Mitigation



Risk Mitigation

Risk	Issue	Impact	Mitigation
270 Park Avenue (JPMC)	JPMC's construction of shear walls for its new headquarters at 270 Park Avenue within the GCT Concourse is falling behind schedule	A delay to the shear wall construction could impact the start of restoration work and subsequent installation of devices by the facilities systems contractor (CS179). The completion of integrated systems testing for fire life safety systems will also be delayed.	ESA has demanded JPMC submit a recovery schedule that shows a recovery of time to support the interim and final milestones of the integrated schedule in the construction agreement. Additional shifts, as well as, additional drill rigs and other equipment pertinent to the shear wall foundation work are being required to recover lost time.
Delay to Local Testing (CS179)	CS179 has fallen behind in the completion of the installation of facility and tunnel systems (power, ventilation, drainage, HVAC, etc.) along the tunnel alignment in Queens and Manhattan	A delay to the installation of the tunnel and facility systems in Queens and Manhattan creates a delay to the start and completion of the local testing of the systems, required for start integrated systems testing (IST) for Phases 1 and 2.	ESA daily compares planned and actual work by the contractor and notifies the contractor in bi-weekly letters regarding the findings. The notifications point out noncompliance with planned work per contractor monthly schedule; deviations from the contractor's six week look-ahead schedule; and shortfalls in staffing to allow execution of the work as planned. Advancing the installation work will allow the contractor to improve local testing performance and achieve the milestones required to move to IST.
Positive Train Control (PTC)	The rack reconfiguration and Backbone Communication System (BCS)-PTC Layer 2 Virtual Private LAN Service (VPLS) Interface testing is currently scheduled to occur after the completion of Track IST (MS 12B-14). There is also subsequent LIRR testing with test trains required, which brings the PTC cutover date to February 2022.	The operational readiness date, when MTA C&D hands over the tunnels and track systems to LIRR, is currently at the end of February 2022. Any delay to the PTC rack reconfiguration and associated testing delays the operational readiness date and impacts LIRR training period with an active PTC.	Ensure that all PTC installations by CS084, CS086 and VS086, and the required networks by CS179 are completed in time to start PTC reconfiguration and testing by July 2021. Verify that durations for rack configuration, associated testing and cutover are sufficient to complete the work by operational readiness in February 2022. Utilize qualified contractor to execute work in time and minimize impact to BCS network.
Rail Replacement	Approximately 60,000 linear feet are corroded and need to be replaced, prior to LIRR taking over the tunnels and proceed with physical characteristics training.	Due to the quantity of rail required to be replaced, a replacement prior to the completion of Track IST cannot be done without delaying the Track IST completion date in June 2021.	MTA C&D is negotiating with LIRR to exchange the corroded rail in a condensed period of time between completion of track integrated systems testing (IST) and start of physical characteristics training. This would be a 7-day per week, 24-hour per day work window with unimpeded access for the rail contractor to perform the work.



Financial Summary



Financial Status

Description	May 2020 Forecast	May 2020 Invoiced	Remaining (incl. Contingency)
3rd Party Construction	\$ 7,077,982,112	\$ 6,361,499,305	\$ 716,482,807
Force Account	\$ 938,813,178	\$ 752,877,369	\$ 185,935,809
Soft Cost	\$ 2,198,302,763	\$ 1,866,198,113	\$ 332,104,650
OCIP	\$ 457,352,296	\$ 383,577,843	\$ 73,774,453
Rolling Stock	\$ 202,000,000	\$ 338,723	\$ 201,661,277
Contingency	\$ 258,867,900	\$ -	\$ 258,867,900
Total	\$ 11,133,318,249	\$ 9,364,491,353	\$ 1,768,826,900

Contingency Description		
Allocated Contingency		\$ 255,779,806
Unallocated Contingency		\$ 258,867,900
Total Contingency		\$ 514,647,706

3rd Party Expenditures		
April 2018 Plan		\$ 6,491,994,936
Actual		\$ 6,361,499,305

- ESA Budget of \$11.133B is now fully funded as a result of the approved 2020-2024 MTA Capital Plan (which added \$798M to the budget).
- Program cost forecasts include \$515M in allocated and unallocated contingency
- Total program invoiced amount through May 2020 is \$9.364B.
- Total 3rd Party construction invoiced amount is \$6.361B (approximately 90%).

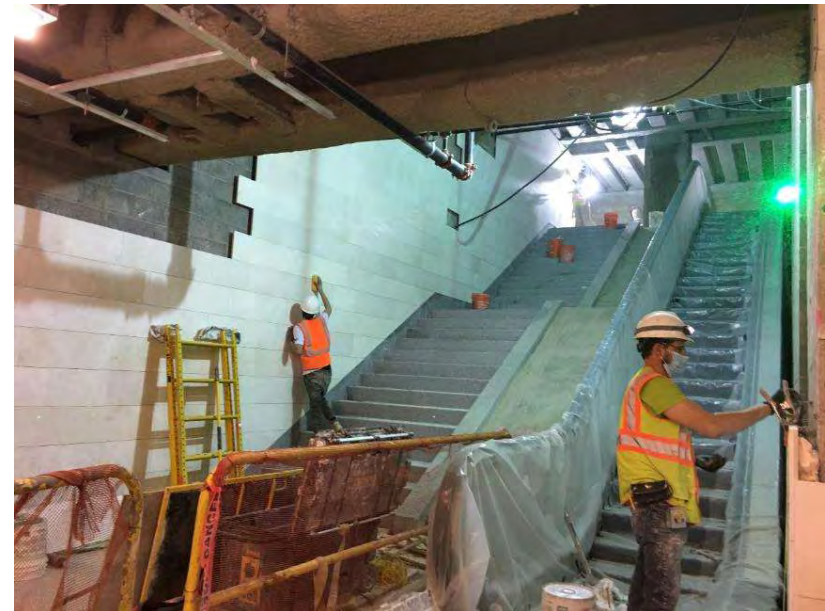


Progressing During the Pandemic



COVID-19 Impacts

- 36 positive cases to date
- Concourse and caverns shut down on March 17th – 23rd for cleaning
- Reduced contractor workforce for 15 weeks
- Potential costs are being tracked. ESA brought on a forensic accounting firm who specializes in FEMA claims to help identify all potentially eligible costs.
- MTA is currently treating claims due to COVID-19 as Force Majeure, which provides for time but no money.
- Pandemic impacts within each contract are being tracked and quantified in a dedicated risk matrix.
- CH063 Procurement Delayed: Scope transfers from CH063 to CH058A are allowing the work to be scheduled as planned and avoid impacts to the Harold program.



Installing stone in the future LIRR passenger concourse – June 2020

CH058A – Harold Structures: B/C Approach Structure



Working on the B/C Approach Structure – June 2020

Completed concrete work for the walls of the B/C Approach Structure – June 2020

CM007 – Grand Central Terminal (GCT) Caverns



Installation of architectural details in the future LIRR passenger terminal – June 2020

CM014B – GCT Concourse & Facilities Fit-Out



Installation of terrazzo in the future LIRR passenger concourse – June 2020

CQ033 – Mid-Day Storage Yard Facility



Installation of Substation B15 & B17 – May 2020



Completion of tracks in Harold Interlocking – March 2020

CS084 – Systems Package 4: Traction Power



Testing and installation of electrical equipment – May 2020

CS086 – Systems Package 2: ESA Signal Installation



CS179 – System Package 1: Facilities Systems



Testing and installation of electrical equipment – June 2020

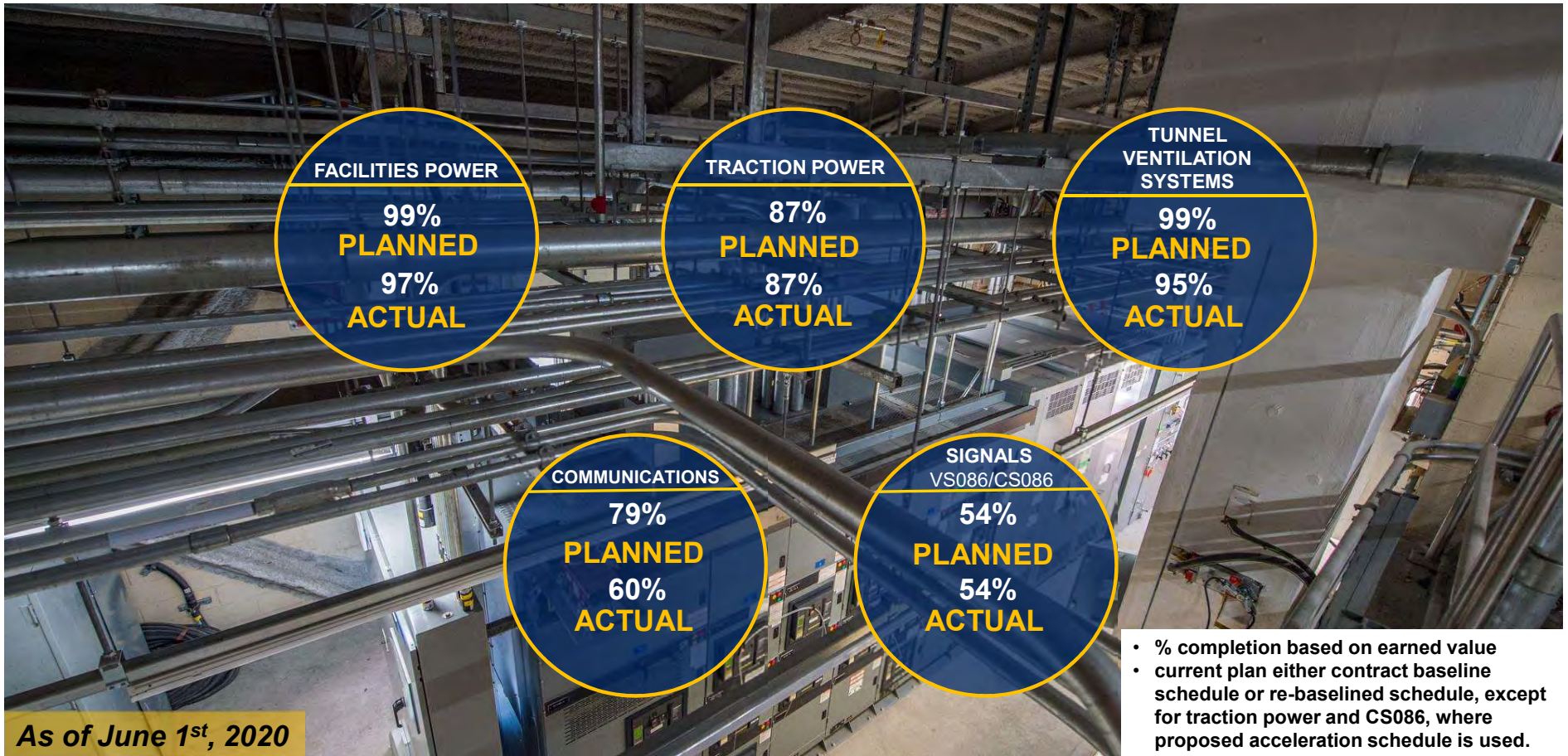
Capital Program Oversight Committee Report

Appendix

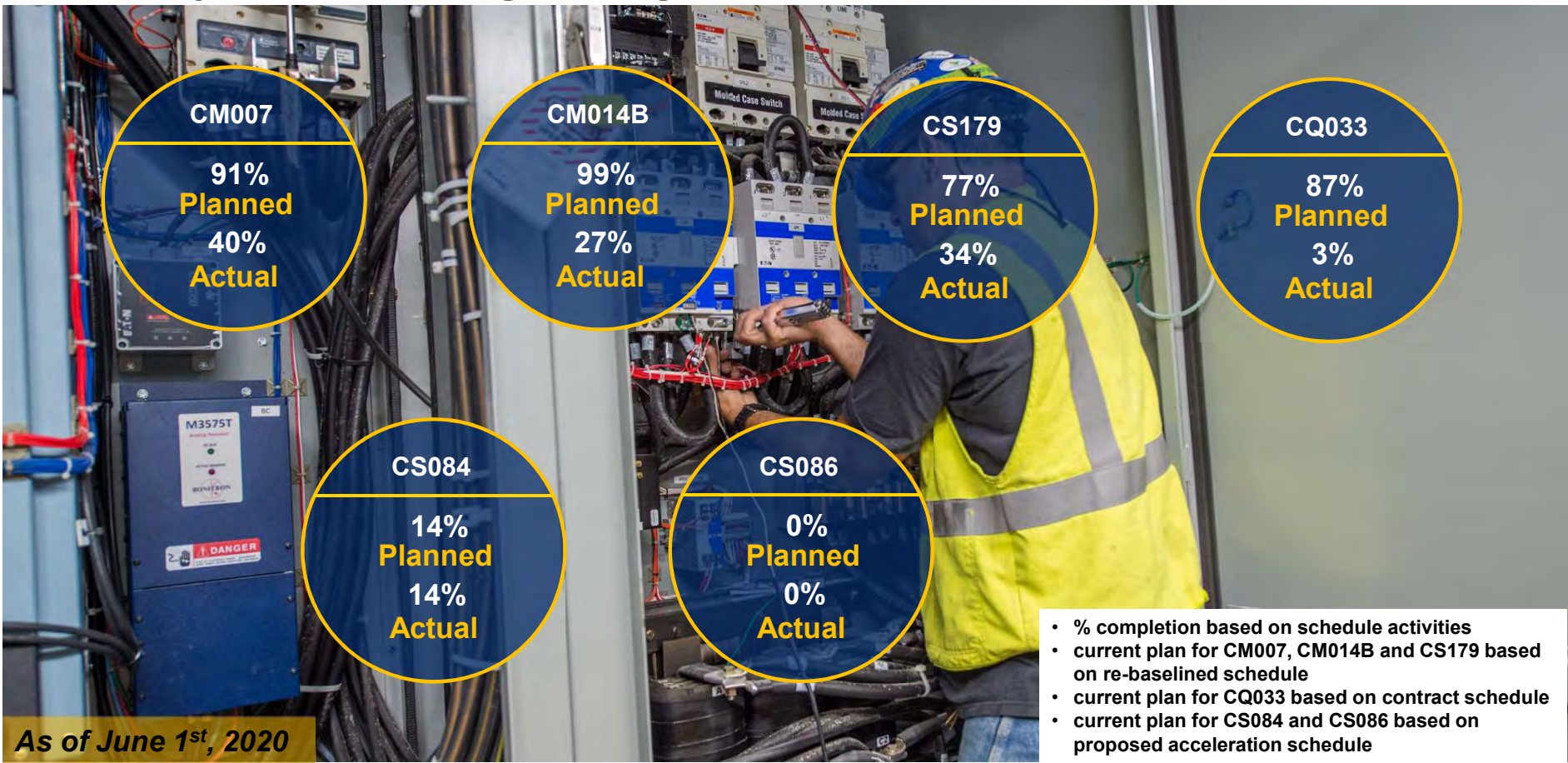
East Side Access, July 2020



Construction Progress – Systems Fabrication and Installation



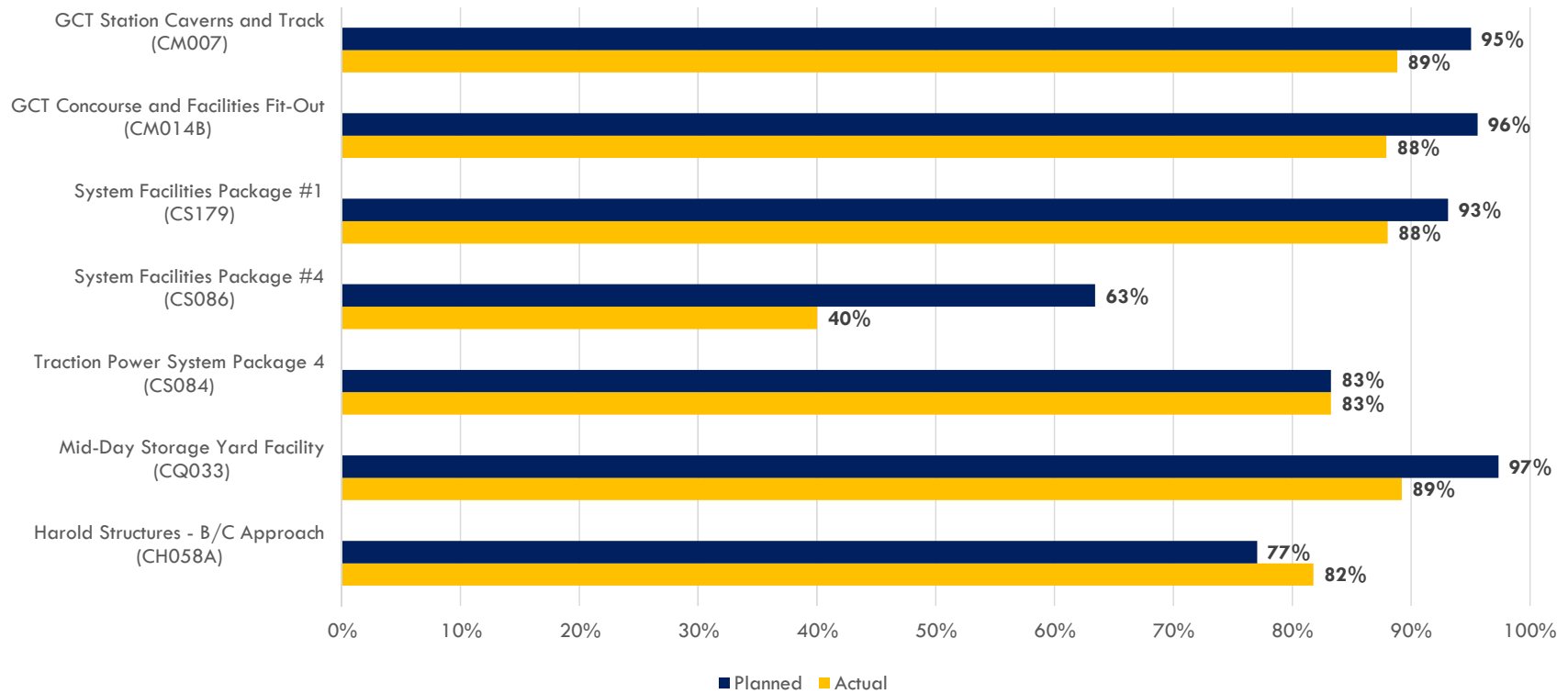
Local Systems Testing – Progress



As of June 1st, 2020



Active Construction Progress: Planned vs. Invoiced Amount

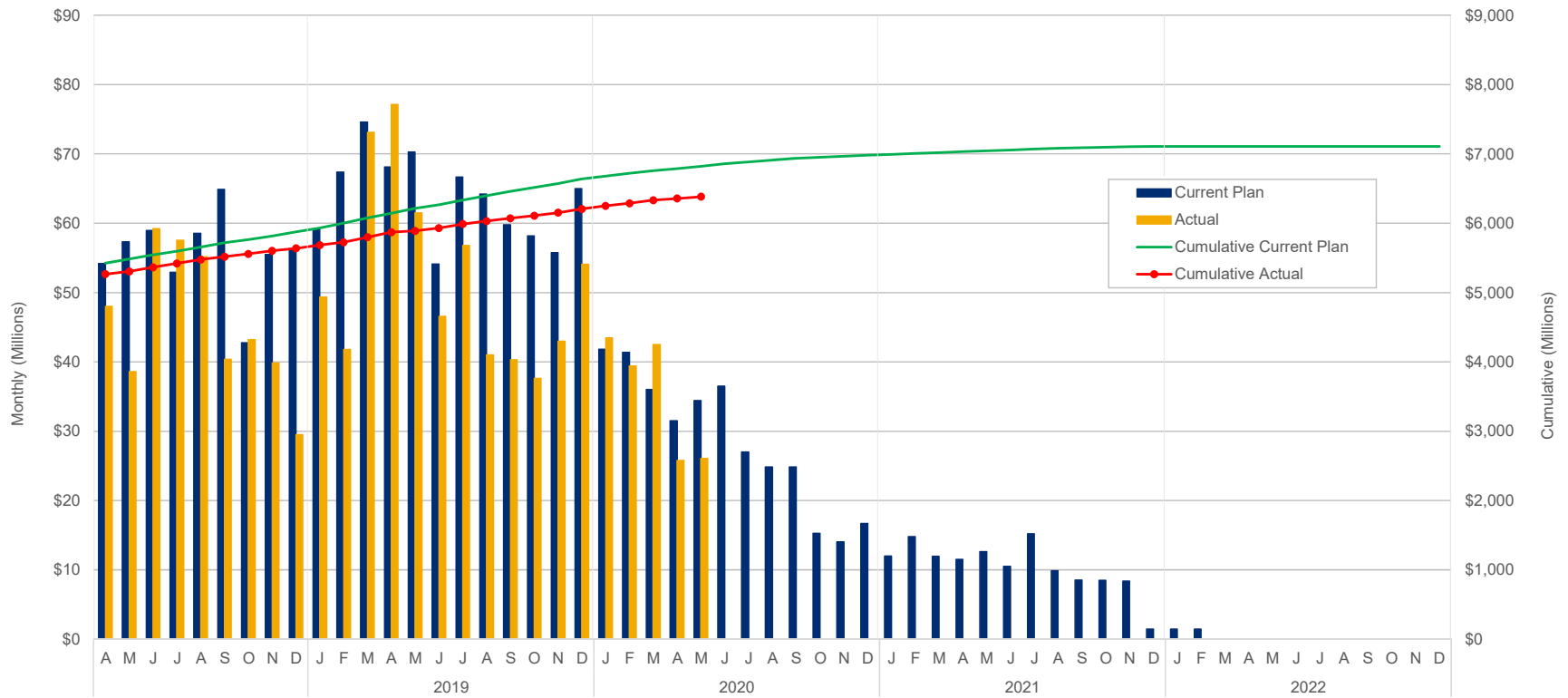


As of May 2020

Data reflects all contract work (ESA, Regional investment and other). Plan values for each contract derived from baseline or re-baselined schedule.



Active Construction Progress : Forecast vs. Invoiced Amount

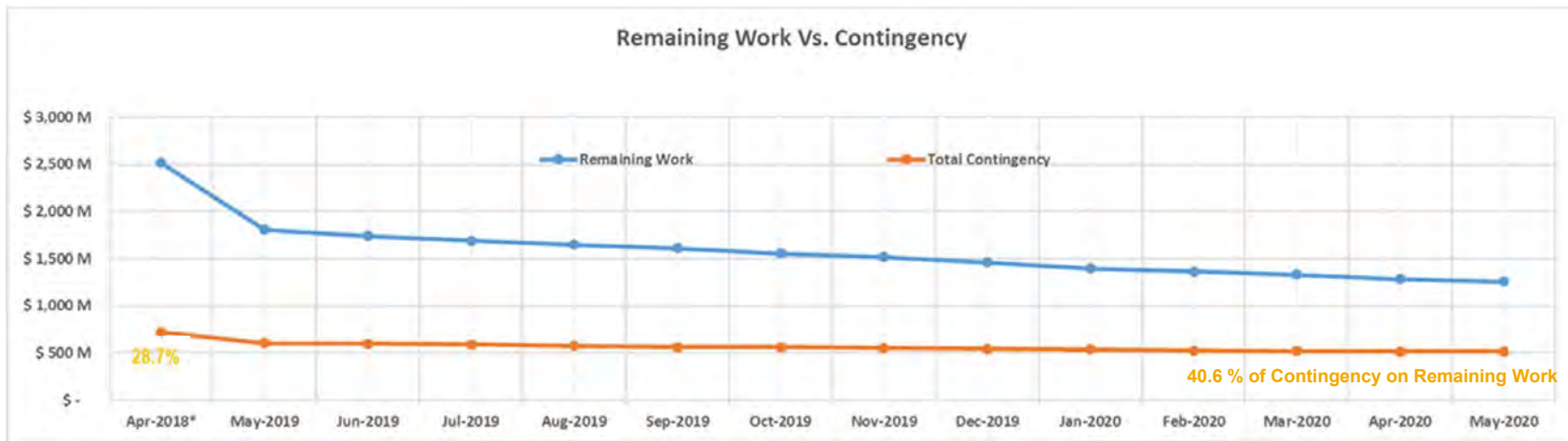


*Cumulative values include all 3rd Party Construction Costs (ESA Only) from the beginning of the project until December 2022

As of May 2020



Financial Performance: Cost Contingency



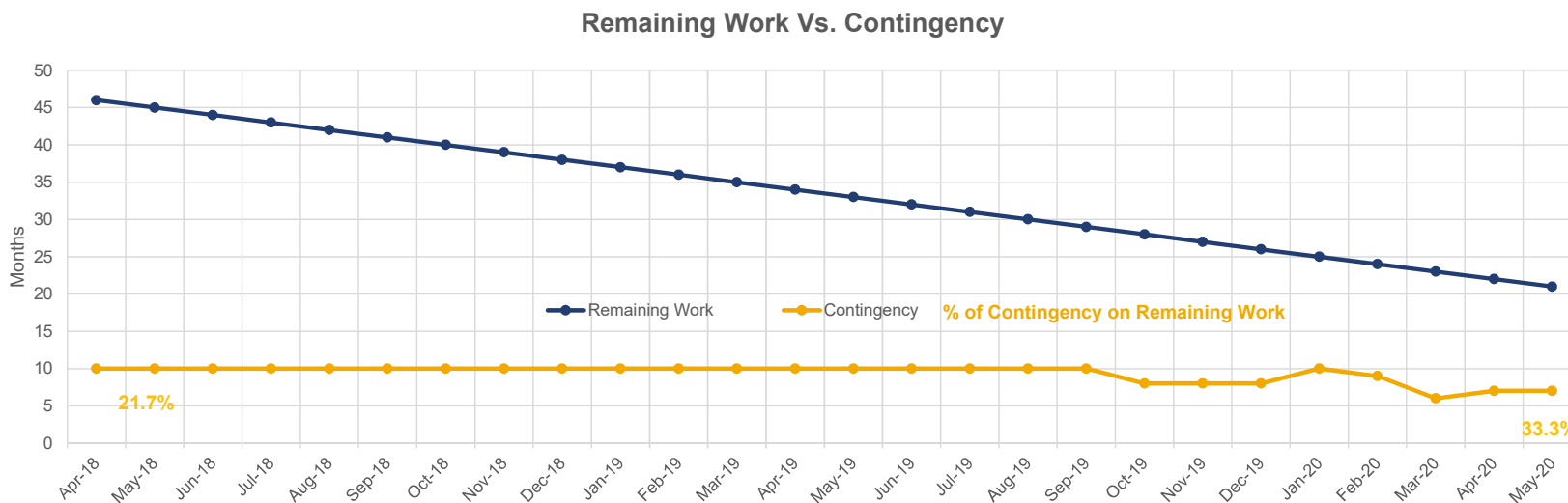
*Please note April to May '20 Transition

	April 2018	May 2020
Allocated contingency	\$456 million	\$256 million
Unallocated contingency	\$267 million	\$259 million
Total EAC Contingency	\$723 million	\$515 million

As of May 2020



Schedule Performance: Schedule Contingency



Category	October 2019 Total	Forecasted May 2020 Total
Program Contingency – Manhattan/Systems (Critical Path)	8 months	7 months
Program Contingency – Harold (5 months off Critical Path)	15 months	12 months
Program Contingency – Mid-Day Storage Yard (4 months off Critical Path)	16 months	11 months

As of May 2020



150-Day Look Ahead

Harold & Queens

- Completion of CQ033 substation deliveries.
- Complete detention piping and sanitary sewer.
- Complete Yard Services Building.
- Continue track/switch installations in Mid-day Storage Yard.
- Complete 39th Street Bridge re-transfer.
- Completion of BC Structure per CH058A Milestone #7.

Systems (CS179, CS084, VS/CS086)

- Energize traction power substations C05 and C08 in Queens and C04 in Manhattan.
- Fire Alarm at Queens available for IST.
- Finish local testing at Plaza, Roosevelt, Vernon, 12th, 23rd, 29th, Tunnels A and D.
- Install local, express signal cables, Vital, Non-Vital fiber, Wayside equipment installation & CIR rooms completion.
- BCS local testing complete.
- Progress FA & Security related CPR work in Concourse/Caverns
- Fabricate and deliver emergency power generator set..

- B01/02 energized in JAN/FEB 2020. B20/30 recertification is in progress.
- Continue Wayside equipment installation, cable pulls and terminations for CS086.
- Energize B03 & B04
- Complete TVF installation @ 23rd, 50th & 2nd Ave + Local testing, Complete TVF Air flow testing
- Complete FA devices installation in Zones 1,2,3, Caverns and start local testing

Tunnels, Terminal & Concourse

- Complete local testing for cavern equipment.
- Complete track work.
- Complete Chiller On and HVAC conditioning of Zones 1, 2 and 3. Originally forecasted for December 2019. It's now being forecasted July 2020.
- Turnover substation Units 5 and 6 for local testing and CS179 integrated system testing.
- Connections and terminations complete for substation Units 7, 8, 9 and 10.
- Mechanical and electrical systems testing.
- Completion of digital signage installation in Concourse.
- 50th Street Vent Plant equipment ready for balancing.
- Trackwork was completed. Installation of lubricators, switch rods, and impedance bonds and switch machine testing continues.

Capital Program Oversight Committee Report

East Side Access, July 2020



July 2020 Independent Engineering Consultant Project Review

East Side Access



McKISSACK

MTA Independent Engineering Consultant

Cost and Schedule Review

- Cost
 - The Independent Engineering Consultant's (IEC's) analysis indicates the current budget of \$11.133B, with the established allocated and unallocated contingencies, remains sufficient to complete the work required for Revenue Service.
- Schedule
 - Based on the project's risk informed program schedule (Master Coordinated Schedule), the IEC forecasts 3.5 months of program contingency remaining to the December 2022 Revenue Service Date, a reduction of 2.5 months since the last report.
 - The project team has developed mitigation strategies for JP Morgan Chase related work, signal and traction power, which have the potential to recover some of the program contingency.
 - The IEC concurs with the project team and LIRR on prioritizing the rail systems (track, signal, and traction power) to be handed over to LIRR prior to the completion of all Integrated Systems Testing (IST), to mitigate the impact to the program.
 - LIRR and the project team need to finalize the agreement on the requirements and criteria for LIRR takeover of ESA.
 - Contractor performance on installation, local testing and IST remains a schedule risk to the program. Continued delays to this work may add schedule pressure to LIRR takeover of the caverns and concourse and risk further consumption of program contingency.



Program Observations

■ Management

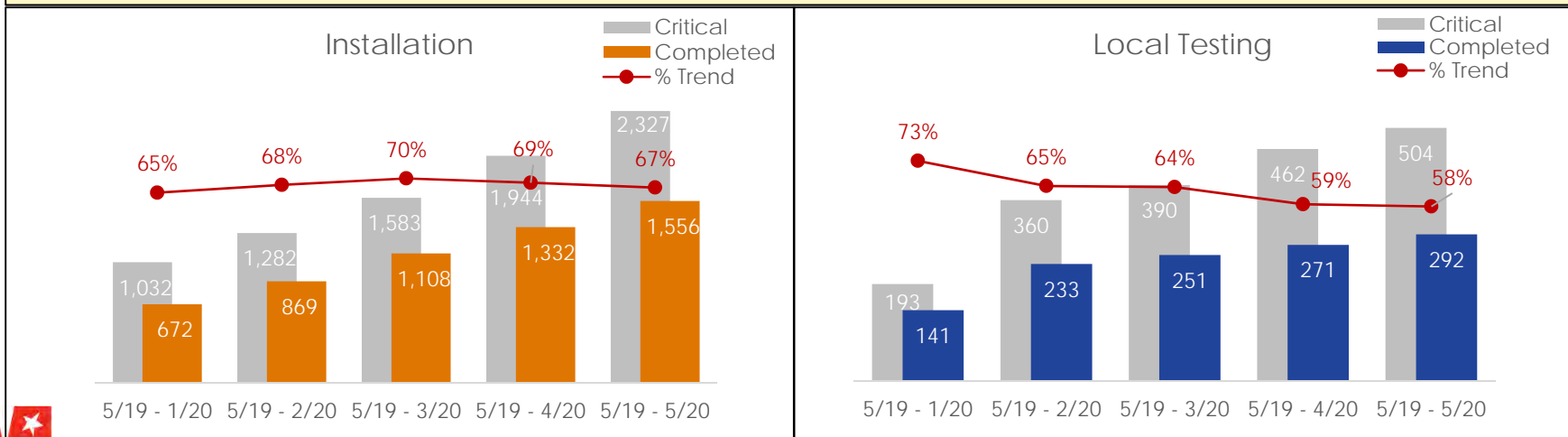
- As recommended by the IEC in December 2019, the project team is making efforts to improve efficiency and strengthen its Quality, Program Management, Construction Management and Testing and Commissioning groups by realigning existing resources, hiring signal and test engineers and establishing a Rail Director Team.
- Efforts have advanced in developing planning, monitoring and reporting tools for systems installation and testing work, which are intended to supplement the program schedule.
 - Challenges remain in finalizing and utilizing the local testing and IST tracking tool across all contracts, which hinders the management and reporting of testing work against plan.
- The IEC recognizes the project team's success in managing the CH058A Harold Structures - B/C Approach contract, which continues to achieve milestones ahead of schedule.
- The project team has been successful in prioritizing work, enabling the contractors to work through the COVID-19 pandemic, and minimizing the impact to the program.



Systems Observations

- Traction power installation (CS084) and signal installation (CS086) work, required to start local testing, have improved over the last quarter as a result of:
 - Progress on negotiations for acceleration and milestone revisions
 - Improved tunnel coordination
 - Remediation work for water infiltration and traction power monuments
- Since the May 2019 Acceleration/Settlement Agreement for the Facilities Systems and Integration contract (CS179), the installation and local testing progress of critical work is behind plan, 33% and 42% respectively, based on the project's risk informed program schedule.

CS179 Systems contract critical activities are lagging behind the May 2019 plan



Note: Chart reflects the activities required to be complete within the indicated duration.



MTA Independent Engineering Consultant

Systems Observations

- Several milestones established in the May 2019 Acceleration/Settlement Agreement for the CS179 contract have been missed and the upcoming milestones for the remaining year indicate delays up to 10 months.

Milestone*	Description	Milestone Date	Status	Achieved/ Forecast Date ⁽¹⁾	Variance (mo.)
12A-1	Tunnel SCADA Network FAT	30-May-19	Achieved	30-May-19	
14	Submit a Revised Contract Schedule	06-Aug-19	Achieved	06-Aug-19	
12A-8	Fire Alarm Network Installation	03-Oct-19	Achieved	02-Oct-19	
12A-2	Local Testing Group 1	29-Nov-19	Achieved-Partial	29-Nov-19	
12A-7	Backbone Communication System FAT	15-Jan-20	Achieved	12-Jan-20	
12A-10	Local Testing Signal Power System	03-Feb-20	Delayed	30-Jun-20 ⁽²⁾	5
12A-3	Local Testing Group 2	09-Mar-20	Delayed	19-Sep-20	6
12A-4	Local Testing Group 3	23-Apr-20	Delayed	13-Feb-21	10
12A-6	Local Testing Group 5	05-May-20	Delayed	4-Aug-20	3
12A-9	Local Testing of Building Level Network	29-May-20	Achieved	18-May-20	
12A-5	Local Testing Group 4	17-Jun-20	Delayed	13-Feb-21	8
12B-4	Backbone Communication IST Complete	19-Aug-20		21-Jan-21	5
12B-7	Power SCADA Network IST Complete	04-Nov-20		07-Jan-21	2
12B-5	Tunnel SCADA IST Complete, Tunnel Ventilation and Tunnel Drainage System	16-Nov-20		01-May-21	6
12B-6	Fire Alarm IST Complete	24-Nov-20		07-Jul-21	7
12B-12	Phase 4 IST Complete	04-Dec-20		27-Apr-21	5

Notes: (1) Reference: 5/1/2020 Master Coordinated Schedule

(2) Date provided during the 5/28/2020 Project Review Meeting

* Not all the contract milestones are reflected in this table.

- IST has been delayed by contractors' performance, late handovers from predecessor contracts, JP Morgan Chase work in the concourse, quality issues and change orders. This has added schedule pressure to LIRR takeover activities, in particular the concourse and caverns, and consumed some of the program contingency.



McKISSACK

MTA Independent Engineering Consultant

Program and Systems Risks

- ❑ Risk of further delays to the systems installation and local testing work, resulting from lack of contractors' performance and execution of change order work, can impact Integrated Systems Testing and subsequent LIRR takeover of ESA.
- ❑ LIRR, ESA and contractor resources required to perform and witness local testing and IST across all contracts may be insufficient due to the high volume of concurrent activities.
- ❑ Rail remediation work may add schedule pressure to LIRR training of Train and Engine (T&E) crews, and risk consumption of program contingency.
 - ❑ This work has yet to be incorporated in the program schedule.
- ❑ Potential refinement of LIRR's Positive Train Control (PTC) final design, and delays to the execution of the ESA PTC change order work remain a schedule risk to the program.
- ❑ COVID-19 regulations and CDC guidelines for social distancing pose a schedule risk to the remaining work in confined areas.

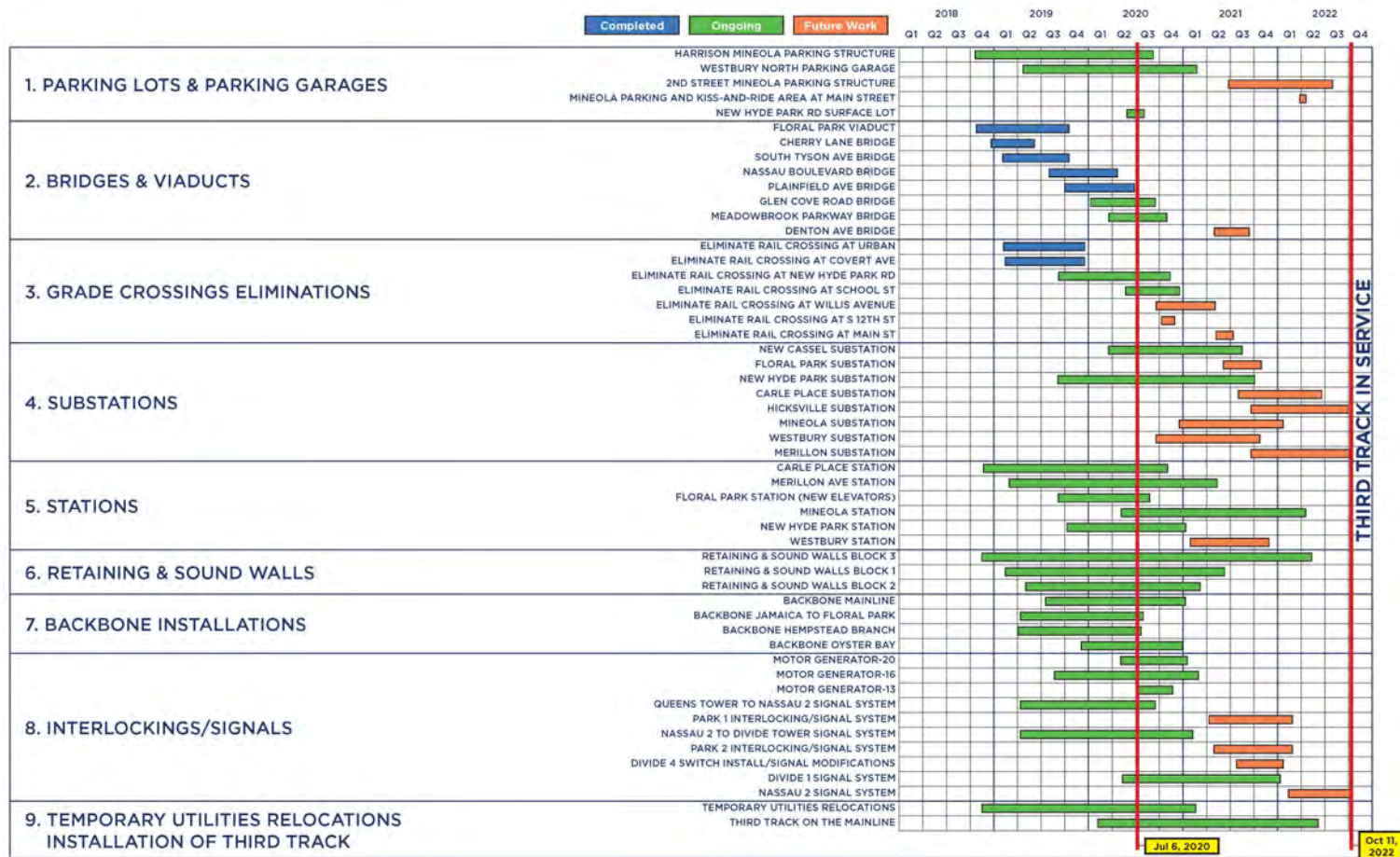




 A ModernLI
**LIRR Expansion Project
Floral Park to Hicksville**

**CPOC Update
July 2020**

Construction Schedule Summary



Financial Summary

Total Program	Total
Design-Build – Current Contract	\$1,767,183,215
LIRR/Force Account	\$340,066,701
Project/Other	\$292,857,046
Contingency	\$188,425,730
Total Budget with Contingency	\$2,588,532,692

Expenditures	Total
Projected	\$1,135,761,017
Actual	\$1,053,909,488

Change Orders	Total
Executed	\$3,307,950.68
In Negotiations	±\$5M
Remaining Contingency	\$185M - \$190M

**Actuals through May 2020.*

1. 2020-24 Capital Plan approved in Jan 2020

- NTP for the Design-Builder Completion Option issued on 2/3/2020
- NTP for the PMC Contract Extension issued on 4/3/2020

2. Project remains under budget:

- In negotiations - addl ± \$5M that includes credits and debits

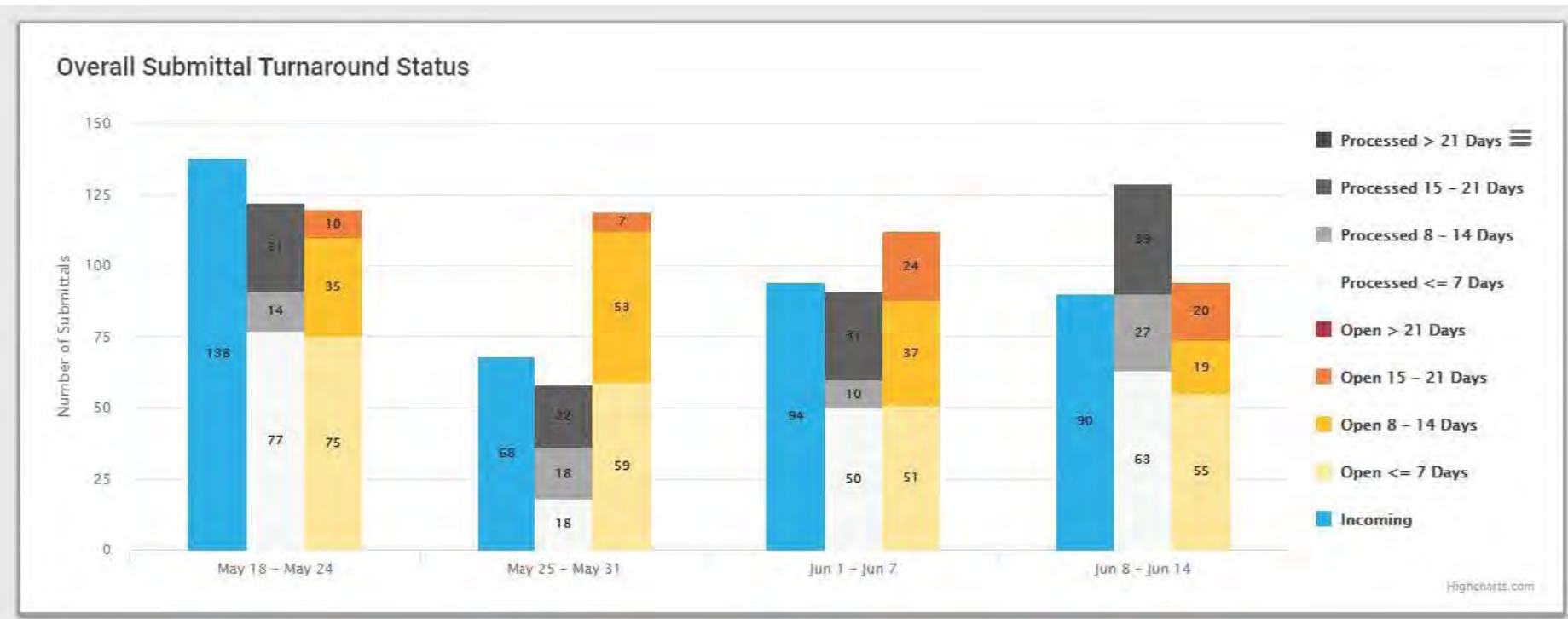
3. DB Project is on schedule:

- 46.5% project progress – verified work
- All project elements proceeding on schedule
- Off right-of-way elements overall advancing on schedule with some negative variances observed in Willis Avenue area
- On right-of-way elements advancing per schedule, with schedule slippages addressed on an ongoing basis (Nassau-1 cutover date forecast: January 2021)
- Advancing two under-grade crossings and two substations early

Risk Mitigation

Risk	Issue	Concern	Mitigation
Temporary / Permanent Utility Relocations	Extent of temporary / permanent utility relocations and no outage window during PSEG summer moratorium	Utility relocations may take longer than allocated in the schedule	<ul style="list-style-type: none"> • Weekly coordination between PMT and Design-Build team to develop integrated solution • Re-sequenced work to avoid outage requirement during summer months • Dedicated personnel appointed to enable quick decision making • Established protocol to quickly elevate major issues to senior management (3TC/PMT/Utilities) for resolution
Interlocking Cutover	Complicated coordination and scheduling of all work elements prior to cutover	If completion of any one of the work elements is delayed it may impact the cutover schedule	<ul style="list-style-type: none"> • Weekly task force meeting to discuss the path to first Interlocking cutover at Nassau 1 • Developed detailed task list with BICs and deadlines, schedule fragnets and DCS logic revisions to ensure all work elements will be completed prior to the cutover date
Work Sequencing at Mineola	Construction at Mineola area is the most complicated part of the corridor	Significant unknowns on constructability, restricted working area and temporary traffic plans	<ul style="list-style-type: none"> • Regular coordination meeting with Design-Build team to develop workable phasing plans • Developing a detailed phasing plan to ensure scope is defined and properly scheduled • Working with Mineola Mayor to ensure construction staging matches local needs and expectations
Supply Chain Disruption	Supply chain disruption due to COVID-19 pandemic	If material supply and material delivery is disrupted, it may impact the construction schedule	<ul style="list-style-type: none"> • Established tracking system to monitor material suppliers status. Identify alternative supplier if necessary • Regular discussions with Design-Build team to ensure material delivery is on schedule

Key Performance Indicators



Submittals through June 14



Progressing During the Pandemic



COVID-19 Guidance

- Following State and Local directives and guidance
- Implementing robust safety protocols and reporting requirements
- Using video conferencing in lieu of in-person meetings
- Beginning phased return of project staff to Westbury field office

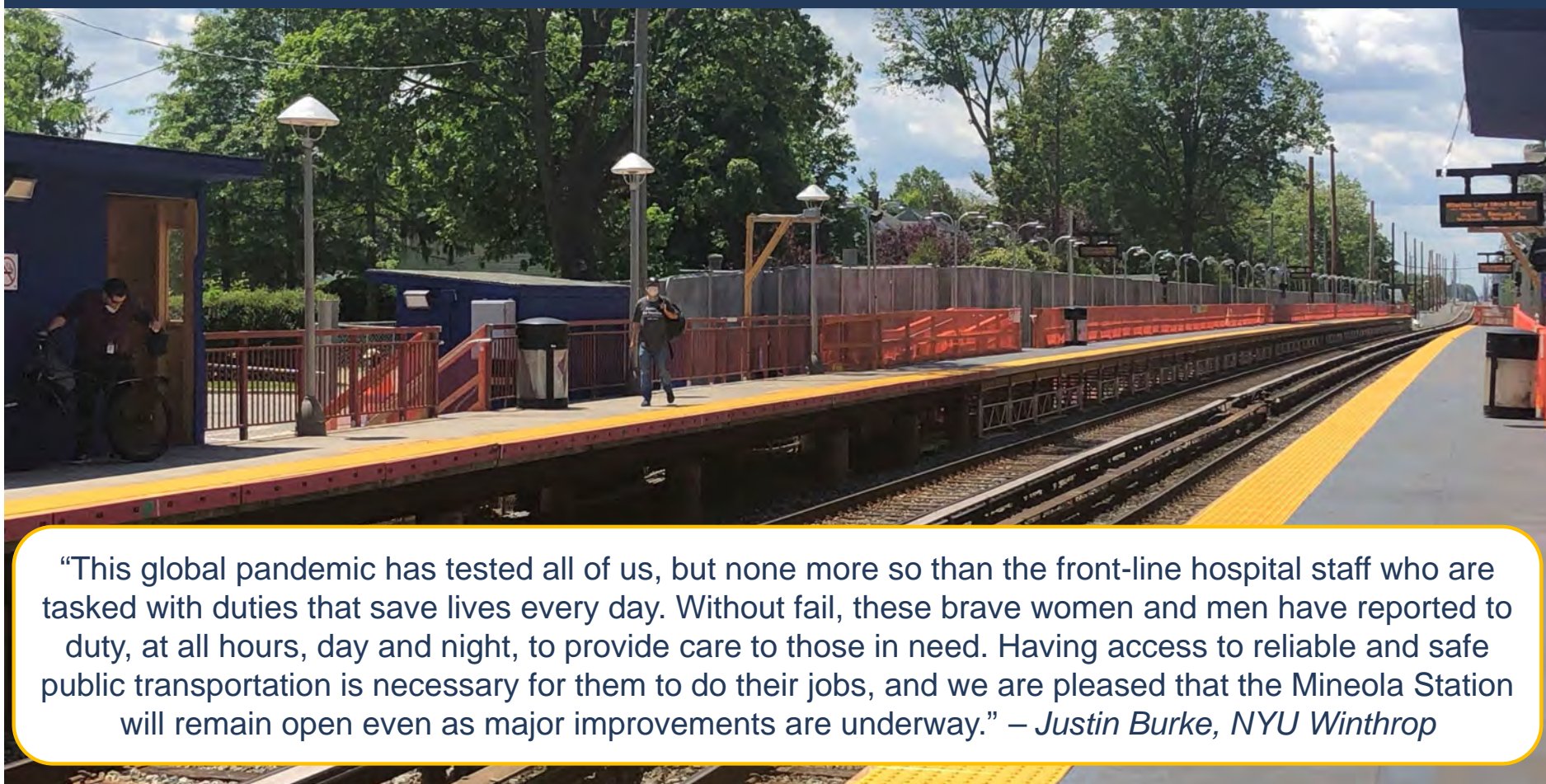


COVID-19 Guidance

Adjusting safety briefings, using PPE and social distancing in the field where possible



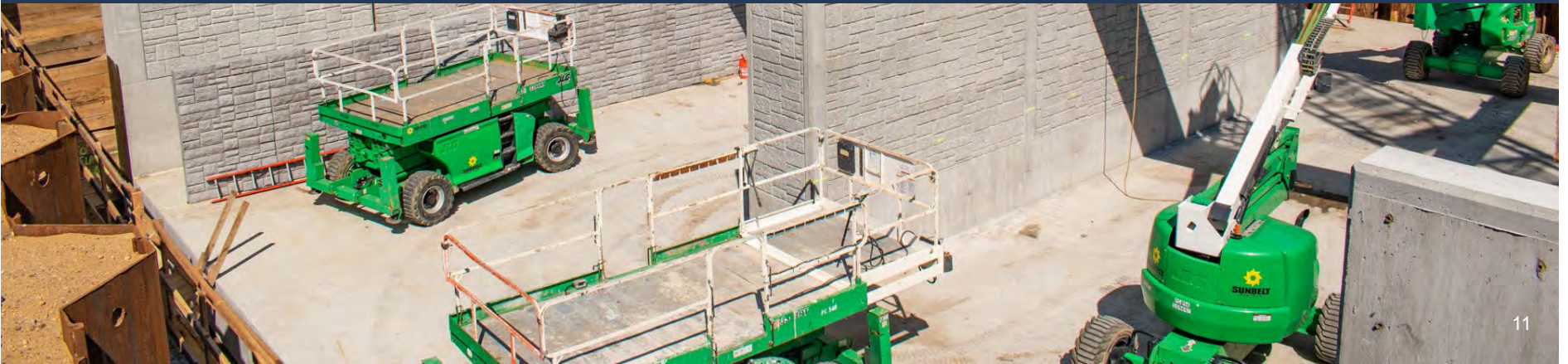
Maintaining Transportation Access



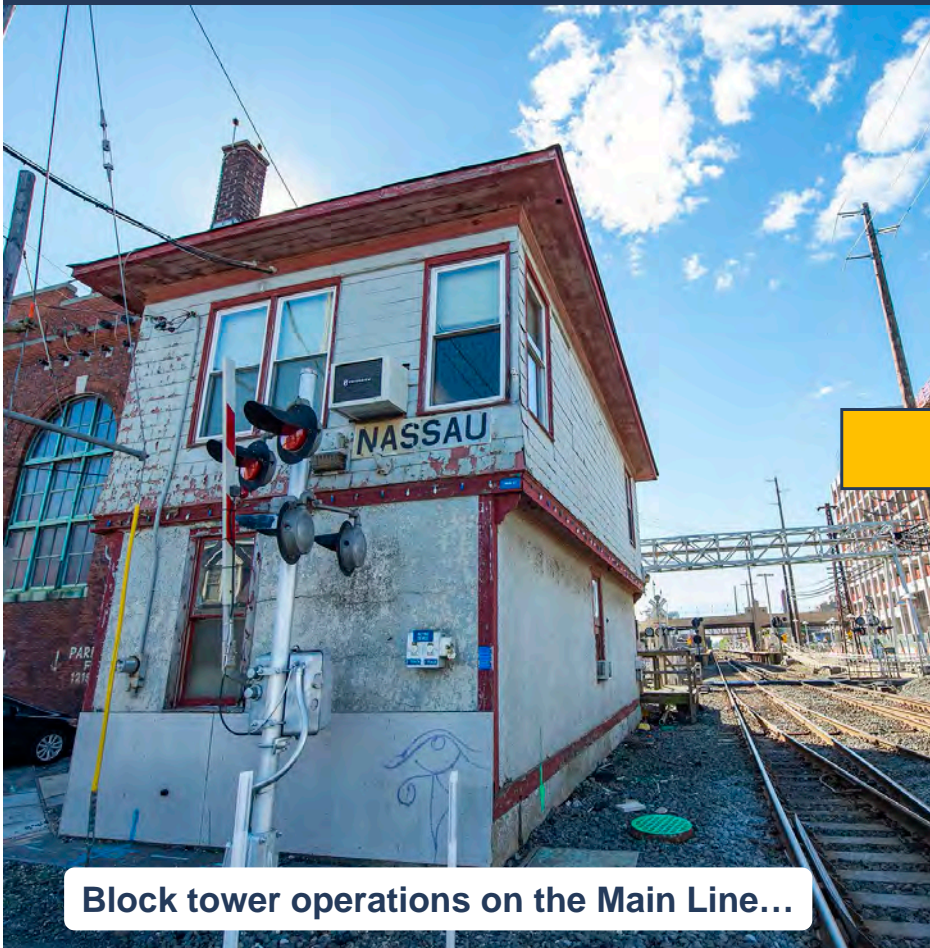
“This global pandemic has tested all of us, but none more so than the front-line hospital staff who are tasked with duties that save lives every day. Without fail, these brave women and men have reported to duty, at all hours, day and night, to provide care to those in need. Having access to reliable and safe public transportation is necessary for them to do their jobs, and we are pleased that the Mineola Station will remain open even as major improvements are underway.” – *Justin Burke, NYU Winthrop*



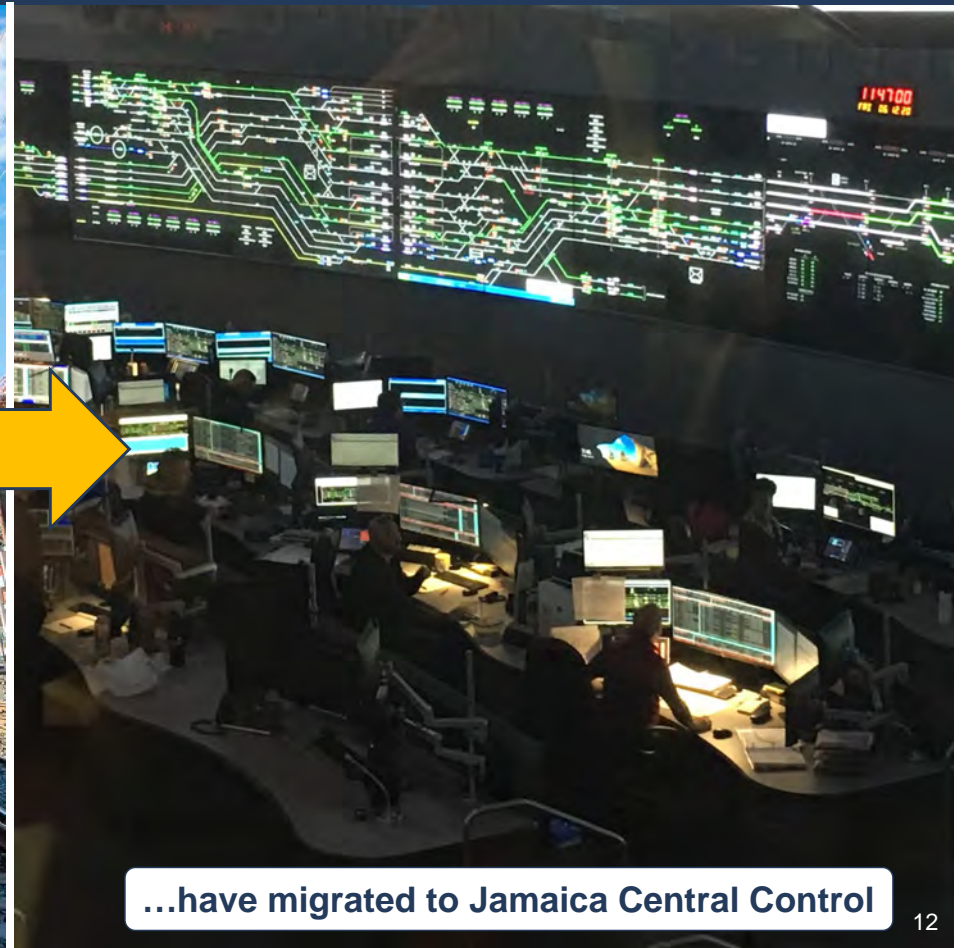
Virtual Progress Tour



Jamaica Central Control Migration



Block tower operations on the Main Line...



...have migrated to Jamaica Central Control

Bridge Replacements & Modifications



Glen Cove Road Bridge



Plainfield Avenue Bridge

Stations



Floral Park Station



Carle Place Station



Merillon Avenue Station

Grade Crossing Eliminations

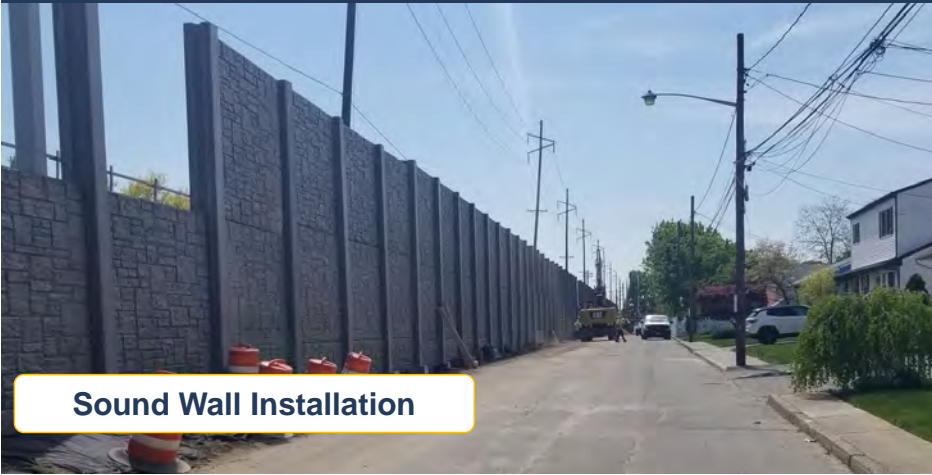


New Hyde Park Grade Crossing



School Street Grade Crossing

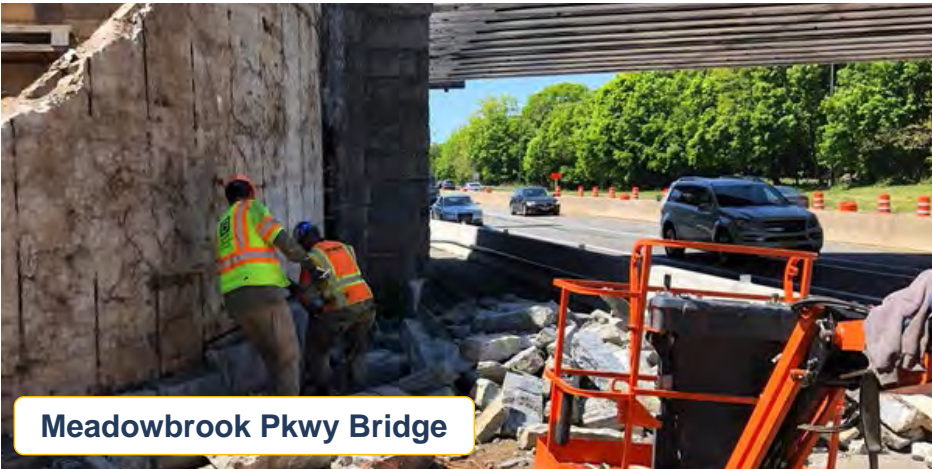
Progress Continues



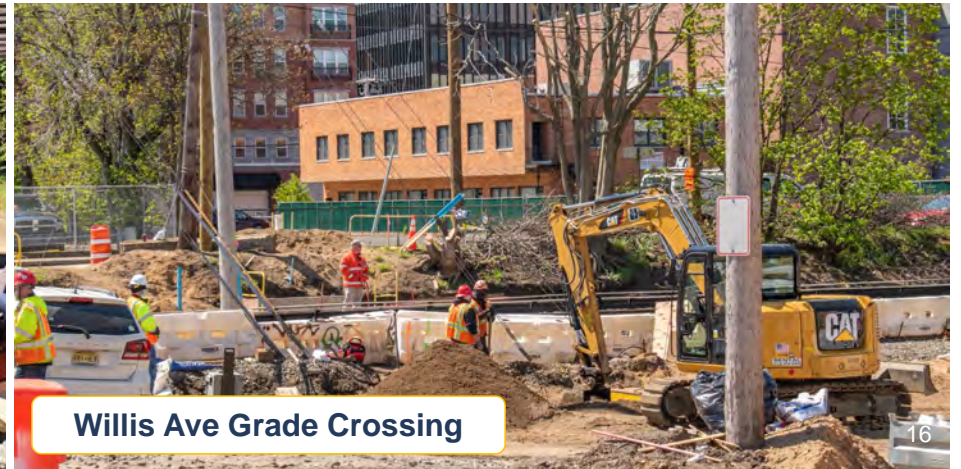
Sound Wall Installation



Westbury N. Parking Garage



Meadowbrook Pkwy Bridge



Willis Ave Grade Crossing

July 2020 CPOC Independent Engineering Consultant Project Review

Long Island Rail Road Expansion



McKISSACK

MTA Independent Engineering Consultant

Schedule Review

- The project has met all 2020 milestones to date. The IEC's review verifies that the project's Substantial Completion date remains on schedule.
 - The critical path goes through the design and construction of Divide 1 and Nassau 2 interlockings.
- The IEC has observed that the latest project schedule (data date 6/01/2020) has pushed out the following major work activities, thereby compressing the scheduled work in 2021:
 - Nassau 1 interlocking has been re-sequenced from November 2020 to January 2021.
 - Underpass construction of Willis Ave. for the Main Line and Oyster Bay Lines have been re-sequenced from October 2020 to March 2021.



Budget Review

- An analysis for the design, construction and soft costs to verify the project's estimate at completion (EAC) was performed. Based on this analysis, the IEC concludes the project EAC is within budget and contingency expenditures have been minimal.
- The average burn rate during the first half of 2020 has been below previous forecasts, supporting IEC observation of schedule compression becoming a challenge in 2021.



McKISSACK

MTA Independent Engineering Consultant

Risk

- The top project risks are:
 - **Long lead items:** Design, procurement and delivery of long-lead items, e.g. signal and substation equipment, track, switches and concrete ties.
 - **Utility relocations:** Temporary and permanent utilities at Mineola, e.g. underground utilities including signal, power, and overhead electrical lines need to be relocated before the installation of retaining walls then followed by the raising of tracks.
 - **Force Account support availability:** LIRR projects compete for common services and have similar substantial completion dates.
- In the opinion of the IEC, based on cost, schedule and risk reviews, the agency continues to take appropriate steps to mitigate risks associated with achieving milestones.





MTACC Report to CPOC Second Avenue Subway Phase 2

July 22, 2020





Delivering on Promises

- Serves Transit-Dependent Community
 - Over 70% of residents use public transportation to get to work vs. 55% city-wide
- Improves Access to
 - Jobs
 - Health care options
 - Educational institutions
- Improves Service Beyond SAS
 - Improves reliability by reducing crowding along the Lexington Avenue Line - among the busiest transit lines in America
 - Connection to Metro North Railroad

NO CHANGES FROM DECEMBER SLIDE



Dismantling of Second Ave. Elevated Line in the 1940's



Federal Funding

Funding Agreement Goal: Previously by Q4 2020
New date TBD.



Project Development

- Entered Project Development Dec. 2016
- NEPA Re-evaluation SEA (Supplemental Environmental Assessment) completed and FONSI (Finding of No Significant Impact) issued Nov. 2018.
- Project received Medium-High rating from FTA in February 2020
- NEPA Re-evaluation (Tech. Memo) issued April 2020. Anticipated approval: Q3 2020.

Engineering

- Received FTA's Risk & Readiness Workshop results : August 28, 2019
- Submitted revised Request to Enter Engineering on September 5, 2019
- **Need FTA approval to Enter Engineering Phase of New Starts Program.**
Goal previously Q1 2020.
New date TBD.
- 2020-2024 Capital Plan includes remainder of funding for SAS Phase 2.

Funding Agreement

- Submit request for an FFGA (Full Funding Grant Agreement) Previous Goal: April 2020. New date TBD.
- Project team is sharing documents with FTA consultant to expedite FFGA after project enters Engineering Phase.

SAS Phase 2 will provide better value per Federal dollar on a cost per rider basis compared to other applicants in New Starts pipeline.





Cost Containment

- Previous Cost Containment Efforts have already reduced project cost by up to \$1B.
- Joint NYCT/Project Team Task Force
 - NYCT operational & engineering staff and project design team collectively developed over 70 innovative cost containment ideas covering all major systems.
 - Up to \$80 M in savings will be incorporated into the project.
 - Items totaling up to an additional \$100 M still being assessed as part of the MEP & Systems ongoing design effort.

Example of Cost Containment Idea

Deferment of Traction Power Substation at 105th Street until it is needed during Phase 3 and 4.

Up to \$19 M savings.





Design Progress

- Advanced Works (Contract 1)
 - Design completed.
- Civil/Structural Design/Build (DB) (Contracts 2 & 3)
 - Contract documents being updated to incorporate additional cost containment and based on developer coordination at 125th Street.
- MEP, Systems, and Arch. Fit-out Design/Build (DB) (Contract 4)
 - Development of contract documents ongoing.
Anticipated completion: Q2 2021
- Ongoing coordination with Developers at 125th Street Station





Public Outreach Update

- The Second Avenue Subway P2 Outreach team has kept East Harlem Elected Officials and stakeholders apprised of project status during COVID-19 NY PAUSE
- Continued to engage with property owners and survey teams to advance property survey work
- Continued to engage with property owners in support of advancement of design and engineering for early utility work
- Community Outreach Center is currently closed to public but will reopen in the near future.
- Since opening the Community Information Center, in 2017, the Outreach team had interacted with over 11,000 visitors, and engaged another 12,200 at pop-up events. These activities will need to be refined post-COVID.



July 2020 Independent Engineering Consultant Project Review

Second Ave Subway Phase 2



McKISSACK

MTA Independent Engineering Consultant

Cost and Schedule Review

- A comprehensive cost containment proposal was completed in January 2020 by the Project Team in partnership with Transit User Group staff.
 - Up to \$180 M in additional savings identified
 - Lessons Learned from Phase 1 played a major role

- Current schedule plan shows a 93 month duration from award of first construction contract to start of Revenue Service.
 - FTA Risk Assessment recommended an additional 16 months contingency.
 - Advertisement of first contract pending commitment for Full Funding Grant Agreement for Federal share.



MCKISSACK

MTA Independent Engineering Consultant

Risk Review

- The top risks to the project's success include:
 - Current uncertainty with Federal funding commitment
 - Market conditions for large Design-Build contracts
 - Systems integration & testing issues
 - Unanticipated geotechnical conditions
- The Project Team is developing mitigation strategies accordingly.



MCKISSACK

MTA Independent Engineering Consultant

Recommendation

- MTA C&D should set a timetable for completing agreements on cost containment that supports the planned completion of the Mechanical, Electrical, Plumbing, Systems and Architectural Fit-Out Contract documents.
- This agreement is needed for efficient progressing of remaining design.



McKISSACK

MTA Independent Engineering Consultant

MTA Capital Program Commitments & Completions

through June 30, 2020

Capital Projects – Major Commitments – June 2020

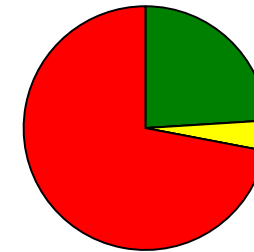
In 2020, agencies have a goal of \$13.5 billion in overall commitments. 50 major commitments are included; 28 for NYCT, eleven for LIRR, four for MNR, one for B&T, four for Network Expansion, and two for MTA Bus.

The MTA's Chairman Pat Foye announced at the March 25th Board meeting that capital work commitments will be considered on an exception basis. This action has impacted commitments since then.

Through June, agencies have committed \$2.5 billion versus a \$5.2 billion YTD goal. The shortfall is mainly due to slips of seventeen major commitments pursuant to the moratorium on new commitments announced by the MTA Chairman. The seventeen major slips are explained on the following page.

The MTA's \$13.5 billion 2020 commitment plan is under review.

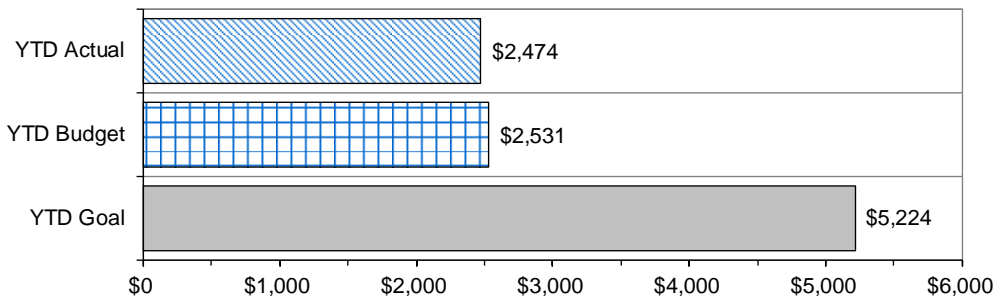
Year-to-Date Major Commitments



	Count	Percent	Change from Prior Month
GREEN = Commitments made/forecast w/in Goal	6	23%	-
YELLOW = Commitments delayed beyond Goal (already achieved)	3	12%	↑ 3
RED = Commitments delayed beyond Goal (not yet achieved)	17	65%	↑ 4
Total	26	100%	↑ 7

Budget Analysis

2020 Annual Goal	\$13,497	(\$ in millions)
2020 Forecast	89%	of Annual Goal
Forecast Left to commit	79%	(\$9,565)



Year-to-Date Agency Breakdown

2020 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
3 GREEN, 1 YELLOW, 8 RED	----	+1 YELLOW	+1 RED
Long Island Rail Road			
2 GREEN, 2 YELLOW, 3 RED	----	+2 YELLOW	+1 RED
Metro-North Railroad			
3 RED	----	----	----
Bridges and Tunnels			
----	----	----	----
Capital Construction Company			
1 GREEN, 2 RED	----	----	+2 RED
MTA Bus Company			
1 RED	----	----	----
MTA Police Department			
----	----	----	----

Capital Projects – Major Commitments – June 2020 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
17 All-Agency Red Commitments (6 New Items)							
NYCT				LIRR			
Passenger Stations				PSNY			
Replace 11 Hydraulic Elevators / Various	Construction Award	Mar-20	Jul-20	PNSY 33rd St Corridor- Phase 1A	Construction Award	Jun-20	Sep-20
		\$65.9	\$69.6			\$24.0	\$24.0
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost increase reflects project complexity and unfavorable bids.				This award is the balance of Phase I and II support costs. The award is delayed to reflect timing of Phase II award.			
Replace 8 Escalators / Various	Construction Award	Mar-20	Jul-20	PNSY 33rd St Corridor- Phase II (New Item)	Construction Award	Jun-20	Sep-20
		\$62.0	\$57.0			\$380.0	\$380.0
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost decrease reflects favorable bids.				The award is delayed due to extended procurement period to finalize cost negotiations, expect to bring to September board.			
Replace 12 Escalators	Construction Award	May-20	Oct-20	Rolling Stock			
		\$111.9	\$111.8	M-9 Rolling Stock Procurement - 54-Car (Option) (New Item)	Construction Award	Jun-20	Sep-20
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost decrease reflects latest estimates.						\$243.0	\$243.0
ADA and Station Improvements: Westchester Square / PEL	Construction Award	May-20	Aug-20	The LIRR continues to negotiate with the vendor. Board approval is required to exercise this option.			
		\$90.0	\$94.8	MNR			
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost increase reflects additional scope.				Track and Structures			
ADA: Tremont & 149 Street - Grand Concourse Complex (New Item)	Construction Award	Jun-20	Aug-20	Harlem River Lift Bridge SuperStructure/Pier Repair	Construction Award	Mar-20	Jul-20
		\$161.8	\$181.3			\$15.0	\$15.0
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost increase reflects latest estimates.				The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic.			
Replace 8 Traction Elevators / Various (New Item)	Construction Award	Jun-20	Oct-20	Harlem River Fender	Construction Award	Mar-20	Jul-20
		\$65.4	\$67.5			\$6.0	\$6.0
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost increase reflects additional scope and latest estimates.				The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic.			
Rolling Stock				Stations			
Purchase 84 Hybrid- Electric & 139 Standard Buses (New Flyer)	Construction Award	Mar-20	Jul-20	Harlem Line Station Improvements	Construction Award	Apr-20	Aug-20
		\$161.8	\$170.0			\$16.3	\$16.3
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost increase reflects final negotiated price.				The award is delayed due to temporary and permanent easement issues as well as the overall amount of technical requests for information.			
Purchase 25 Hybrid Locomotives	Construction Award	Apr-20	Jul-20				
		\$225.3	\$202.9				
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Cost decrease reflects latest estimates.							

Capital Projects – Major Commitments – June 2020 – Schedule Variances
Actual Results Shaded

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Actual
MTA Bus				3 All-Agency Yellow Commitments (3 New Item)			
Bus Company Projects				NYCT			
Depot Rehab - College Point	Construction Award	Mar-20	Jul-20	Line Structures			
		\$9.5	\$9.5	Eastern Parkway (Line Structures) (New Item)	Construction Award	Apr-20	Jun-20(A)
The award is delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic.						\$135.6	\$77.0
				The original award was delayed due to the financial impact on the MTA as a result of the COVID-19 pandemic. Completion date was advanced as part of the MTA's acceleration program. Cost decrease reflects favorable bids.			
MTACC				LIRR			
East Side Access				PSNY			
Rolling Stock Procurement M-9A Cars (New Item)	Construction Award	Jun-20	Sep-20	PNSY 33rd St Corridor- Phase 1A (New Item)	Construction Award	Mar-20	May-20(A)
		\$367.0	\$367.0			\$24.0	\$24.0
The request for proposals was modified to maximize competition and as a result the associated negotiations have extended the procurement phase.				This award is the first half of Phase I support costs. The balance of Phase I and II support costs is delayed to September to reflect timing of Phase II award.			
Harold Interlocking Catenary Work – 3rd Party (New Item)	Construction Award	Jun-20	Sep-20	PNSY 33rd St Corridor- Phase 1B (New Item)	Construction Award	Mar-20	Jun-20(A)
		\$63.9	\$63.9			\$44.4	\$44.0
The award is delayed due to an extended RFQ period to permit more time for proposers to assemble qualified teams and obtain more competitive bidders, the addition of contract modification to include the CH064 scope for the Mid- Day Storage Yard connections and additional track work, and COVID-19 related procurements pause.				A Memorandum of Understanding (MOU) was executed with NYS for its contribution to the project budget.			

Capital Projects – Major Completions – June 2020

In 2020, agencies have a goal of \$5.4 billion in overall completions. 40 major completions are included, including 19 for NYCT, eight for the LIRR, seven for MNR, four for B&T, one for Network Expansion, and one for MTA PD.

Through June, agencies have completed \$875 million versus a \$1.6 billion YTD goal. The shortfall is primarily due to slips of nine major completions explained on the following page.

Although the pace of work slowed for some projects already under construction, the MTA still anticipates meeting its overall completions goal in 2020.

Year-to-Date Major Completions

Color	Description	Count	Percent	Change from Prior Month
GREEN	= Completions made/forecast within Goal	6	38%	↑ 1
YELLOW	= Completions delayed beyond Goal (already achieved)	1	6%	↑ 1
RED	= Completions delayed beyond Goal (not yet achieved)	9	56%	↑ 2
		16	100%	↑ 4

Budget Analysis

2020 Annual Goal	\$5,390	(\$ in millions)
2020 Forecast	103%	of Annual Goal
Forecast left to complete	84%	(\$4,657)

YTD Actual: \$875 million

YTD Goal: \$1,648 million

Year-to-Date Agency Breakdown

2020 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
4 GREEN, 1 YELLOW, 4 RED	---	+1 YELLOW	---
Long Island Rail Road			
2 GREEN, 3 RED	+1 GREEN	---	---
Metro-North Railroad			
2 RED	---	---	+2 RED
Bridges and Tunnels			
	---	---	---
Capital Construction Company			
	---	---	---
MTA Bus Company			
	---	---	---
MTA Police Department			
	---	---	---

Capital Projects – Major Completions – June 2020 – Schedule Variances

Project	Completion	Goal	Forecast
9 All-Agency Red Completions (3 New Items)			
NYCT			
<i>Hurricane Sandy</i>			
Sandy Mitigation: 9 Stations (9 Stns BK/Q Initiative)	Construction	Apr-20 \$56.2	Jul-20 \$56.2
Project completion delayed due to material delivery delays as a result of the COVID-19 pandemic.			
Sandy Mitigation: 14 Fan Plants, LT - 4 Locations	Construction	May-20 \$34.1	Nov-20 \$34.1
A request for Extension of Time is under review by NYCT & C&D due to fabrication and delivery delays related to the COVID-19 pandemic.			
<i>Passenger Stations</i>			
ADA: 86 Street / 4th Avenue	Construction	May-20 \$33.1	Jul-20 \$33.1
Project completion delayed due to the COVID-19 pandemic.			
ADA: Bedford Park Boulevard / Concourse (New Item)	Construction	Jun-20 \$32.6	Sep-20 \$32.7
Project completion delayed due to material delivery delays as a result of the COVID-19 pandemic. Cost increase reflects latest estimates.			

Project	Completion	Goal	Forecast
LIRR			
<i>Track</i>			
Massapequa Pocket Track	Construction	Feb-20 \$19.6	Dec-20 \$19.6
The cutover of the signal systems was completed on schedule. Additional work remains to resurface and realign track before putting this asset into service. A schedule for addressing this work is under development, but a delay to December has been forecast.			
<i>Rolling Stock</i>			
Rolling Stock: M-9 Procurement	Rolling Stock Purchase	May-20 \$300.8	Dec-20 \$300.8
Project completion delayed due to issues in testing first cars and the production facility temporarily closing due to the COVID-19 pandemic.			
<i>Shops and Yards</i>			
Diesel Locomotive Shop Improvements	Construction	May-20 \$89.8	Oct-20 \$94.4
Project completion delayed due to the design and fabrication of a diesel fire pump and emergency generator as well as delays related to the COVID-19 pandemic. The durations of these delays are pending resolution/conclusion of the COVID-19 pandemic.			
MNR			
<i>Hurricane Sandy</i>			
Power Infrastructure Restoration - Substations (New Item)	Construction	Jun-20 \$43.8	Nov-20 \$43.8
Project completion delayed due to the recent power failure during the cutover/energization at Riverdale and impacts to be realized under the COVID-19 pandemic.			
<i>Power</i>			
Substation Bridge 23 - Construction (New Item)	Construction	Jun-20 \$41.7	Sep-20 \$41.7
Project completion delayed due to the COVID-19 pandemic.			

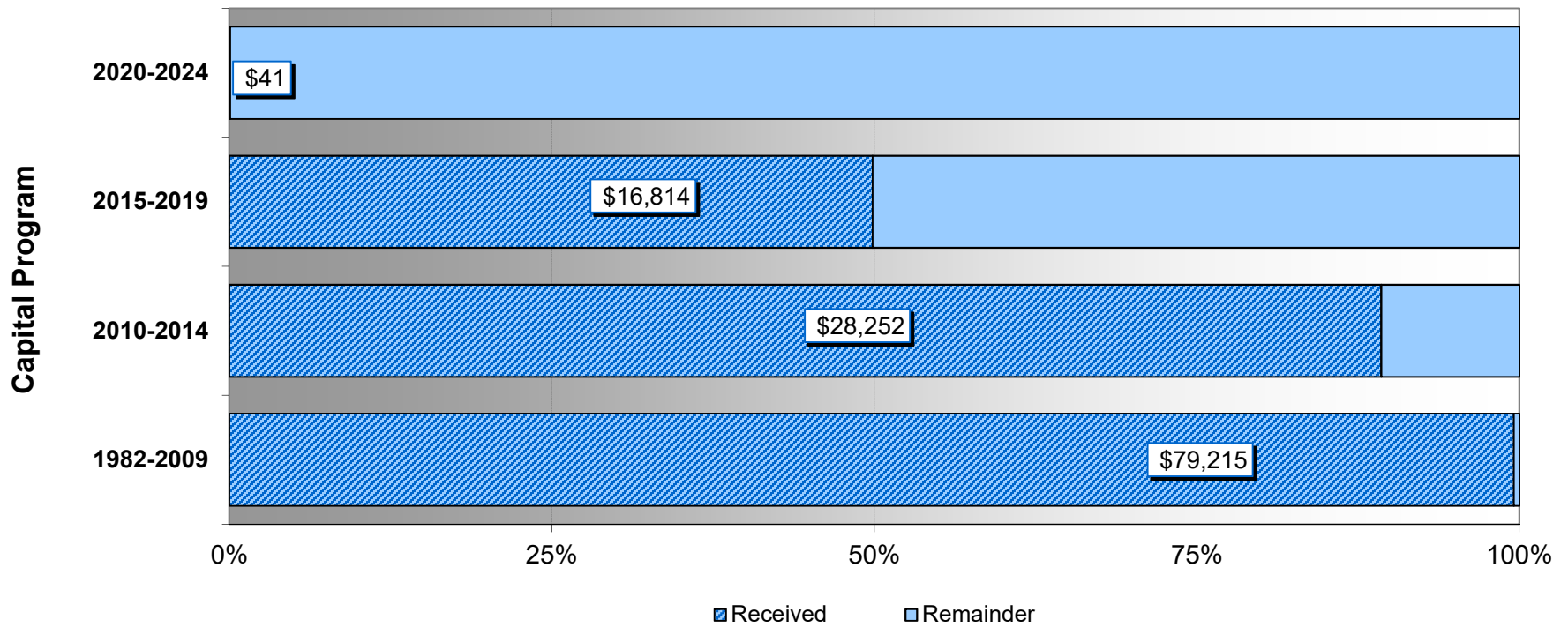
Capital Projects – Major Completions – June 2020 – Schedule Variances
Actual Results Shaded

Project	Completion	Goal	Actual
1 All-Agency Yellow Completions (1 New Item)			
NYCT			
<i>Buses</i>			
Purchase 15 Articulated Electric Buses and Depot Chargers (New Item)	Bus Purchase	Mar-20	Jun-20(A)
		\$32.9	\$32.9
<p>There was a delay due to the COVID-19 pandemic and the related reduced workforce at New Flyer Industries. All buses have been delivered.</p>			

Status of MTA Capital Program Funding

Capital Funding (June 2020)

\$ in millions



Capital Funding Detail (June 30, 2020)

\$ in millions

	Funding Plan		Receipts		Remainder	%
	Current	Through May	This month	Received to date		
1982-1991 Program	15,391	15,391	-	15,391	0	0%
1992-1999 Program	18,095	18,096	-	18,096	(1)	0%
2000-2004 Program	21,668	21,667	-	21,667	1	0%
2005-2009 Program	24,409	24,061	-	24,061	347	1%

	Funding Plan		Receipts		Remainder	%
	Current	Through May	This month	Received to date		
2010-2014 Program						
Federal Formula, Flexible, Misc	\$5,853	\$5,839	\$ -	\$5,839	\$14	0%
Federal High Speed Rail	295	295	-	295	-	0%
Federal New Start	1,257	1,257	-	1,257	-	0%
Federal Security	189	101	-	101	88	46%
Federal RRIF Loan	0	-	-	-	-	0%
City Capital Funds	719	608	-	608	110	15%
State Assistance	770	770	-	770	-	0%
MTA Bus Federal and City Match	132	112	-	112	20	15%
MTA Bonds	11,483	10,031	-	10,031	1,452	13%
Other (Including Operating to Capital)	1,519	1,268	-	1,268	251	17%
B&T Bonds & Cash	2,026	2,019	-	2,019	6	0%
Hurricane Sandy Recovery						
Insurance Proceeds/Federal Reimbursement	6,329	5,613	53	5,666	663	10%
PAYGO	81	81	-	81	-	0%
Sandy Recovery MTA Bonds	758	182	-	182	576	76%
Sandy Recovery B&T Bonds	229	23	-	23	206	90%
Total	31,639	28,199	53	28,252	3,387	11%

	Funding Plan		Receipts		Remainder	%
	Current	Through May	This month	Received to date		
2015-2019 Program						
Federal Formula, Flexible, Misc	\$6,722	\$4,456	\$ -	\$4,456	\$2,266	34%
Federal Core Capacity	100	-	-	-	100	100%
Federal New Start	500	-	-	-	500	100%
Federal Security	3	3	-	3	-	0%
State Assistance	9,064	1,055	19	1,074	7,991	88%
City Capital Funds	2,667	790	-	790	1,877	70%
MTA Bonds	7,968	6,708	613	7,321	647	8%
Asset Sales/Leases	1,017	306	-	306	711	70%
Pay-as-you-go (PAYGO)	2,156	1,572	-	1,572	584	27%
Other	595	36	-	36	559	94%
B&T Bonds & PAYGO/Asset Sale	2,925	1,257	-	1,257	1,668	57%
Total	33,717	16,182	632	16,814	16,903	50%

	Funding Plan		Receipts		Remainder	%
	Current	Through May	This month	Received to date		
2020-2024 Program						
Capital from Central Business District Tolling	\$15,000	\$ -	\$ -	\$ -	\$15,000	100%
Capital from New Revenue Sources	10,000	-	-	-	10,000	100%
MTA Bonds and PAYGO	9,792	-	-	-	9,792	100%
Federal Formula	7,500	-	-	-	7,500	100%
State of New York	3,000	-	-	-	3,000	100%
City of New York	3,000	40	-	40	2,960	99%
Federal New Start (SAS Ph2)	2,905	-	-	-	2,905	100%
Federal Flexible	275	-	-	-	275	100%
B&T Bonds (Self-Funded)	3,327	1	-	1	3,326	100%
Total	54,799	41	-	41	54,758	100%