



Metropolitan Transportation Authority

Capital Program Oversight Committee Meeting

October 2019

Committee Members

P. Foye, Chair
N. Zuckerman, Vice Chair
A. Albert
N. Brown
S. Feinberg
D. Jones
L. Lacewell
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

Monday, 10/21/2019

2:30 - 3:30 PM ET

1. PUBLIC COMMENTS PERIOD

2. APPROVAL OF MINUTES SEPTEMBER 23, 2019

- Minutes from September '19 - Page 3

3. COMMITTEE WORK PLAN

- 2019-2020 CPOC Committee Work Plan - Page 6

4. LIRR and MNR UPDATE ON POSITIVE TRAIN CONTROL (PTC)

- Progress Report on PTC - Page 8

- IEC Project Review on PTC - Page 25

5. LIRR and MNR UPDATE ON ROLLING STOCK

- Progress Report on M-9 & M-9A Railcar Procurements - Page 31

- IEC Project Review on M-9 Railcar Procurement - Page 42

6. LIRR CAPITAL PROGRAM UPDATE

- Progress Report on Capital Program - Page 46

- IEC Project Review on Morris Park Locomotive Shop - Page 68

- IEC Project Review on Jamaica Capacity Improvements Phase 1 - Page 72

- IEC Project Review on Mid Suffolk Yard - Page 76

7. MNR CAPITAL PROGRAM UPDATE

- Progress Report on Capital Program - Page 80

- IEC Project Review on Harmon Shop Replacement Phase V, Stage 1 & 2 - Page 91

8. CAPITAL PROGRAM STATUS

- Commitments, Completions, and Funding Report - Page 95

MINUTES OF MEETING
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE
September 23, 2019
New York, New York
2:30 P.M.

CPOC members present:

Hon. Patrick Foye
Hon. Andrew Albert
Hon. Sarah Feinberg
Hon. Linda Lacewell
Hon. Robert Linn
Hon. Susan Metzger

CPOC members not present:

Hon. Norman Brown
Hon. David Jones
Hon. David Mack
Hon. John Samuelson
Hon. Vincent Tessitore, Jr.
Hon. Neal Zuckerman

MTA staff present:

Ronnie Hakim
Tom Savio
Don Spero

NYCT staff present:

Anthony Febrizio
Sonia Jaising
Branko Kleva
Bill Montanile
Alok Saha

Independent Engineering Consultant staff present:

Joe DeVito
Dianne Rinaldi
Mark Sielucka
Cesar Silva

* * *

Chairman Foye called the September 23, 2019 meeting of the Capital Program Oversight Committee to order at 3:35 P.M.

Public Comments Period

There were four public speakers in the public comments portion of the meeting: Jason Pineiro; Andy Quito; Kevin Zeng; and Omar Vera.

Meeting Minutes

The minutes to the meeting held on July 22, 2019 were approved.

Committee Work Plan

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

NYCT Update on Stations Division

Mr. Febrizio reported on progress of the 2015 - 2019 Stations Program, including ADA Accessibility, since the last report to CPOC in March 2019. Following this presentation, Mr. Montanile provided a status report on the System-wide Accessibility Survey, and cited select program highlights, including the Sea Beach Line Projects. In its oral remarks on ADA Accessibility, the IEC referenced the 14 ADA projects in construction that were featured in the NYCT presentation and stated that with respect to the key project performance criteria of Cost, Contingency and Schedule variances, all 14 ADA projects are identified as "green" in this quarter's Traffic Light Report. With respect to the Sea Beach Line Projects, the IEC recognized the entire team's efforts in renovating the 9 Sea Beach stations, and acknowledged Transit's successful re-opening of the south-bound platforms and the 4 new elevators placed in service at New Utrecht and 62nd St Stations -- providing accessibility at 2 additional stations. The IEC then stated that its chief concern is the leak remediation currently underway at the Sea Beach roof canopies. The IEC concluded its comments with the recommendation that a proactive maintenance plan be put into place to quickly respond to any future leaks, to curb excessive overgrowth from adjacent properties, and to engage the community and adjoining property owners to eliminate water runoff directed at the station roof canopies. Further details of the presentations, and Committee Members' comments and questions with respect thereto, are included in the video recording of the meeting maintained in MTA's records.

NYCT Update on Sandy Recovery and Resiliency Division

Mr. Kleva provided an overview of the Sandy Recovery and Resiliency Program, with detailed highlights of the Coney Island Yard, the 148th Street Yard, and the 207th Street Yard. Commissioner Lacewell asked about the overall status of MTA resiliency, post-Sandy. Chairman Foye, referencing Commissioner Lacewell's query, committed to a report to CPOC in the next two months indicating MTA-wide Sandy Program status, from award to current expended amounts. Ms. Jaising then updated the committee on the Clifton Shop. In its oral remarks on the Coney Island Yard, the IEC stated that since its last report, and based on its review of the project schedule, the project is proceeding according to plan and the substantial completion date remains September 2022. Based on its review of the project's total budget and contingency, the associated design, work in place and soft costs, the IEC noted that the project is within budget. In addition, having participated in monthly risk management meetings with the project team, the IEC finds that the project has effective risk mitigations in place to control the top project risks. In its oral remarks on the 207th Street Yard, the IEC cited its concern about schedule impacts from track and signal change orders that have not been finalized nor integrated into the CPM schedule. The IEC then stated that while the substantial completion date of November 2023 is achievable, mitigation measures such as the resolution of the change orders and work under multiple weekend outages performed concurrently must be finalized. Based on its review of the project's design, construction, and soft costs, the IEC finds the project to be within budget. In addition, the IEC noted that having recognized the high level of risk to this project, NYCT had allocated a sufficient contingency amount at the outset of the project. With respect to schedule, the IEC stated that productivity must increase to meet the forecast completion date, and the project must also closely coordinate the upcoming major sewer work with current project construction activities. The IEC concluded its oral remarks on the 207th Street Yard by recommending that, because critical risks have been realized and scope has changed significantly, a risk assessment refresher be performed once project parameters have been updated to reflect these changes. In its oral remarks on the Clifton Shop, the IEC noted that although productivity by the design-build team has improved since the IEC's last report, this trend must be maintained in order to meet current schedule forecasts. In addition, the IEC's observations of actual work completed to date supports the agency forecast completion of June 2021. The IEC found that the Design-Build team recovered time lost due to a late start to structural steel (which is the critical driver to current schedule activities) by re-sequencing schedule activities and accelerating the work. Based on the IEC's analysis of expenditures to date, the project is on budget at this time. Finally, the IEC provided a formal recommendation that the project employ early user group involvement in commissioning activities, especially in the testing of new shop equipment. Further details of the presentations, and Committee Members' comments and questions with respect thereto, are included in the video recording of the meeting maintained in MTA's records.

MTA Capital Program Commitments & Completions and Funding

Ms. Hakim cited a current lag in 8 major commitments which, however, are expected to recover schedule during construction due to improved project delivery strategies being instituted, including Design-Build and A+B Bidding. With respect to completions, agencies expect to meet 2019 goals.

Capital Program Traffic Light Reports

Mr. Spero noted that in the Capital Core Program Traffic Light Report for the second quarter of 2019 a total of 323 projects were reviewed: 47 in design and 276 in construction. About two-thirds were designated green, 23% were yellow and 10% were red. With respect to Sandy Program projects, a total of 64 projects were reviewed: 4 in design, 12 in post-design to construction, and 48 in construction. Sixty-five percent were designated green, 30% were yellow and 5% were red.

Adjournment

Upon motion duly made and seconded, Chairman Foye adjourned the September 23, 2019 meeting of the MTA Capital Program Oversight Committee at 4:39 PM.

Respectfully submitted,
Michael Jew-Geralds
Office of Construction Oversight



2019-2020 CPOC Committee Work Plan

I. Recurring Agenda Items

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

II. Specific Agenda Items

November

NYCT Capital Program Update

- Mainline Track and Switch Program

Update on OMNY Program

Update on Minority, Women and Disadvantaged Business Participation

Update on Small Business Development Program

December

MTACC Capital Program Update

- East Side Access
- Second Avenue Subway
- Penn Station Access
- LIRR Expansion Project
- Times Square Reconstruction, ADA, Shuttle

Quarterly Traffic Light Reports

January

NYCT Capital Program Update

- Signals and Train Control Division
- Systems and Security Division

NYCT Rolling Stock Procurement Program

February

B&T Capital Program Update

Update on Capital Program Security Projects (in Executive Session)

March

NYCT Capital Program Update

Quarterly Traffic Light Reports

April

MTACC Capital Program Update

May

LIRR Capital Program Update

MNR Capital Program Update

LIRR and MNR Update on Positive Train Control (PTC)

Update on OMNY Program

Update on Minority, Women and Disadvantaged Business Participation

June

NYCT Capital Program Update

Quarterly Traffic Light Reports

July

MTACC Capital Program Update

September

NYCT Capital Program Update

Quarterly Traffic Light Reports

October

LIRR Capital Program Update

MNR Capital Program Update

LIRR and MNR Joint Update on Rolling Stock

LIRR and MNR Update on Positive Train Control (PTC)

October 2019
Joint MNR/LIRR Committee and CPOC
PTC Project Update

October 21, 2019



LIRR/MNR Overall PTC Project Status

Item	Comments
Schedule	<ul style="list-style-type: none"> <li data-bbox="485 386 1913 526">❑ MNR placed Danbury and Hudson North (Peekskill – Poughkeepsie) in Extended RSD (ERSD) and has received FRA approval to go into ERSD on all its respective territories. <li data-bbox="485 591 1803 683">❑ LIRR has Port Washington, Babylon to Patchogue, and Hempstead lines in RSD/ERSD. Approval for ERSD on all segments pending FRA approval. <li data-bbox="485 743 1640 784">❑ LIRR/MNR submitted their PTC Safety Plans to FRA for approval. <li data-bbox="485 846 1877 938">❑ LIRR and SI have agreed on the system level design for Harold, and subsystem designs and implementation are in progress. <li data-bbox="485 1000 1955 1040">❑ Slippage in LIRR System Baseline 3.6 has impacted the delivery of LIRR 3.7 release. <li data-bbox="485 1102 1892 1195">❑ Both LIRR and MNR remain on target to implement PTC across their respective territories by December 31, 2020.
Budget	<p data-bbox="485 1227 856 1268">\$1.086B (MNR/LIRR);</p> <p data-bbox="485 1289 1887 1422">Due to the 2 year extension, budgets for LIRR and MNR increased by \$30.4M, and \$18.8M (\$6.8M CDOT) respectively. Project budgets continue to be closely monitored.</p>



Key Milestones and Issues

Status	Activity	Date Needed	Issues
 Yellow	<p>Deployment of on-board software across the fleet multiple times</p> <p>3.5, 3.6, 3.7, 3.8</p>	<p>Oct 2019 for new procedures</p>	<p>Issues:</p> <ul style="list-style-type: none"> Based on the SI's software release plan, multiple OBC software releases will require LIRR/MNR to deploy software across the entire fleet at least 2-3 times. There will be a significant impact to the test & commissioning schedule without a streamlined set of procedures. <p>Potential Impacts:</p> <ul style="list-style-type: none"> This has potential to impact the PTC deadline if LIRR/MNR has software releases beyond mid-2020. <p>Drivers:</p> <ul style="list-style-type: none"> The current procedures takes about four (4) hours per car based on current procedures. <p>Mitigations:</p> <ul style="list-style-type: none"> RR/SI to establish a dedicated support team to deploy on-board software in a reduced time frame in lieu of performing this task during the regular 92 day vehicle inspection period. <p>Monthly Updates:</p> <ul style="list-style-type: none"> SI has simplified the communications software upload procedure and reduced the time to upload software to one (1) hour per car, but there are still a few minor issues with the procedure before SI can deliver software to the Railroads. The SI will continue to provide staff to perform this activity to keep the project on schedule. The Railroads will have to initiate ERSD with a limited number of trains than originally planned as it will be challenging for the Railroads to upload new OBC software to the entire fleet in a short time period.

●	Red	Significant impact to Project Schedule and ability to meet PTC deadline.
●	Yellow	Impact to Project Schedule or interim project milestone and may impact ability to meet PTC deadline.
●	Green	No Near Term Impact to Project Schedule and on target to meet PTC deadline.



Key Milestones and Issues

Status	Activity	Date Needed	Issues
 Yellow	Complete Design for Interoperability and Delivery of System Software LIRR 3.7 only	Feb 2020	<p>Issues:</p> <ul style="list-style-type: none"> This software release includes the design for a safety server interface for interoperability with Amtrak at Harold for LIRR. Includes the design for b2b interlockings to support ERSD for Valley and Harold. <p>Potential Impacts:</p> <ul style="list-style-type: none"> Risk to full PTC deployment by the PTC deadline on December 31, 2020. LIRR will not have the necessary test data to support the full FRA approval of their PTC safety plan. <p>Drivers:</p> <ul style="list-style-type: none"> Revise STS safety server design Develop wayside subsystem design for Harold for shared PSCC operations. <p>Mitigations:</p> <ul style="list-style-type: none"> Obtained agreement with Amtrak to incorporate their database into LIRR safety server to eliminate line boundary issues and allow sufficient time for software development. Modifying STS-STC safety server interface design with Amtrak to align with the rest of the NEC Corridor so as not to have a one-off design. <p>Monthly Update:</p> <ul style="list-style-type: none"> High-level system design is completed. Detailed system/subsystem level designs are in progress. Amtrak provided the database for their territory to incorporate into LIRR's STS database for the combined PSCC territory. Amtrak has adopted the use of the same type of BCM equipment in their communications design to simplify the radio communications interface. Delays in completion of System Release 3.6 FAT has impacted the delivery of 3.7 by approx. 1-2 months however no expected impact to meet PTC deadline. SI/LIRR are evaluating mitigations to improve the ERSD date for this area which is currently shown in October 2020.



	Red	Significant impact to Project Schedule and ability to meet PTC deadline.
	Yellow	Impact to Project Schedule or interim project milestone and may impact ability to meet PTC deadline.
	Green	No Near Term Impact to Project Schedule and on target to meet PTC deadline.

Key Milestones and Issues

Status	Activity	Date Needed	Issues
 Green	Complete Design for Interoperability and Delivery of System Software 3.6 (MNR only)	2nd Quarter 2020	<p><u>Issues:</u></p> <ul style="list-style-type: none"> This software release includes the design for a safety server interface for interoperability with Amtrak for New Haven, New Rochelle, Spuyten Duyvil, and Poughkeepsie for MNR. <p><u>Potential Impacts:</u></p> <ul style="list-style-type: none"> Risk to full PTC deployment by the PTC deadline on December 31, 2020. <p><u>Drivers:</u></p> <ul style="list-style-type: none"> Revise STS safety server design Define boundary lines <p><u>Mitigations:</u></p> <ul style="list-style-type: none"> Modified STS-STs safety server interface design with Amtrak to align with the rest of the NEC Corridor so as not to have a one-off design. <p><u>Monthly Update:</u></p> <ul style="list-style-type: none"> All activities to support this work remain on schedule.

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	Green	No Near Term Impact to Project Schedule and on target to meet PTC deadline.



Key Milestones and Issues

Status	Activity	Date Needed	Issues
 Yellow	<p style="text-align: center;">Complete Design for the M8 (MNR only)</p>	<p style="text-align: center;">April 2020</p>	<p>Issues:</p> <ul style="list-style-type: none"> M-8s are equipped with Alstom PTC system that needs to be updated to conform to Metro-North PTC wayside. Need to develop the protocol between Bombardier Mobile Communication Package and Alstom on-board computer, and both companies need to issue a safety certificate. <p>Potential Impacts:</p> <ul style="list-style-type: none"> Risk to place M-8s into full PTC deployment by the PTC deadline of December 31, 2020. <p>Drivers:</p> <ul style="list-style-type: none"> Exchange of design information between contractors. Define and mitigate the differences between the two systems. <p>Mitigations:</p> <ul style="list-style-type: none"> Research alternate sources for on-board PTC equipment. Test and certify Alstom’s software with Metro-North wayside. <p>Monthly Update:</p> <ul style="list-style-type: none"> Executive-level meetings with Alstom on 9/10 and 9/20 Workshop at Alstom’s facility in Rochester on 9/23 and 9/24 with BT, Siemens, Kawasaki, Metro-North and Alstom Most recent Alstom schedule shows three-month slippage; Alstom developing recovery plan.



	Red	Significant impact to Project Schedule and ability to meet PTC deadline.
	Yellow	Impact to Project Schedule or interim project milestone and may impact ability to meet PTC deadline.
	Green	No Near Term Impact to Project Schedule and on target to meet PTC deadline.

Key Milestones and Issues

Status	Activity	Date Needed	Issues
 Yellow	Change in Leadership and Additional Resources	On-going	<p>Issues:</p> <ul style="list-style-type: none"> The aggressive working schedules of both Railroads requires additional resources and leadership to ensure that the SI meets their schedule commitments to meet PTC deadline. <p>Potential Impacts:</p> <ul style="list-style-type: none"> Without appropriate leadership, project priorities and areas of concern are not being properly attended to, and this delays timely decisions. Failure to add resources will delay the progress of design, software development, testing, V&V, Safety, and other support functions. <p>Drivers:</p> <ul style="list-style-type: none"> Both Railroads require dedicated staff and leadership due to diverging needs SI has limited number of Subject Matter Experts to focus on interoperability, b2b design and other areas of concern. <p>Mitigations:</p> <ul style="list-style-type: none"> Railroads are filling in gaps in expertise in areas of Signaling, Equipment Engineering and Railroad operations to support factory and field testing. SI has added technical expertise from other areas within their companies to support the project. <p>Monthly Update:</p> <ul style="list-style-type: none"> Key leadership changes have been made and additional organizational changes are being considered. The SI's resource loaded CPM schedule was reviewed by the Railroads to confirm adequacy of staffing levels and the SI's analyses shows several areas in need of additional manpower. Transponder designs continue to be an area of concern by the Railroads.

	Red	Significant impact to Project Schedule and ability to meet PTC deadline.
	Yellow	Impact to Project Schedule or interim project milestone and may impact ability to meet PTC deadline.
	Green	No Near Term Impact to Project Schedule and on target to meet PTC deadline.



LIRR Monthly Project Update (thru September 2019)

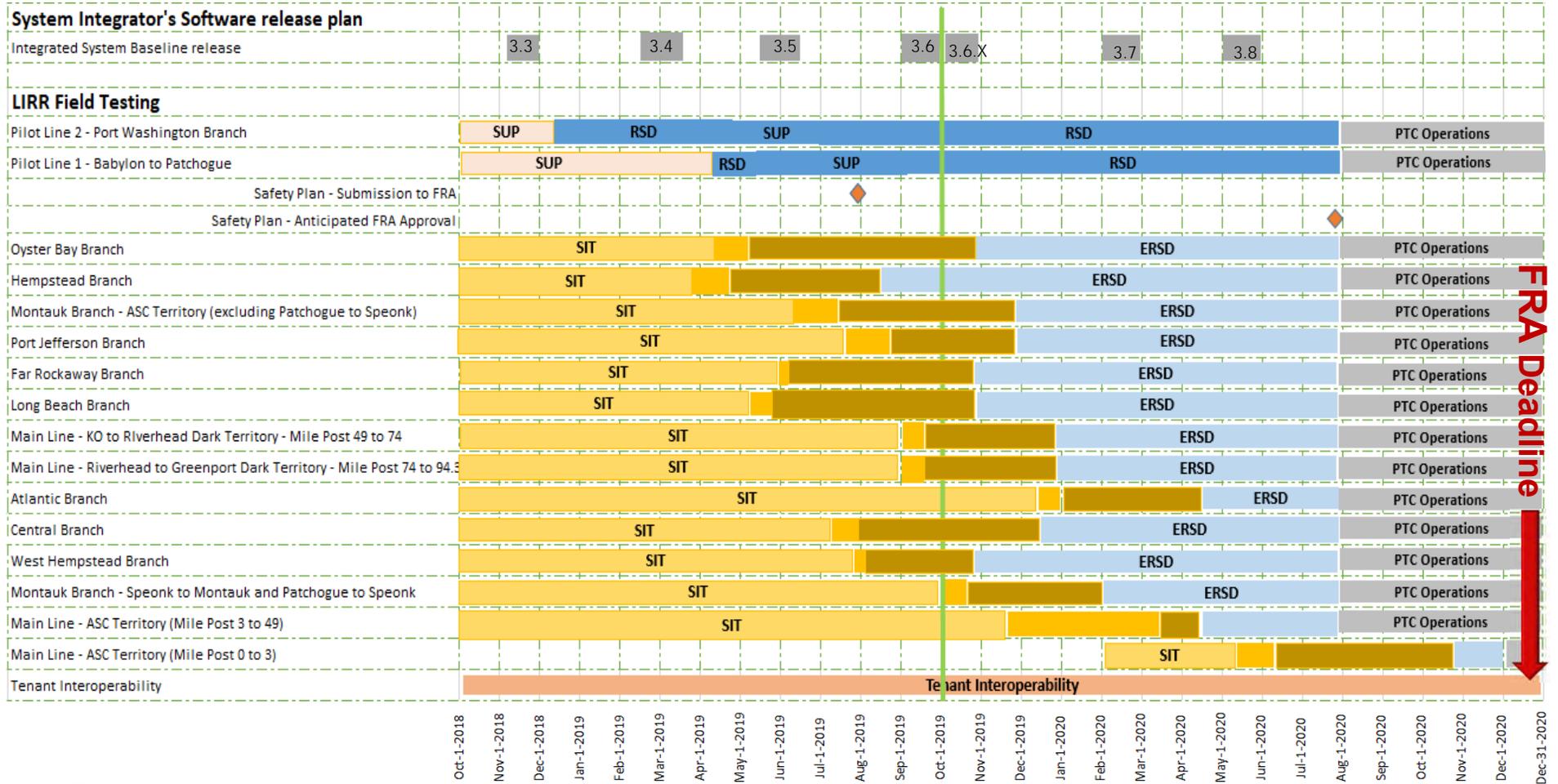
- Utilizing Baseline 3.5.2 for segments in revenue service with no significant anomalies:
 - In RSD on Port Washington branch since March.
 - Entered ERSD on Hempstead line on August 19.
 - Resumed RSD on Babylon to Patchogue on September 3.
- Completed FAT for System Baseline 3.6.3 (back to back for all locations except Valley and Harold).
- Completed SUP for System Baseline 3.6.3 and target to complete safety review in mid-October for ERSD.
- PTC Safety Plan to FRA for approval in July.
- M7 trains with PTC operating over Amtrak tracks through Harold planned in 3rd Qtr. 2019.
- Database information for F Tower received from Amtrak for incorporation into LIRR database for joint PSCC territory.
- STS-STC interface testing at SI lab in Pittsburgh with Amtrak PTC supplier planned in mid- September is delayed and will not be available until end of the year.
- Agreement with Amtrak for high level system design for Harold with subsystem level designs and implementation in progress.
- Undercar scanner retrofits scheduled to be complete in Oct/Nov. Third party QA monitoring in manufacturing facility completed.



LIRR Working Schedule and Sequence

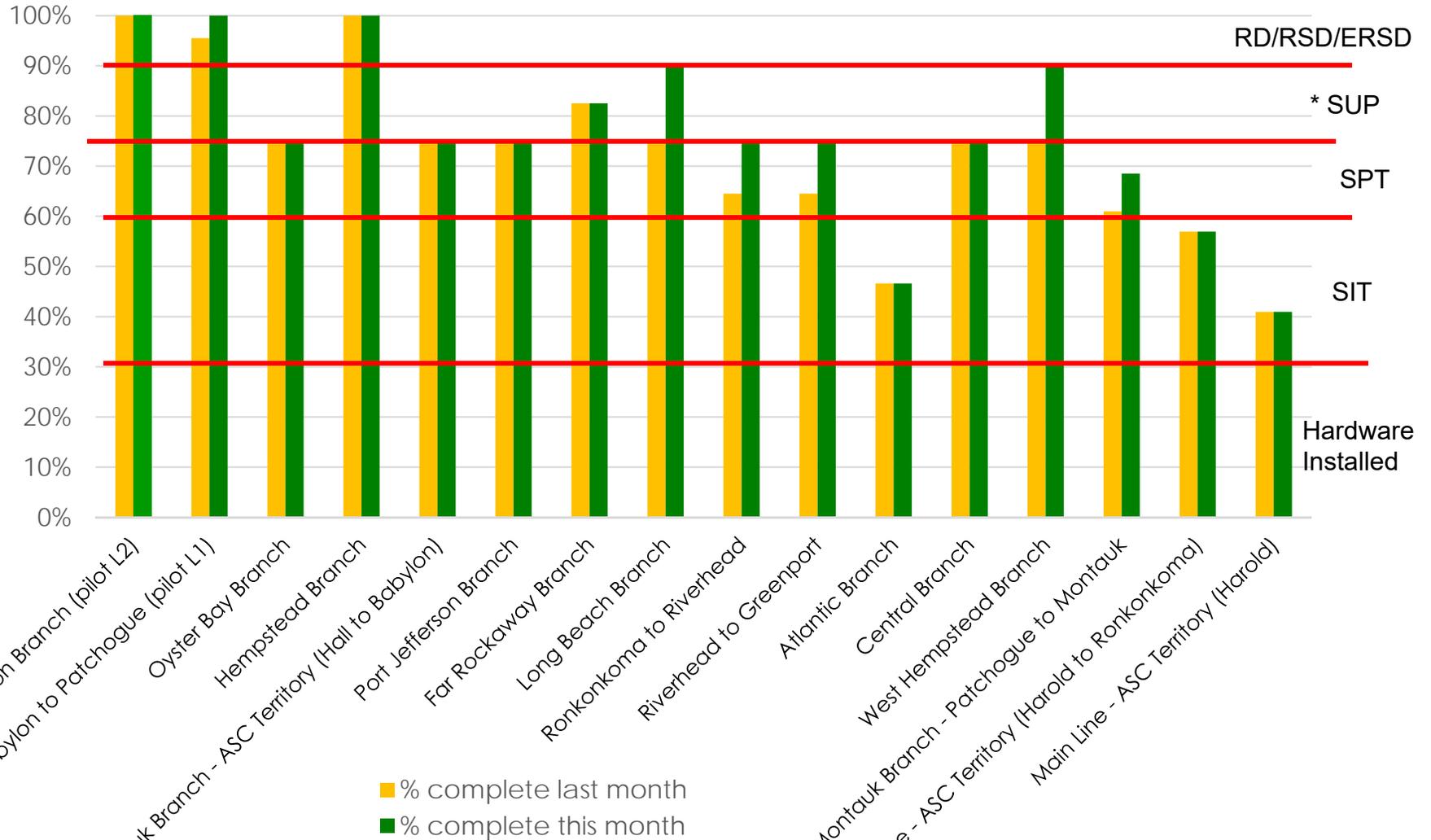
Started RSD on Babylon to Patchogue pilot segment in Sep 2019
 Started first Non-Pilot ERSD in August 2019

Last non-pilot segment in ERSD in Oct 2020



■ SIT = Site Installation Tests
 ■ SPT = Site Performance Tests
 ■ SUP = Pilot Site Update Period
 ■ Non-Pilot design correction/testing/Site Update Period
■ RSD = Revenue Service Demonstration
■ ERSD = Extended Revenue Service Demonstration

LIRR Segment RSD Readiness (Previous vs Current Month)



SIT = Site Installation Tests

SPT = Site Performance Testing

*SUP = Site Update Period includes design corrections and testing

RD/RSD/ERSD = Repeatability Demonstration/Revenue Service Demonstration/Extended RSD

MNR Project Update

- Completed uploading MCP/OBC Software to support ERSD on the Danbury Branch/Hudson Line Segment:
 - BL20's (9)
 - P32's (31)
 - Cab Car's (51)

- Danbury Branch placed into ERSD on August 14, 2019,
 - 24 PTC route miles.
 - P&W running interoperable.

- Hudson Line Segment (Peekskill – Poughkeepsie) placed into ERSD on September 21, 2019,
 - 34 PTC route miles.
 - Amtrak & CSX running interoperable

- ERSD PTC Summary:
 - Total PTC Route miles required: 384
 - Total PTC Route Miles in Operation: 58 (15%)
 - PTC Trains in Operations: 96 trains in full PTC per day (13%)

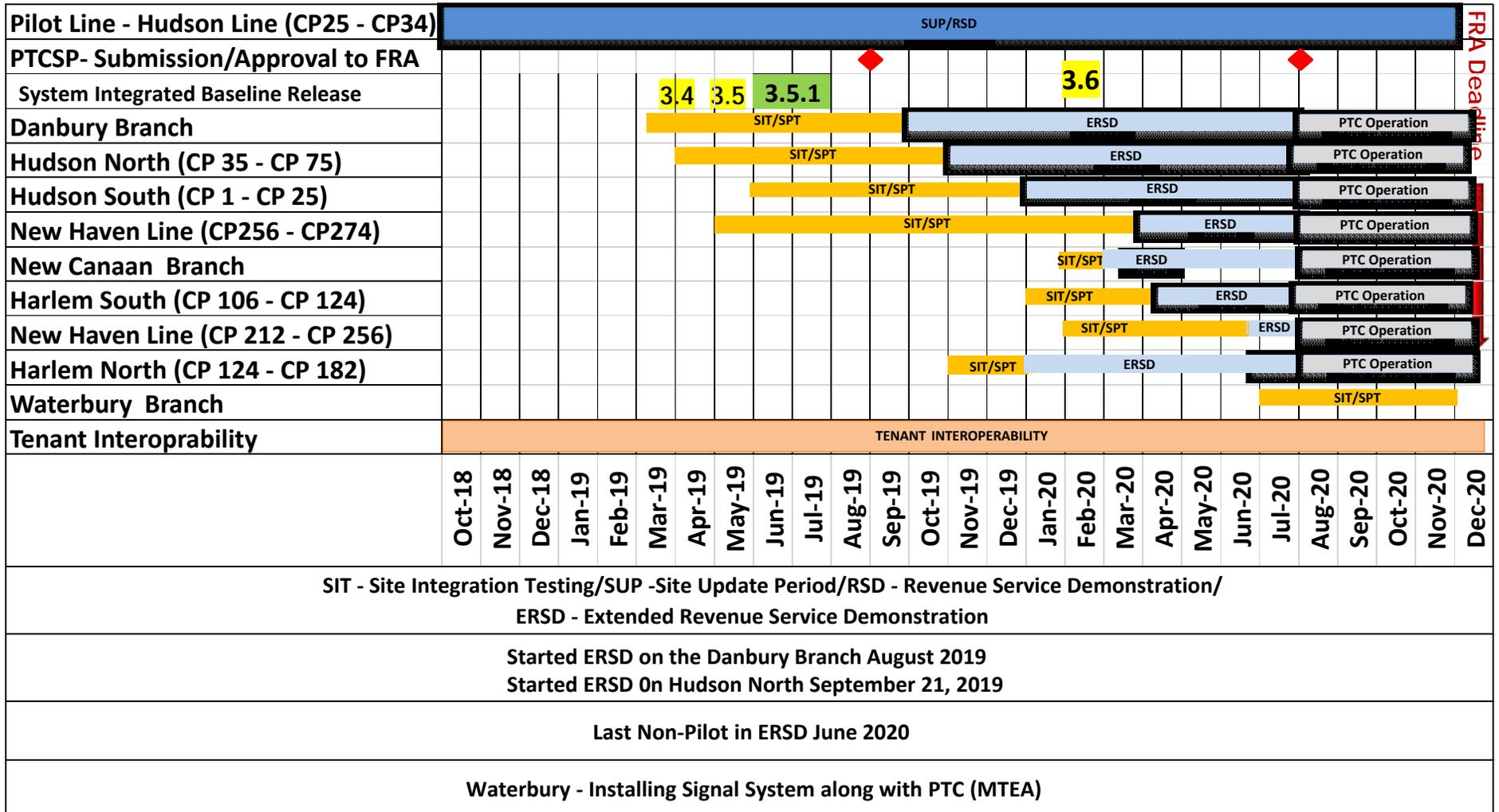


MNR Project Update (cont'd.)

- Scheduling NJT Communication/Transponder/WIU training for MNR C&S employees to perform installation and maintenance on the Port Jervis Line. (4th quarter 2019)
- Continue high-level meetings between Alstom/BT/Siemens/Kawasaki outlining responsibilities towards completing M8's interoperability. A five-party meeting was held at Alstom HQ on September 23-25, 2019 to discuss design requirement and schedule.
- PTCIP revision 8.1 approved by the FRA August 7, 2019
- PTCSP filed with the FRA on August 30th , 2019. (One month ahead of schedule)
- Continue to refine boundary and STS-STS interfaces with Amtrak
 - Boundary design/Commissioning Schedule
 - Poughkeepsie - Commissioning target date – 4th quarter 2019
 - Spuyten Duyvil - Commissioning target – 4th quarter 2019
 - New Haven - Design completion target – 1st quarter 2020
 - New Rochelle - Design completion target – 1st quarter 2020
 - STS-STS interface – 2nd quarter of 2020
- Awarded prewired signal houses and cable installation contracts for Waterbury Cab Signaling Project



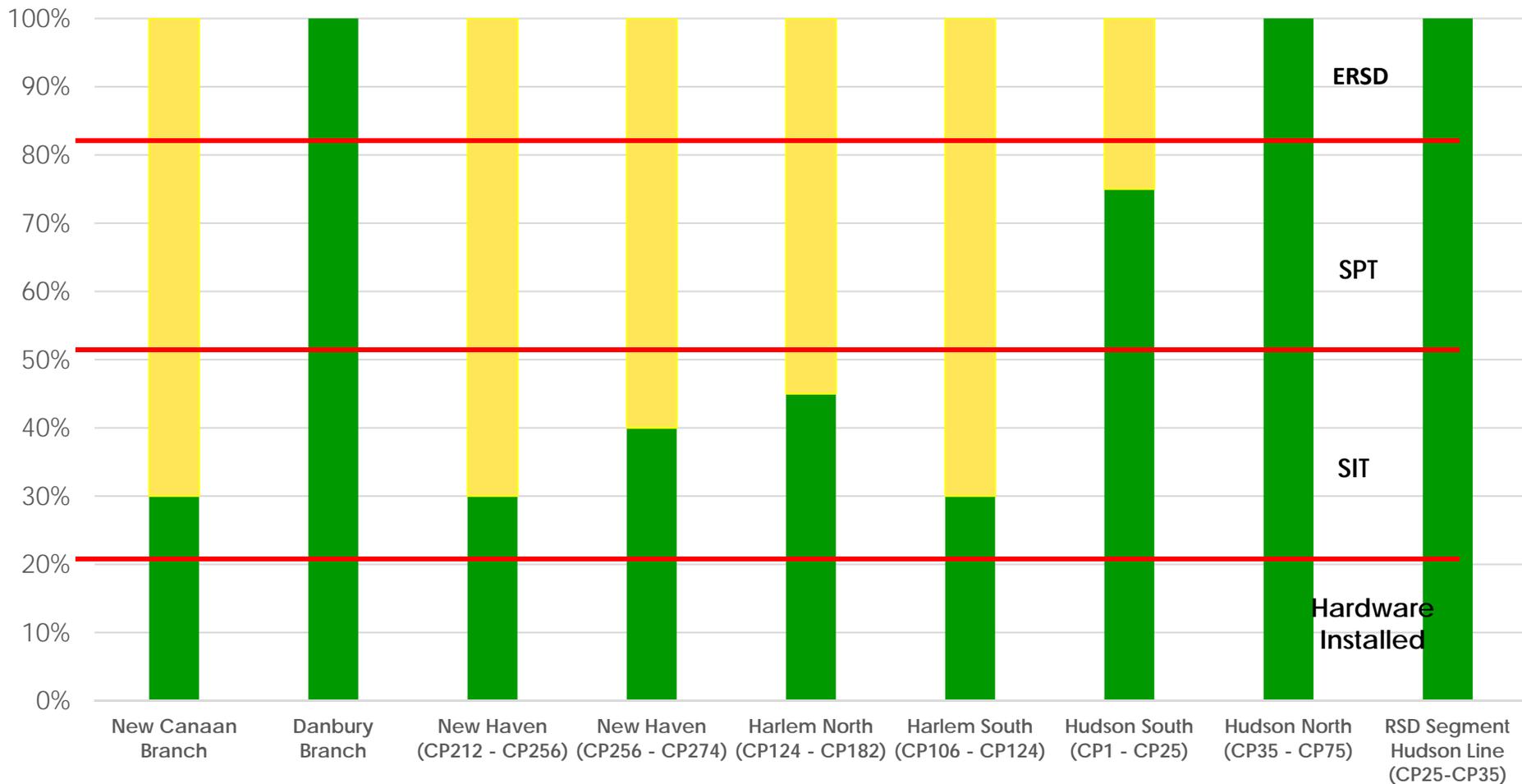
MNR Working Schedule and Sequence



FRA Deadline



MNR Segment RSD Readiness



SIT = Site Integration Testing, SPT = Site Performance Testing, ERSD = Extended Revenue Service Demonstration.



■ % complete ■ Remaining

LIRR PTC ERSD Timeline and Look-ahead

October 2019

West Hempstead Branch

Long Beach Branch

Far Rockaway

Oyster Bay

November 2019

Port Jefferson

Montauk – 1BW (West of Babylon)

December 2019

Mainline – Mile Post 49 to 74 (Ronkonkoma to Riverhead)

Mainline – Mile Post 74 to 94 (Riverhead to Greenport)

Central Branch

February 2020

Montauk – 1BE (East of Patchogue)

Delivery of System Software Baseline 3.7



LIRR PTC ERSD Timeline and Look-ahead

March 2020

Mainline – Mile Post 10 to 15 (Hollis to Floral Park)

April 2020

Atlantic Branch

May 2020

Mainline – Mile Post 3 to 10 (Harold to Hollis)

Mainline – Mile Post 25 to 49 (Hicksville to Ronkonkoma)

July 2020

Mainline – Mile Post 15 to 25 (Floral Park to Hicksville)

October 2020

Mainline – Mile Post 0 to 3 (Penn to Harold)



MNR PTC Timeline and Look-ahead

October – December 2019

- Commence ERSD from Croton Harmon – Marble Hill on the Hudson Line.
- Complete software upload to the equipment
- Commence ERSD from Mount Vernon West – Wassaic on the Harlem line.
- Install, test and commission Amtrak boundary at Poughkeepsie.
- Test MNR Safety Server-to-Amtrak Safety Server Interface in Bombardier Test Lab.
- Continue meeting with Alstom/BT/Siemens/Kawasaki to complete M8' system level requirements.



October 2019 CPOC IEC Project Review

Positive Train Control



Budget Review

- The IEC performed an independent assessment of budget needs due to project extension to 2020.
- The current project budget has not changed since the last report. The project team identified the need to increase the budget to \$1,086.2M. This amount may not cover all remaining commercial issues.



Schedule Review

- RSD and ERSD are progressing on Pilot Lines and other line segments at LIRR and MNR.
- Delays in transponder designs and field testing are impacting entering Extended RSD on a number of LIRR line segments, including Harold.
- Slow progress in integrating M8 fleet into PTC operation
 - Target dates for completing design, testing and implementation have not been established.
 - MNR plans to conduct E-RSD on the New Haven Line and the New Canaan Branch using P-32 diesel trains.
- Interoperability testing of the safety server is being impacted by Amtrak's delay in providing interface data and software to the railroads.



IEC Observations

- The quality of SI software development and testing has improved. However, the SI continues to slip the software development timeline and has consumed three (3) Months of project contingency.
- The SI has implemented corrective actions to the Scanner Antennas and CTV Units and is adhering to the production and delivery schedule for replacement units.
- Metro North and LIRR both have several segments in RSD and are making good progress in collecting operational data needed for assessing performance.
- Both LIRR and MNR submitted safety plans to FRA.



Project Risks

- Potential additional delays in deployment of 3.7 software could impact LIRR project completion.
 - Multiple iterations were required for software release 3.6
 - Complex back-to-back functions
 - Delay in interoperability testing of safety server
- Integrating the M8 fleet into PTC operation continues to present high risk to MNR project completion schedule.
 - Need for definitive scope of work and implementation time line
 - Need for firm commitment by Alstom to provide required support



IEC Conclusion

- While progress was made in various aspects of project implementation, delays in transponder design, software development and field testing have reduced project contingency for LIRR to three months. The IEC is of the opinion that the project has a fair chance of achieving the December 2020 deadline provided that;
 - 1) the SI is able to provide software release 3.7 to LIRR on schedule,
 - 2) Amtrak provides data and software needed for interoperability,
 - 3) MNR is successful in integrating the M8 fleet into PTC operation.



LIRR M-9 and LIRR/MNR M-9A Railcar Procurements Briefing to CPOC October 2019



M9 Inaugural Run

- The first 8 car passenger service train left Huntington Station for the morning rush hour at 6:50am on September 11, 2019
- As of Sept 23rd, 12 cars are operating in passenger service.
- In total, 14 cars have been accepted and 14 cars are undergoing operational testing at LIRR
- The remaining 188 cars are scheduled to enter service at an approximate rate of 10 cars per Month.
- All 202 Cars are scheduled to be in service by March 2021



Passenger Service Train



LIRR M-9 Railcar Procurement

□ Car Quantity

➤ Base Cars: 92

➤ Option Cars: 110

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

➤ LIRR is in negotiations with Kawasaki to procure an additional 54 Cars

□ Budget

	<u>Base Order (92)</u>	<u>Option Cars (110)</u>	<u>Total (202)</u>
□ Project Budget:	\$406.4M	\$327.2M	\$733.6M
□ Current EAC:	\$406.4M	\$316.4M	\$722.8M
□ Contingency:	\$0	\$ 10.8M	\$ 10.8M



M-9 Railcar Procurement Major Milestone Summary

Milestone	Current Schedule	Approximate Shift from 2018 CPOC
Pilot Car testing in Pueblo and LIRR	Nov 2017 – Sept 2019	5 Months
202 Cars Conditional Acceptance (92 Base Order + 110 Option Cars)	Sept 2019 - Mar 2021	4 Months*

* Technical challenges during the testing program extended Conditional Acceptance of the cars for 4 months.



M9 Manufacturing/ Acceptance Progress

- The 106th Carshell has commenced fabrication at Kawasaki Motors Manufacturing (KMM) in Lincoln, NE
- There are currently 20 cars in Kawasaki Rail Car (KRC) in Yonkers, NY for final assembly.
- 14 Cars have received Conditional Acceptance at LIRR
- 16 production cars are at LIRR going through Operational Testing before they can be accepted and placed into passenger service



M-9 Production Car

Kawasaki Motors Manufacturing (KMM), Lincoln Nebraska



M-9 Final Assembly

Kawasaki Rail Car (KRC), Yonkers New York

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



LIRR M-9A Exterior Rendering



LIRR/MNR M-9A Car Requirements

M-9A

- LIRR Base Cars: 88 (Based upon initial Cost Proposals)
- LIRR Option Cars: 72
- LIRR Option Coaches: 30
- Total Cars LIRR 190
- MNR Option Cars: up to 200
- Total M-9A Cars: 390



LIRR/MNR M-9A Joint Railcar Procurement

RFP Schedule

- Phase I RFP (Pre-Qualification) Released: October 2018
- Phase II RFP (Cost & Technical) Released: January 2019
- Phase II Proposals Received: April 2019
- BAFO Request Released: October 2019
- BAFO Proposals Received: November 2019
- Contract Award: January 2020



October 2019 CPOC IEC Project Review

LIRR M-9 Railcar Procurement



Schedule Review

- Conditional acceptance for the 92 base and 110 option car order has shifted 4 months since the last report to March 2021.
- This is primarily due to issues Kawasaki (KRC) experienced during testing of the pilot cars at LIRR between May and September 2019.
- Schedule continues to be the critical path and is being driven by fabrication, delivery and final acceptance testing of all vehicles.



Budget Review

- The current M-9 budget of \$734.2M includes funding for the 110 option cars.
- The IEC budget review confirms the EAC remains at \$722.8M and within the project budget of \$733.6M
- Several outstanding change orders that have yet to be negotiated can have a potential impact to the \$10.8M project contingency budget.



IEC Observations

- The IEC finds several technical challenges for which LIRR and Kawasaki are developing a mitigation plan.
 - The LIRR project team continues to make efforts to ensure KRC addresses all technical issues and maintain the project schedule.
 - Kawasaki is attempting to mitigate any further schedule delays.



Capital Program Oversight Committee

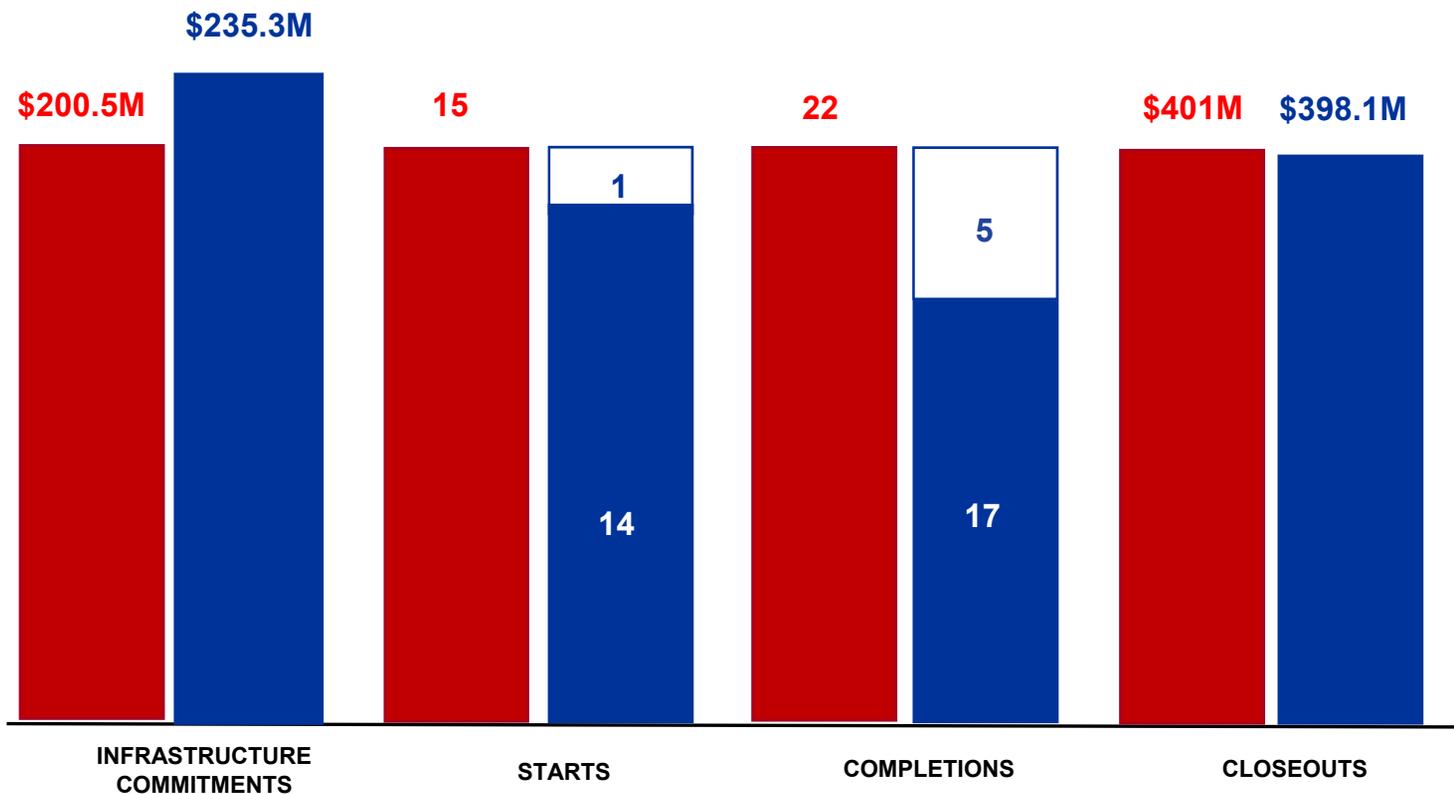
Major Projects - Status

October 2019

Long Island Rail Road



2019 LIRR Capital Program Goals



2019 ANNUAL PLAN



2019 PLAN TO DATE



ACTUAL as of September 30, 2019



Morris Park Locomotive Shop



New Shop Rendering



Morris Park Locomotive Shop

■ Schedule

- DB Award: Dec 2017 (A)
- Beneficial Use: May 2020 (F)
(Prev. 1st Q 2020)

■ Budget: \$102.3M

■ EAC: \$101.9M

■ Percent Complete: 58%

■ Risk Management - Top Risks as of September 2019

- Long Lead Shop Equipment Delays – *original supplier out-of-business*
- Building Power Tie-in to Electric Service Building (ESB)
- 3rd Party Contractor interface with LIRR for systems tie-ins and commissioning



Existing Morris Park Roundhouse (Built in 1889)



Morris Park Locomotive Shop



New Shop and Facility Aerial



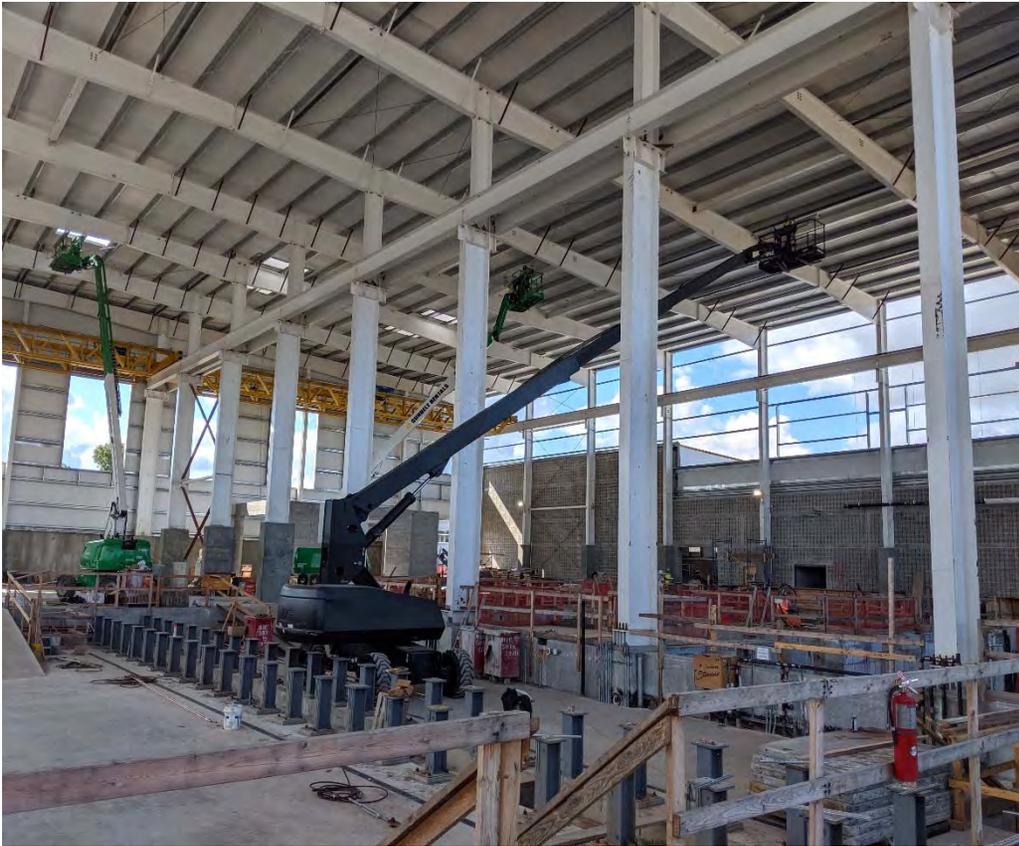
Morris Park Locomotive Shop



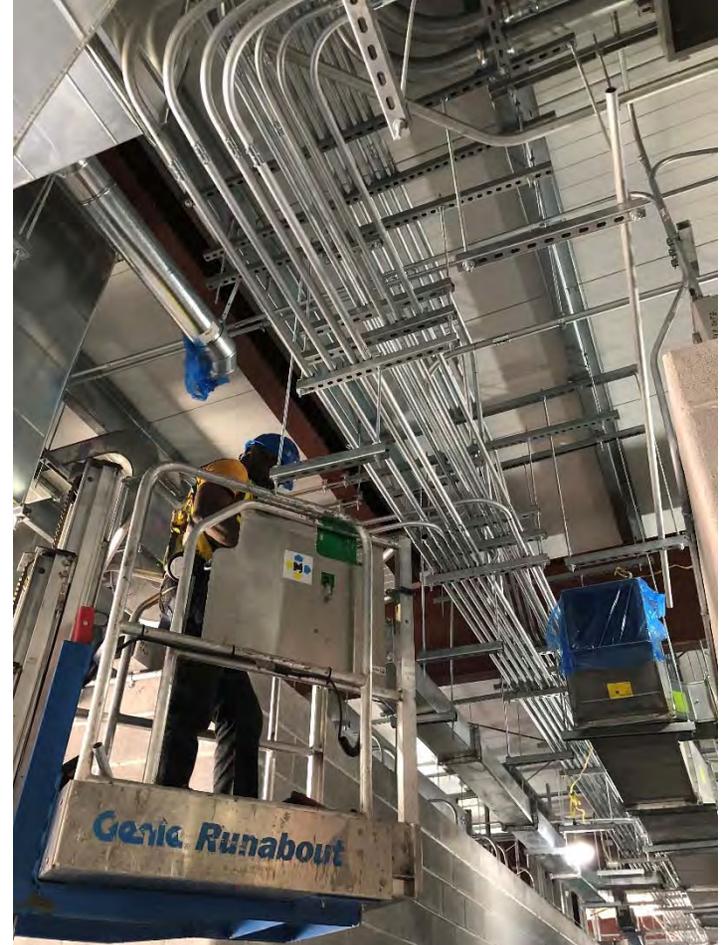
Shop - South Elevation



Morris Park Locomotive Shop



Shop – Pit Tracks



Shop – Power / Comm. Conduits

Morris Park Locomotive Shop



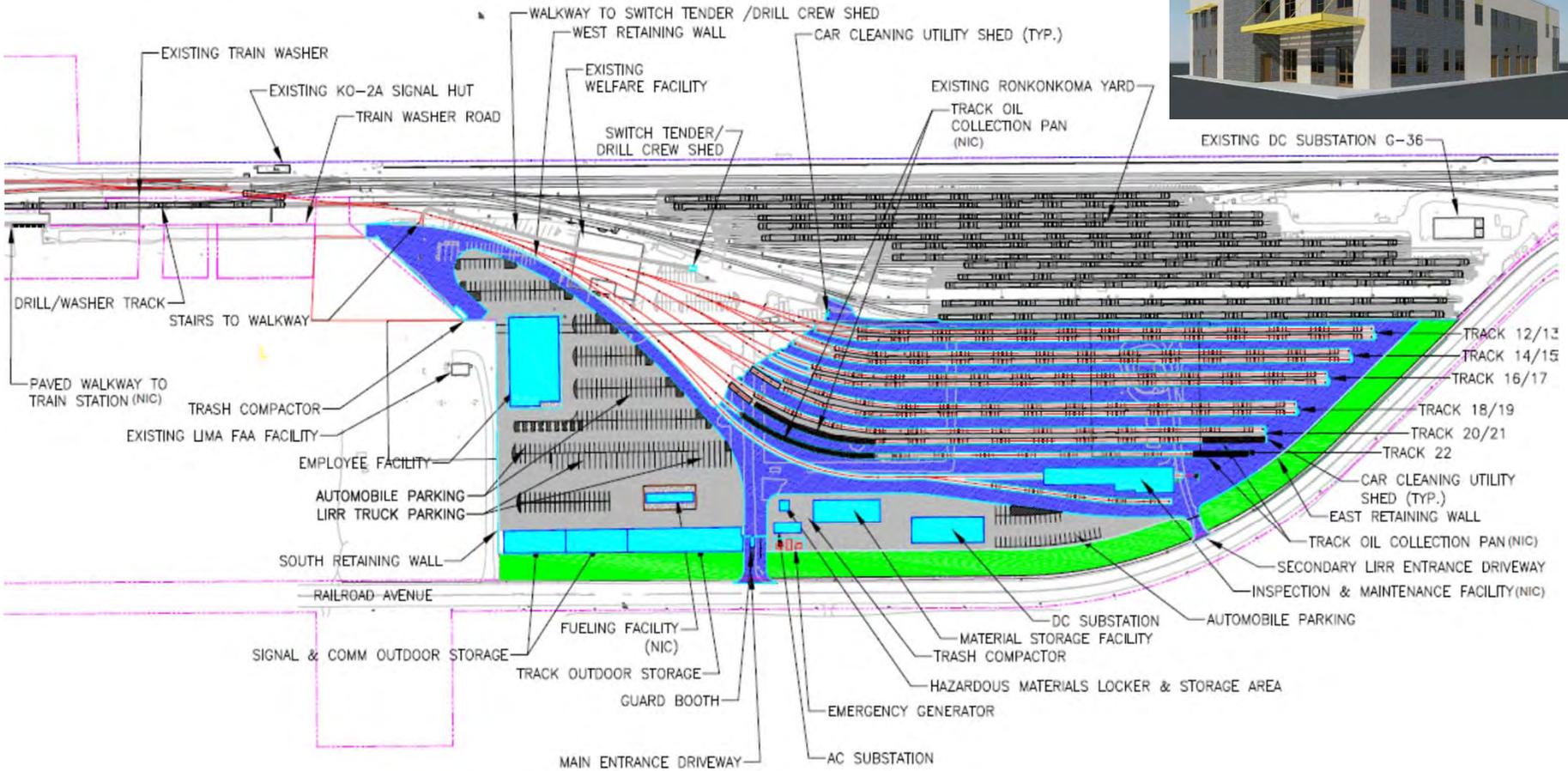
Yard Track Grading and Sub-ballast Installation



Lead Track Switch Installation



Mid-Suffolk Yard



Mid-Suffolk Yard

■ Schedule:

- DB Award: December 2017 (A)
- Beneficial Use: 3Q 2020 (F)
(Prev. 4Q 2020)

■ Budget: \$136M

■ EAC: \$136M

■ Percent Complete: 60%

■ Risk Management - Top Risks:

- Commissioning the AC Substation to provide permanent power to the Employee Facility and yard lighting
- Completion of the DC Substation – PSEG Feeders and Fabrication
- Timely completion of the new Yard Facility and relocation of LIRR forces into the new building to allow the old building to be demolished



Mid-Suffolk Yard



New Support / Employee Facility



Mid-Suffolk Yard



2nd Floor Training Space



2nd Floor Plumbing Rough-in



Boiler Circulation Pumps



Facility Roof and HVAC



Mid-Suffolk Yard



Emergency Generator



AC Substation - Installation



DC Traction Power Ducts



AC Substation - Wiring

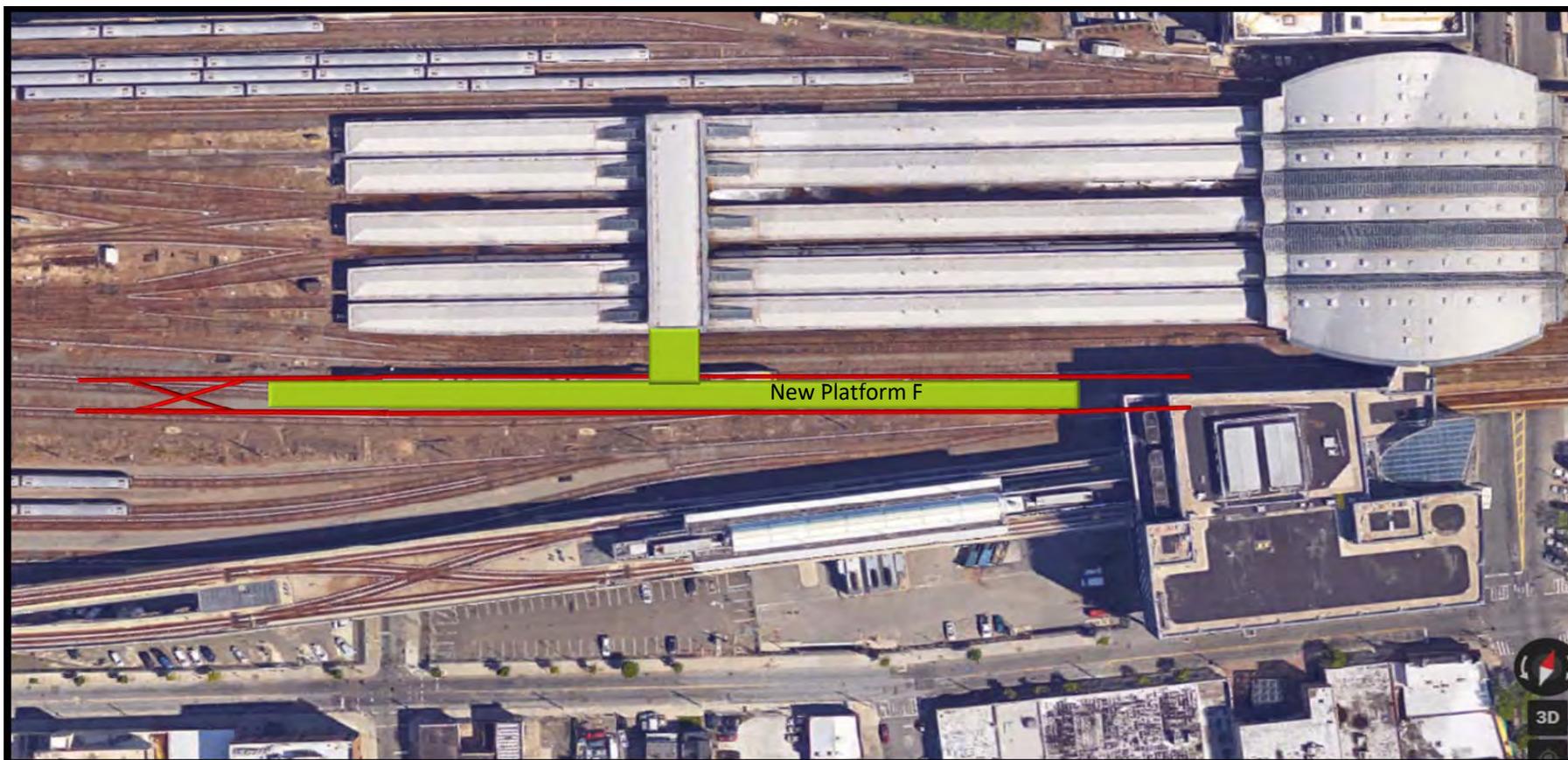


Mid-Suffolk Yard



Subgrade Preparation and Catenary Lighting Installation

Jamaica Capacity Improvements - Phase I

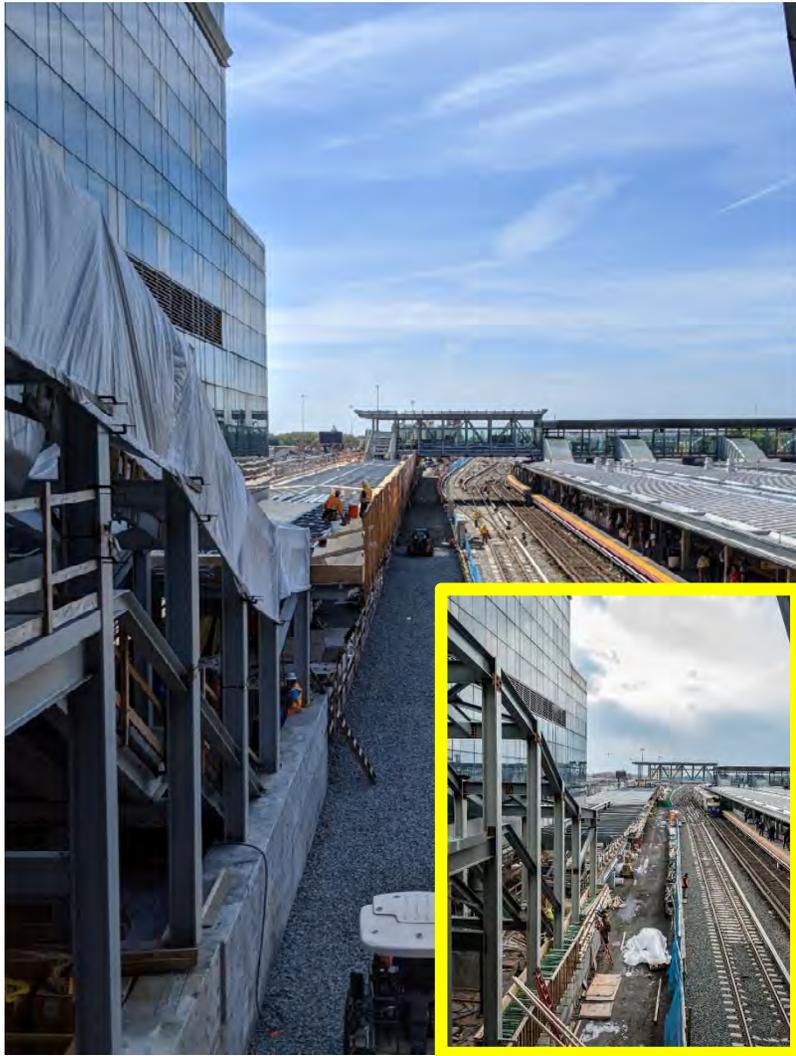


Jamaica Capacity Improvements - Phase I

- **Schedule:**
 - Platform F Construction (3rd Party)
 - Award: September 2016 (A)
 - Completion: 4Q 2019 (F)
 - Track & Infrastructure for Platform F (3rd Party & Force Account)
 - Completion: 3Q 2020 (F)
 - Universal Crossovers (Force Account): Union, Metropolitan and Beaver
 - Completion: 3Q 2021 (F)
- **Budget: \$301.6M**
- **EAC: \$301.6M**
- **Percent Complete: 63%**
- **Risk Management** - Top Risks as of October 2019:
 - 3rd Party Contractor and LIRR Force Account Coordination
 - Force Account Availability
 - 3rd Party Material Availability
 - Van Wyck Widening Coordination



Jamaica Capacity Improvements - Phase I



Platform F – Looking West



Westerly Bridge Stair Canopy With Arts for Transit Glass

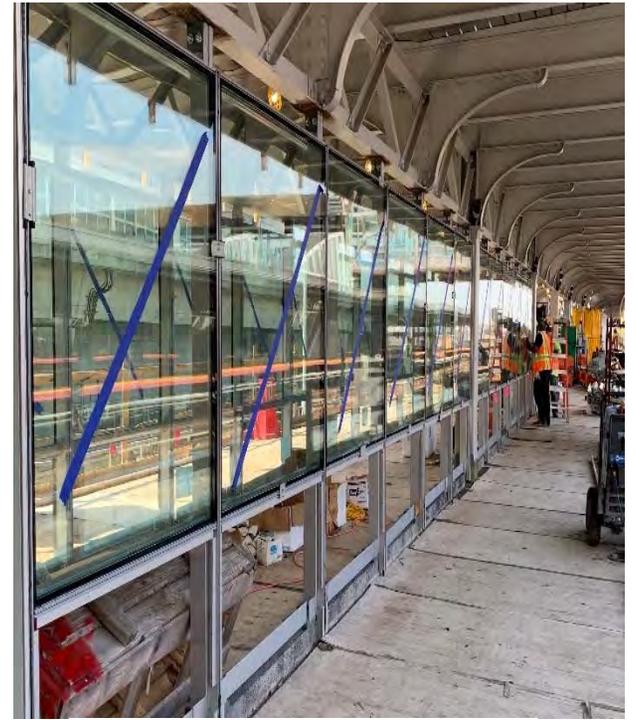
Jamaica Capacity Improvements - Phase I



Escalator to Portal Bridge

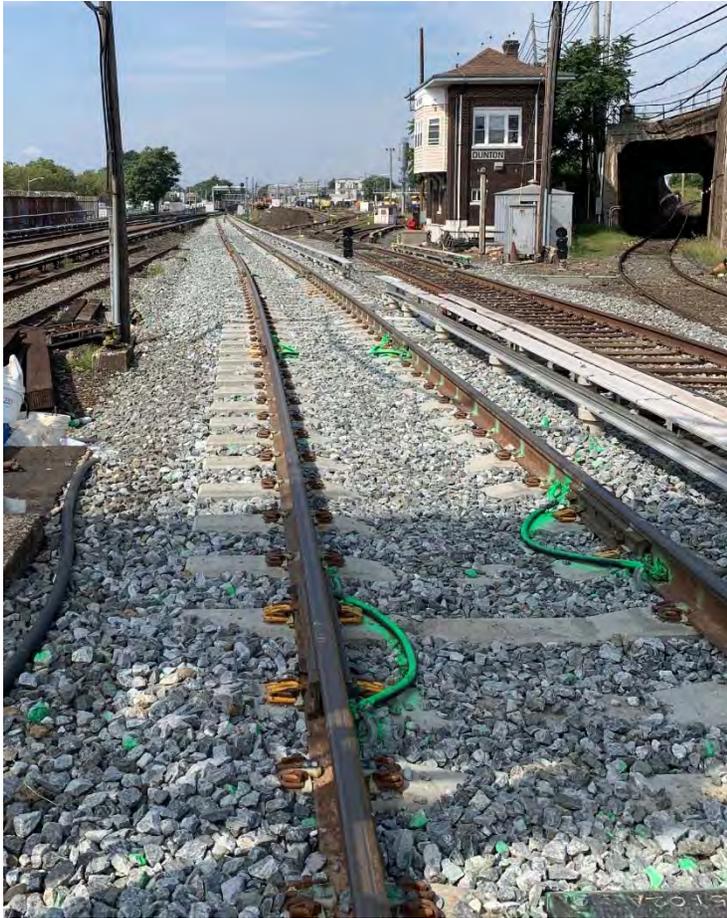


Elevator to Portal Bridge

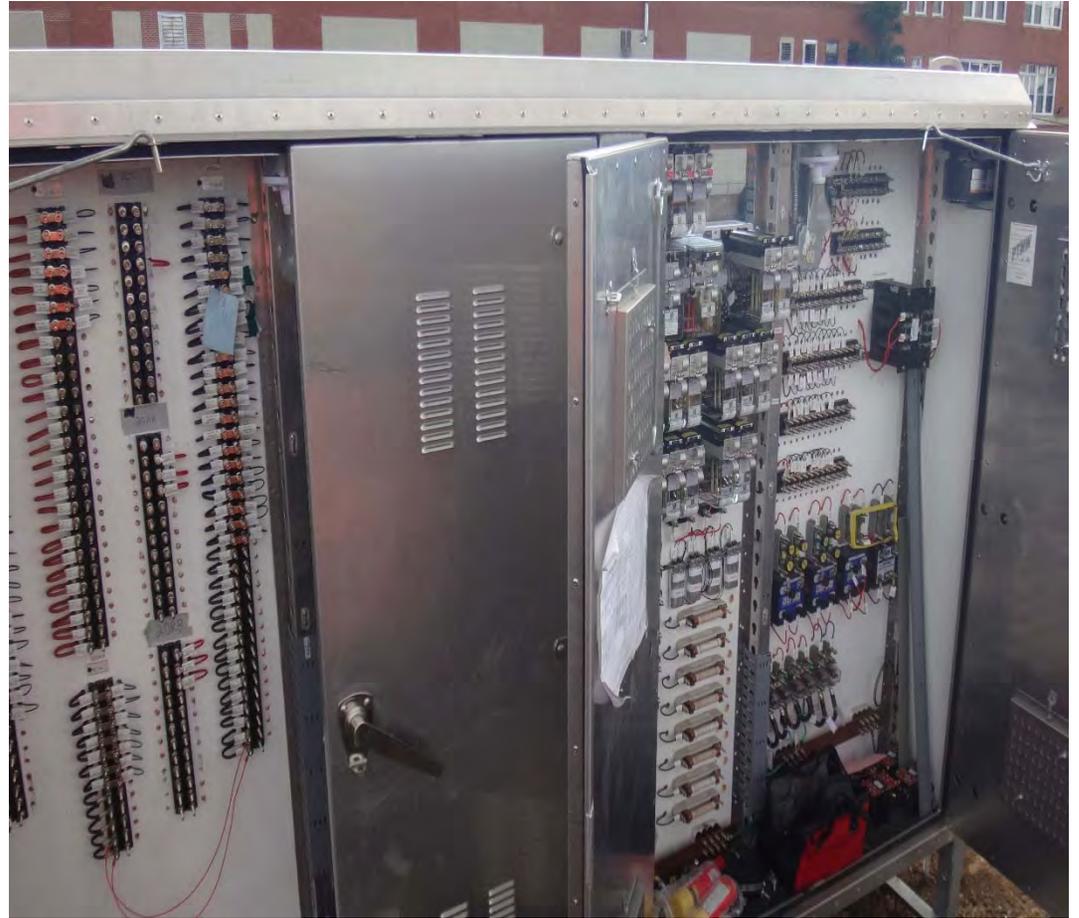


Platform F Waiting Room

Jamaica Capacity Improvements - Phase I



Reconfigured Track A5 in Dunton Interlocking



Dunton Interlocking Signal Case



Jamaica Capacity Improvements – Phase II

■ Schedule:

- Design Award: December 2017(A)
- Design Completion: June 2021 (F)
- Construction Start: TBD (est. 2020)

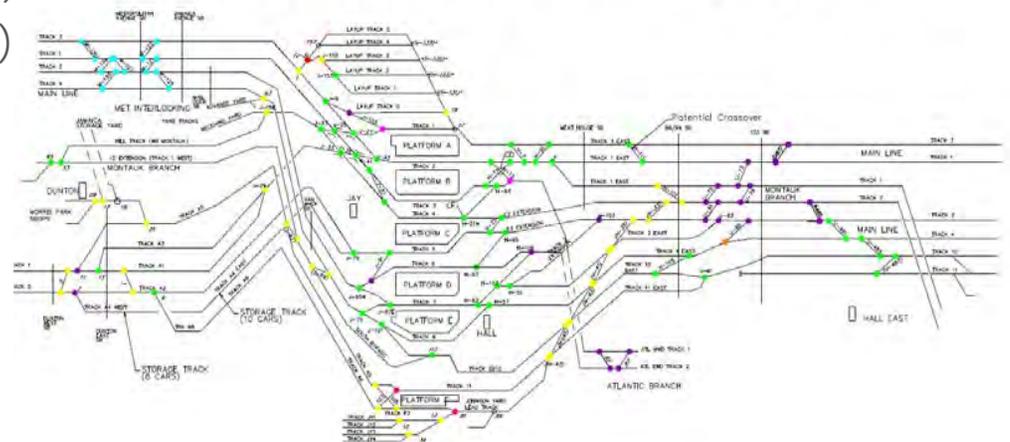
■ Design Budget:

- Design & LIRR Support: \$77.5M
- Current EAC: \$77.5M
- Design Percent Complete: 29%

■ Project Update:

- Survey, data collection, and preliminary design activities continue.
- Designer has completed the Design Brief and 30% Design documents for all stages of work, as well as the Design-Build procurement documents for the E-Yard Extension Project.
- Designer is actively producing the 60% Design Deliverable due in Dec 2019.

Jamaica Configuration at Completion of JCI Phase - II



Annual Track Program Cyclical Track Renewal



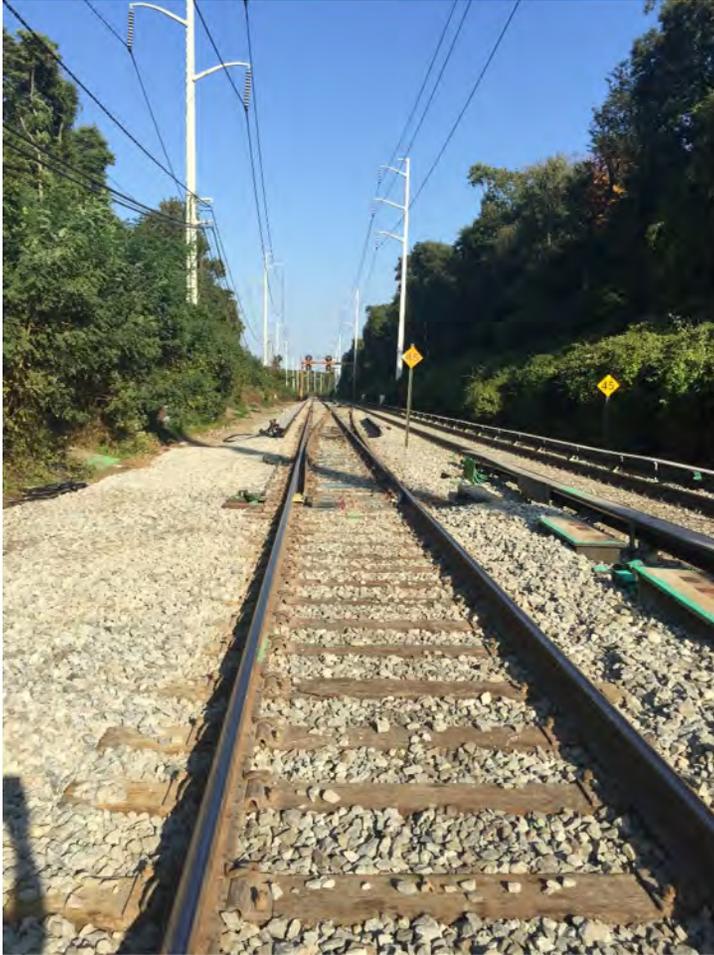
Mechanized Ties Installation – Montauk Branch

- **Schedule:**
 - Construction Start: February 2019 A
 - Beneficial Use: December 2019 F
- **Budget: \$74M**
- **EAC: \$74M**
- **Percent Complete: 80%**

ELEMENT OF WORK	2019	
	Goal	Actuals Sept 2019
Mechanized Wood Ties (ea)	15,600	16,524
Concrete Ties (ea)	41,500	37,670
Grade Crossing Renewal (ea)	12	11
Switch Replacement (ea)	10	9
Surfacing (miles)	82	44
Surface Interlocking Switches	10	12
Field Welds (ea)	1,300	981



Annual Track Program Cyclical Track Renewal



Amott Switch Replacement – Port Jefferson Branch



Concrete Tie Installation – Mainline (Track 1 - PW to Ronkonkoma)



October 2019 CPOC IEC Project Review

Morris Park Locomotive Shop



Schedule Review

- The project substantial completion has been delayed from March 2020 to May 2020 due to the following:
 - Replacement turn table and drop table contractor has not mobilized on time, and factory acceptance testing has been delayed by two months.
 - The electric power within the Morris Park Electric Service Building will need to be redistributed in order to bring sufficient power to new locomotive shop building.



Budget Review

- The IEC has reviewed the total project budget. A cost analysis for the design, construction and soft cost to verify the project's estimate at completion was performed. Based on this analysis, the project is within budget.



Risk

- As of October 2019 top project risks are:
 - Long-lead equipment fabrication and installation
 - Delays in manufacturing, testing and delivery of Drop Table and Turntables have put this item on the schedule critical path.
 - Diesel Shop Electrical Power tie-in
 - Modifications to switchgear and bus arrangements, and Con Edison approvals may impact testing and commissioning.
 - Testing and commissioning



October 2019 CPOC IEC Project Review

Jamaica Capacity Improvements – Phase I



Schedule Review

- The project substantial completion is tied to signal procurement, installation, testing and commissioning, which remains on schedule for completion in October 2021.
- Platform F substantial completion by the contractor remains on schedule for December 2019, followed by closeout activities.



Budget Review

- The IEC reviewed the project's design, construction and soft costs, and in the IEC opinion this project is within budget.
- The IEC acknowledges that the agency, having recognized the high level of risk, allocated a sufficient amount of contingency to this project.



Risk

- The LIRR PM team performs continuous reviews of risks and their mitigations to manage key risk areas, such as:
 - Coordination between 3rd Party and Force Account crews
 - Force Account availability
 - Long lead material procurement
 - Coordination with NYSDOT Van Wick Bridge Widening project



October 2019 CPOC IEC Project Review

Mid Suffolk Yard



Budget and Schedule Review

□ Budget

- Based on a review of the project's construction, soft costs and cost contingency, and known project issues, the IEC notes the EAC is unchanged since last report and is sufficient for project completion.

□ Schedule

- The IEC's review of the contractor's CPM schedule shows that there continues to be a 6 month delay to the substantial completion date.
- The project management team has not received a recovery schedule. A portion of the utility installation delays has been mitigated however, substantial completion still remains at risk because of the DC traction power substation work.



Risk Management

- Top project risks are as follows:
 - A delay in PSE&G supplying power to the new DC traction power substation and the subsequent commissioning of the DC traction power system.
 - The AC substation commissioning and cutover of service to the yard and new employee facility.
 - Commissioning of all systems for the new employee service building.

- The project team has mitigated some risk associated with the AC substation as delivery was expedited.



Observations

- The IEC observes the following:
 - Detailed progress activities for the PSE&G work that is related to the DC substation has yet to be incorporated in the CPM schedule.
 - Potential delays to beneficial use of the employee service building rest largely with LIRR force account communications work and building move in activities. LIRR is being proactive by having weekly in house coordination meetings however, commissioning of certain building systems may not be fully complete as the building is schedule for a December 2019 cutover.



Capital Program Oversight Committee

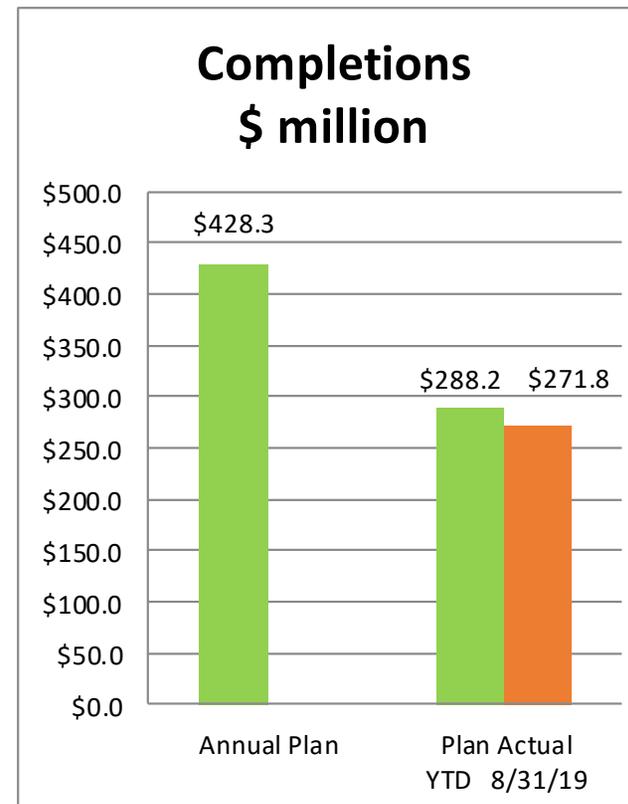
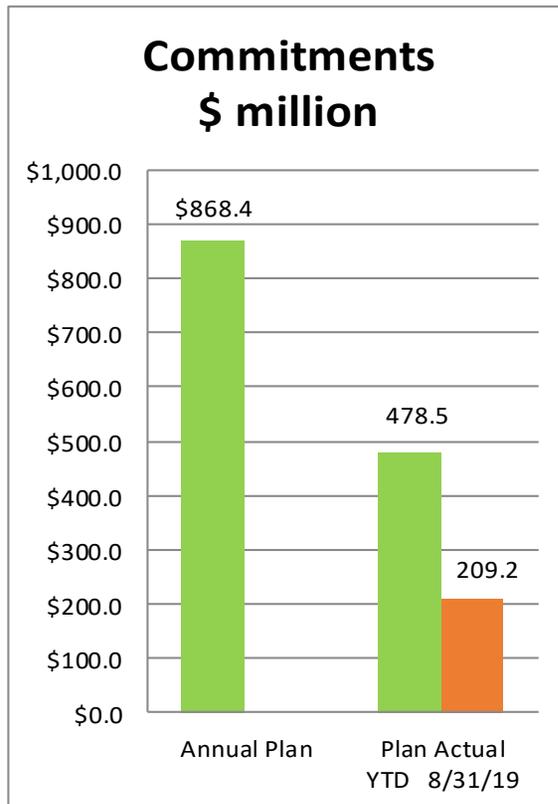
Capital Program Review

October 2019



Metro-North Railroad

2019 Metro-North Capital Program Goals Through August 31, 2019



Systemwide Track Projects Update – through September 2019

ELEMENT OF WORK	2019	
	Goal	Projected Actuals as of 09/30/2019
Production Tie Replacement (1.9M systemwide)	45,600	22,003 (48%)
Rail Vac (Wood Ties)	4,000	5,964 (149%)
Rail Replacement (1,058 miles systemwide)	10.2 miles	7.41 miles (73%)
Welds (Joints)	2,000	802 (40%)
Loram Rail Grinder (miles)	62	72 (117%)
Switch Renewal (1,500 switches systemwide)	32	20 (63%)
Grade Crossing Renewal (111 systemwide)	10	5 (45%)
Surfacing (754 track miles systemwide)	110	71.9 (65%)



Major Projects

- Customer Service Initiatives (CSI)
- Harmon Shop Replacement – Phase V



Customer Service Initiatives

Budget: \$220.0M

EAC: \$216.2M

Completion Date: March 2021

Status

Highlights:

- GCT Head End (Central Control) delivered and installed; cutovers continue; back up system is installed and being tested.
- Cable plant installation ongoing; working in the 45th and 47th Street passageways.
- New GCT Big Boards installation is complete.
- Gate Boards installation completed on the dining concourse; commencing on the upper level.

- Outlying Stations:
 - Installations of displays and cameras are ongoing with seven (7) locations to be completed by the end of 2019; nine (9) by the end of 2020; and the remaining three (3) in early 2021.
 - Security head end - 100% design is under review; factory acceptance testing of station equipment is ongoing.

Project is within budget with a minor 2 month slip in schedule.



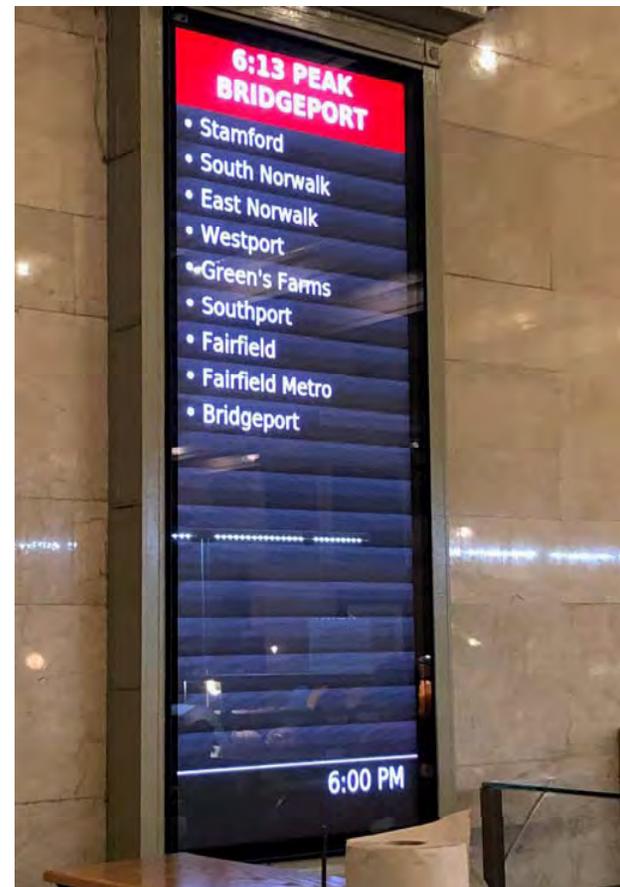
Customer Service Initiatives



New GCT Big Boards



Customer Service Initiatives



Gate Boards: Before and After



Customer Service Initiatives



Outlying Stations Work: New Electronic Signage at Mount Vernon East; new cameras at Riverdale



Harmon Shop – Design-Build Phase V – Stage I

Budget \$316M

EAC: \$316M

Complete: 99%

Completion: 4th Qtr. 2019

□ Consist and Electric Multiple Unit Annex (EMU Annex) Shops

□ EMU Annex

- Carbon Monoxide (CO) issues at select machines have been resolved.
 - Draft inducers, Automatic Shutdown if CO is detected, noise reduction
- In addition, a separate CO detection system was installed to supplement existing individual equipment CO detection sensors to enhance employee protection throughout both facilities.

□ Consist Shop

- Enhancements to the commissioning protocols of the building systems that were implemented to address issues in the EMU Annex have been used to ensure safe completion of the Consist Shop.
- Functional testing of the DC Bug and Stinger system for the powered movement of consists cars in and out of the shop was completed after Bug component modifications for improved safety, reliability and functionality.

Phased Move In and Beneficial Use is expected to be complete in October, 2019. Final budget under review.



Harmon Shop - Phase V – Stage I Progress Photos



EMU Annex



Consist Shop Facility



Harmon Shop - Design-Build Phase V – Stage 2

Budget \$439M
Contract \$365M

EAC: \$439M

Award: October 2018
Completion: October 2022



- Replacement of Electric Car Repair Facility
 - The design-builder (D-B) Skanska-ECCO III, JV2 has advanced design elements to the 90% development and release for construction levels.
 - Completed the following to release for construction: Early construction for the south yard area; Building foundation design package.
 - Continuing the following: Design development for the Running Repair and Support Shop (RRSS) and the Blow Shed; preparation of demolition work plans including lead and asbestos abatement.
 - Discussion of recovery of delays of completion of Stage 1 underway.
- Risk Assessment
 - Enhanced MNR on-board design reviews with the Engineer of Record and review of Commissioning Protocols continue.



October 2019 CPOC IEC Project Review

MNR Harmon Shop Replacement
Phase V, Stage 1 & 2



Harmon Shop Replacement

Phase V Stage 1 & 2

Schedule Review

■ Stage 1

- Since last report on this project, the issues that were delaying occupancy of the shops have been resolved, and MNR staff have begun moving into the shops.
- Forecasted Substantial Completion in 4Q 2019 has not changed.
- Final completion will occur when the new wheel boring machine is installed and operational, currently projected for May 2020.

■ Stage 2

- IEC review of the approved baseline indicates the critical path encompasses shop design, structural steel, electrical, and testing of the railcar hoists.
- Delays to Stage 1 demolition resulted in a 3.5 month impact to Stage 2 completion on the latest schedule update. The project team is investigating options to recover some or all of this delay.



Harmon Shop Replacement

Phase V Stage 1 & 2

Budget Review

■ Budget – Stage 1

- The IEC has reviewed the budget and commitments and has determined that the Stage 1 design-build contingency has been depleted.
- The project has a programmatic contingency that may be sufficient to complete the work of Stage 1.

■ Budget – Stage 2

- Stage 2 is within budget at this early stage in the project.
- There are 10 change order requests to date, and no approved change orders.



Harmon Shop Replacement

Phase V Stage 1 & 2

IEC Observations

■ Excusable delays to Stage 1 include:

- Late inclusion of the EMU Annex to D/B scope;
- Addition of a temporary electrical shop to the EMU Annex;
- New wheel boring machine;
- A permanent carbon monoxide detection system in both shops.

The above changes will result in improvements to the safety and functionality of the completed shop spaces for MNR employees, and efficiencies in staging the remaining Stage 2 work.

■ The project team is actively using lessons learned from previous phases to manage project risks in Stage 2:

- Retaining a commissioning agent with the CM team;
- Enforcing early commissioning requirements;
- Requirement for an industrial designer in a key role with the design/build team.



MTA Capital Program Commitments & Completions

through September 30, 2019

Capital Projects – Major Commitments – September 2019

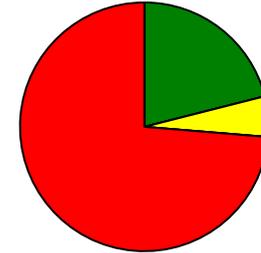
In 2019, agencies have a goal of \$5.6 billion in overall commitments. 36 major commitments are included; 18 for NYCT, two for LIRR, four for Metro-North, six for B&T, one for MTACC, two for MTA Bus and three for the MTA Police Department. As reported in CPOC last month, one commitment was removed and will no longer be reported on in this report.

Through September, agencies have committed \$1.9 billion versus a \$3.8 billion YTD goal. The shortfall is primarily due to slips of fourteen major commitments explained on the following page. The remaining total shortfall is due to delays of non-major commitments, including force account and support costs related to MTACC projects as well as Metro-North projects.

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

By year-end, the MTA forecasts meeting 96% of its overall \$5.6 billion goal. However, achieving this outcome is very much reliant upon agencies making 17 major commitments (\$1.8 billion) currently forecast for award in December 2019.

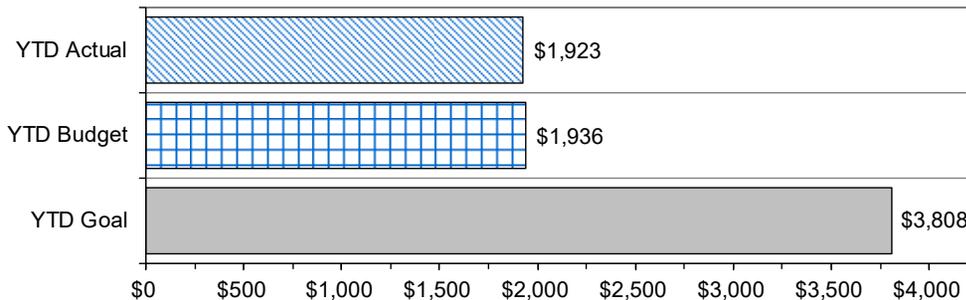
Year-to-Date Major Commitments



	Count	Percent	Change from Prior Month
GREEN = Commitments made/forecast w within Goal	4	21%	↑ 1
YELLOW = Commitments delayed beyond Goal (already achieved)	1	5%	↓ 1
RED = Commitments delayed beyond Goal (not yet achieved)	14	74%	↑ 6
Total	19	100%	↑ 6

Budget Analysis

2019 Annual Goal	\$5,613	(\$ in millions)
2019 Forecast	96%	of Annual Goal
Forecast Left to commit	64%	(\$3,492)



Year-to-Date Agency Breakdown

2019 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
1 GREEN, 7 RED	---	-1 YELLOW	+3 RED
Long Island Rail Road			
1 GREEN, 1 RED	---	---	---
Metro-North Railroad			
1 GREEN, 1 YELLOW, 2 RED	---	---	+1 RED
Bridges and Tunnels			
1 GREEN, 2 RED	+1 GREEN	---	+1 RED
Capital Construction Company			
1 RED	---	---	---
MTA Bus Company			
	---	---	---
MTA Police Department			
1 RED	---	---	+1 RED

Capital Projects – Major Commitments – September 2019 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
14 All-Agency Red Commitments (6 New Items)				LIRR			
NYCT				<i>Rolling Stock</i>			
<i>Passenger Stations</i>				Work Locomotives Purchase award Mar- 19 Jan- 20			
Replace 11 Hydraulic Elevators / Various	Construction Award	Jun- 19 \$46.4	Feb- 20 \$66.9			\$32.2	\$32.2
Construction award has been delayed due to change in procurement strategy. The project's cost increased due to additional scope including expansion of existing elevator machine rooms and a new secondary machine room and an increased construction duration.				An independent firm reviewed the procurement and recommended that work locomotives must not exceed required braking horsepower in order to deliver the cleanest locomotives. The award was rescheduled for vendors to revise their submissions.			
Replace 8 Traction Elevators / Various	Construction Award	May- 19 \$57.9	May- 20 \$67.4	MNR			
Construction award delayed due to change in procurement strategy. Project cost increased due to additional scope including expansion of existing elevator machine rooms and a new secondary machine room and an increased construction duration.				<i>Stations</i>			
ADA Enhancements: 170 St / JER (New Item)	Construction Award	Sep- 19 \$49.0	Dec- 19 \$63.3	Harlem Line Station Improvements	Construction Award	Jun- 19 \$54.2	Dec- 19 \$14.7
Construction award delayed due to extended RFP process. Best and final offer request expected to be issued in October. Project cost increased due to additional structural repair work.				Construction award delayed due to limited flagging resources. The scope of work has been revised to only capture the critical elements of this project.			
<i>Signals & Communications</i>				<i>Rolling Stock</i>			
8th Ave CBTC and Interlockings	Construction Award	Jun- 19 \$513.7	Dec- 19 \$523.2	Locomotive Purchase (New Item)	Construction Award	Sep- 19 \$213.0	Dec- 19 \$213.0
Construction award delayed due to change in procurement strategy. Project cost increased based on final engineer drawings.				Construction award delayed due to a change in funding from local to federal which required re-issuance of the RFP and time to reconcile the differences between the proposal and the specification.			
UHF T-Band Radio System Replacement (New Item)	Construction Award	Sep- 19 \$61.2	Jan- 20 \$62.2	MTACC			
Construction award delayed due to change in procurement strategy resulting in two separate procurements. Project cost reflects latest estimate.				<i>East Side Access</i>			
<i>Shops & Yards</i>				Electric Traction Catenary Work - Harold Systems			
Sandy Mitigation: Sewer Improvements at 207th Street	Construction Award	Jul- 19 \$19.3	Dec- 19 \$130.5		Construction Award	Aug- 19 \$29.8	Dec- 19 \$29.8
Construction advertisement delayed due to issues with NYC DOT and the DSNY which were resolved in June. Project cost increased due to the addition of Signal and Track restoration work and relocation of existing utility and electrical ducts, extended construction duration, and extended daily work shift.				Construction award delayed due to an extension to permit more time for prospective proposers to assemble qualified teams for bidding and the incorporation of contract modification to include additional scope.			
<i>Buses</i>							
Purchase 50 Express Buses (New Item)	Construction Award	Sep- 19 \$38.5	Dec- 19 \$33.5				
Construction award extended to December to combine procurement with the purchase of 257 express buses. Documentation being prepared for MTA October Board.							

Capital Projects – Major Commitments – September 2019 – Schedule Variances

Project	Commitment	Goal	Forecast
B&T			
<i>Henry Hudson Bridge</i>			
Structural Rehabilitation & Replacement of HHB Overcoat System	Construction Award	Aug- 19 \$40.0	Dec- 19 \$40.0
Construction award delayed due to change in procurement strategy. Contract award is now forecast for December 2019.			
<i>Bronx- Whitestone Bridge</i>			
Tower and Pier Fender Protection & Install of Fire Standpipe Connections (New Item)	Construction Award	Sep- 19 \$40.5	Oct- 19 \$40.5
Construction award delayed due to change in procurement strategy. Contract award is now forecast for October 2019.			
MTA Police Department			
<i>MTAPD</i>			
Radio Project Phase 3 - MRRS System (New Item)	Construction Award	Sep- 19 \$6.8	Dec- 19 \$6.5
The construction award delayed due to the need to coordinate work with a separate Penn Station renovation project. MTAPD is exploring the possibility of coordinating the radio system work with the renovation project's 2nd phase.			

Capital Projects – Major Commitments – September 2019 – Schedule Variances

Actual Results Shaded

1 All-Agency Yellow Commitments

MNR

Structures

Overhead Bridge Program East of Hudson	Construction Award	Feb-19	Mar-19 (A)
		\$23.4	\$25.6

Award was delayed to March due to revisions made to the notice of award which resulted in a protracted approval process.

Capital Projects – Major Completions – September 2019

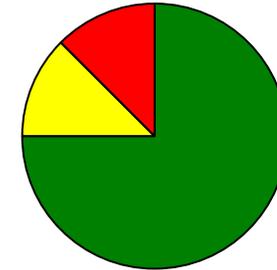
In 2019, agencies have a goal of \$3.4 billion in overall completions. 24 major completions are included, including 14 for NYCT, four for the LIRR, three for Metro-North, one for B&T, one for MTACC, and one for MTA Bus.

Through September, agencies have completed \$2.4 billion versus a \$2.6 billion YTD goal. The shortfall is mainly due to shortfalls in various NYCT Mainline Track and Switch projects totaling \$236 million, of which \$213 million is expected to be achieved by year-end. In addition, two major completions remain delayed and are expected to be completed in October.

Twelve other major completions have been achieved on time or early including the purchase of 72 articulated buses (\$66M) and purchase of 367 standard diesel buses and 10 standard hybrid-electric buses (\$236M). Two major completions were delayed but are now completed.

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

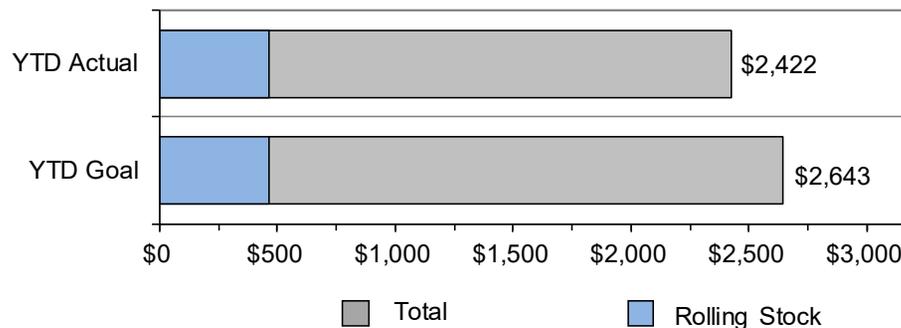
Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
GREEN = Completions made/forecast within Goal	12	75%	-
YELLOW = Completions delayed beyond Goal (already achieved)	2	13%	-
RED = Completions delayed beyond Goal (not yet achieved)	2	13%	-
Total	16	100%	-

Budget Analysis

2019 Annual Goal \$3,428 (\$ in millions)
 2019 Forecast 107% of Annual Goal
 Forecast left to Complete 34% (\$1,238)



Year-to-Date Agency Breakdown

2019 Goals	Prior month variance		
	GREEN	YELLOW	RED
New York City Transit			
9	2		
Long Island Rail Road			
1			
Metro-North Railroad			
1 1			
Bridges and Tunnels			
Capital Construction Company			
1			
MTA Bus Company			
1			
MTA Police Department			

Capital Projects – Major Completions – September 2019 – Schedule Variances

Project	Completion	Goal	Forecast
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2 All-Agency Red Completions

MNR

Stations

Grand Central Terminal Utilities	Construction	Apr-19	Oct-19
		\$44.7	\$51.0

Field conditions required the modification of a fire pump controller cabinet. The current forecast for project completion has consequently been delayed to October 2019.

MTA Bus Company

Facilities

Security: JFK & Spring Creek	Construction	Aug-19	Oct-19
		\$8.5	\$8.5

Construction delay due to an additional work order to replace a downed pole at JFK depot which needs to be negotiated.

Capital Projects – Major Completions – September 2019 – Schedule Variances

Actual Results Shaded

Project	Completion	Goal	Actual
2 All-Agency Yellow Completions			
NYCT			
<i>Bus Purchase</i>			
Purchase 251 Standard Diesel Buses	Bus Purchase	Jul-19 \$161.0	Aug-19 (A) \$160.1
<p>There was an initial two month delay in the start of production and delivery of buses. Later, delays during fleet production resulted in a one month slip. All buses have been delivered.</p>			
<i>Passenger Stations</i>			
Station Component: 4 Stations / Jamaica	Construction	Feb-19 \$87.0	Aug-19 (A) \$104.7
<p>A project extension was granted to the contractor to complete additional work. Track access was available until August. The project cost increased to repair 30 tons of steel after a detailed steel repair survey revealed a significant amount of steel deterioration.</p>			

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

Prior Years' Major Commitments – Quarterly Update: September 2019

The status of 2016 through 2018 major commitments delayed beyond 2018 are tracked until committed and reported to CPOC quarterly.

In 2016, agencies set an overall MTA commitments goal of \$6.6 billion including 41 major commitments. In 2016, 27 major commitments and a total of \$5.0 billion were made. Of the remaining projects, one remains delayed and is forecast for award in 2020.

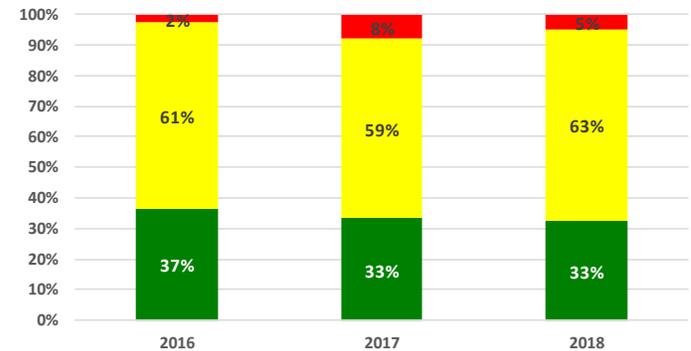
In 2017, agencies set an overall MTA commitments goal of \$7.3 billion including 51 major commitments. In 2017, the MTA achieved 100% of its \$7.3 billion commitments goal, including 39 major commitments. Of the remaining projects, one was awarded in the first quarter of 2019, and four are forecast for award in 2019 or 2020.

In 2018, agencies set an overall MTA commitments goal of \$7.3 billion including 43 major commitments. In 2018, the MTA achieved 86% of its \$7.3 billion goal, including 36 major commitments. Of the remaining projects, five were awarded in the first three quarters of 2019, one is forecast for award by the end of 2019, and one is forecast for award in January 2020.

Actual		MTA-Wide Prior Years' Major Commitments													Post 2020	
Goal		On Time	Achieved Late	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	
Total	135															
2016	41	15	25													1
2017	51	17	29	1									1			3
2018	43	14	22		1	1	1			1	1				1	1

This chart tracks when all major commitments are forecast/achieved versus original goal, starting with those that were committed within 2016, 2017, and 2018 followed by those that slipped beyond 2018. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been committed, and red represents projects that are still delayed. Projects that are red will become yellow when they are committed.

% of Project Status by Year



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

Prior Year Major Commitments – September 2019 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
7 All-Agency Red Commitments							
NYCT				MNR			
<i>Passenger Stations</i>				<i>Sandy</i>			
ADA: 68 St- Hunter College / Lexington Construction Award Sep- 16 Jul-20 \$66.8M \$116.3M Award schedule delayed due to lack of consensus on ongoing license agreements with CUNY / Hunter College as well as change in procurement strategy. Project cost increased because of added architectural , structural, electrical and utility relocation work. The complexity of the utility relocation under the street work with limited space constraints requires multiple construction phasing to keep the street open to both vehicular and pedestrian traffic throughout construction.				Power and Signal Mitigation Construction Award Nov- 17 Mar-20 \$20.6M \$20.6M This project is being pushed to March 2020 when more in-house resources to support the project will be available.			
Access Improvements: Grand Central: Phase 2				MTA Bus Company			
<i>Service Vehicles</i>				<i>Bus Company Projects</i>			
Purchase 35 Locomotives - and Option for up to Additional 35 Purchase Award Dec- 17 Oct- 19 \$128.3M \$202.9M Proposals received. Committees are reviewing and evaluating the proposals. Board action is required for award.				HVAC - College Point Construction Award Dec- 18 Dec-19 \$8.5M \$9.6M Delay due to extended authorization to advertise approval . Project cost increased due to additional time needed for comments and approval.			
<i>Employee Facilities</i>				MTACC			
Livingston Plz Electrical and Mechanical Sys Improvements Construction Award Dec- 17 Apr-20 \$62.7M \$82.8M The project was split into 2 parts (phase "A", the redundant Dry Coolant System for the 4th Floor Data Center awarded in July 2018, and phase "B" for the remaining scope and scheduled for award in 2020). As a result, the overall project cost was impacted. The combined project duration increased by 14 months and the administration of two separate contracts resulted in additional support costs.				<i>Regional Investments</i>			
				Rolling Stock Procurement M- 9A Cars Purchase Award Dec- 18 Jan-20 \$367.0M \$367.0M RFP modified to maximize competition and associated negotiations have extended the procurement phase.			

Prior Year Major Commitments – September 2019 – Schedule Variances				Actual Results Shaded			
Project	Commitment	Goal	Actual	Project	Commitment	Goal	Actual
6 All-Agency Yellow Commitments (2 new this quarter)							
NYCT				B&T			
<i>Passenger Stations</i>							
Times Square Reconstruction & ADA, Phase 3 - Shuttle	Construction Award	Jun-18 \$259.3M	Mar-19 \$201.5M	Miscellaneous Steel Repair, Concrete Rehab, & Structural Painting (New Item)	Construction Award	Oct-18 \$79.5M	Jul-19 \$76.9M
Award was delayed several months due to service plan reassessment regarding the shutdown. Bid opening was also postponed several times delaying the award.				Award was delayed due to bids not being within a reasonable range of the engineer's estimate. Contract was re- bid and awarded.			
<i>Track</i>							
Mainline Track & Switch Program (6 Projects) - 3rd Qtr (New Item)	Construction Award	Aug-18 \$44.0M	Aug-19 \$44.0M				
Delay of award due to track access issues on the Flushing line, which had delayed the last of the six planned projects for 2018 3rd quarter.							
<i>Signals and Communications</i>							
Culver Line Interlockings & CBTC	Construction Award	Sep-18 \$424.0M	Feb-19 \$417.1M				
Project award re-scheduled due to several bid postponements to review and answer bidders questions.							
<i>Sandy</i>							
Sandy Mitigation: St. George	Construction Award	Nov-18 \$70.1M	Apr-19 \$47.4M				
Bids postponed but were received in early December. Project cost decreased reflecting favorable bids.							
MTACC							
GEC Design	Construction Award	Dec-17 \$37.0M	Jan-19 \$34.1M				
Delay was due to change in procurement strategy. Award was further delayed due to the need to obtain Amtrak agreement. Agreement reached with Amtrak in January 2019. Budget at award reduction reflects favorable bid.							

Prior Years' Major Completions – Quarterly Update: September 2019

The status of 2016 through 2018 major completions delayed beyond 2018 are tracked until achieved and are reported to CPOC quarterly.

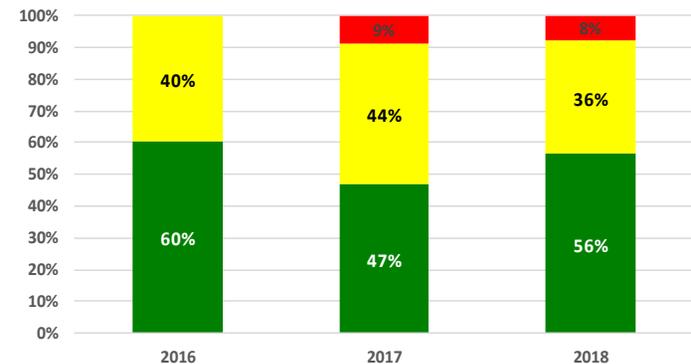
In 2016, agencies set an overall MTA completions goal of \$4.6 billion including 43 major completions. In 2016, 36 major completions were made including several MTACC contracts associated with 2nd Ave Subway Phase 1 which achieved beneficial use in December 2016. One project remained delayed, but was completed in the second quarter of 2019.

In 2017, agencies set an overall MTA completions goal of \$5.0 billion including 34 major completions. In 2017, 24 major completions were achieved. Of the remaining projects, four were completed in the first or second quarters of 2019, and three are forecast for completion by the end of March 2020.

In 2018, agencies set an overall MTA completions goal of \$6.3 billion including 39 major completions. In 2018, 32 major completions were achieved. Seven completions were delayed beyond 2018. Four were completed in the first or second quarters of 2019, and the remaining three are forecast for completion by the end of 2019.

Actual Goal	MTA-Wide Prior Years' Major Completions														Post 2020	
	On Time	Achieved Late	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19		
Total	116															
2016	43	26	16				1									
2017	34	16	11			1	1		2					1	2	
2018	39	22	10	1		1	2					2	1			

% of Project Status by Year



This chart tracks when all major completions are forecast/achieved versus original goal, starting with those that were completed within 2016, 2017 and 2018 followed by those that slipped beyond 2018. Green represents projects that were achieved on-time, yellow represents projects that were delayed but have since been completed, and red represents projects that are still delayed. Projects that are red will become yellow when completed.

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

Prior Year Major Completions – September 2019 – Schedule Variances

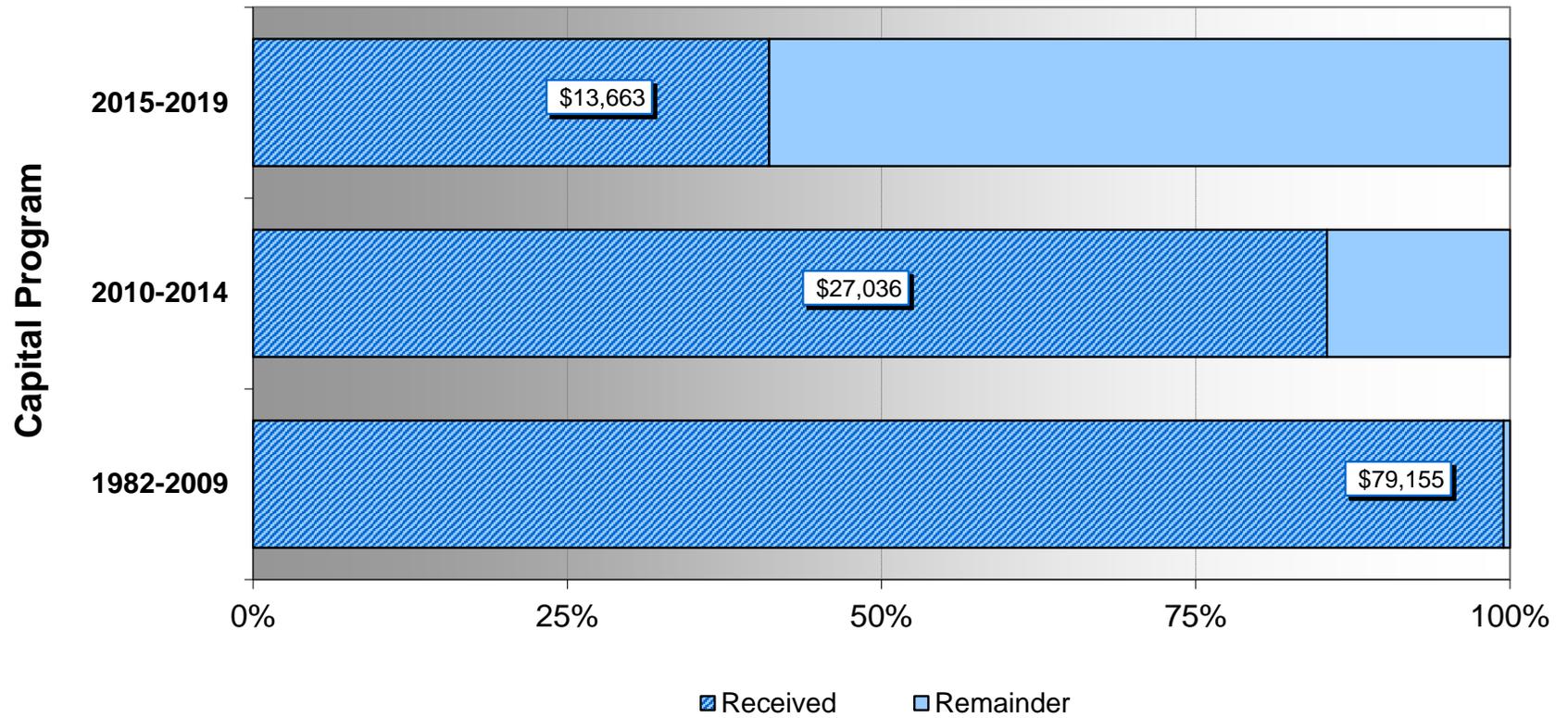
Project	Completion	Goal	Forecast	Project	Completion	Goal	Forecast
6 All-Agency Red Completions							
NYCT				MNR			
<i>Subway Cars</i>				<i>Shops & Yards</i>			
Purchase 300 B Division R179 Cars - (300 Cars)	Procurement	Dec-18 \$577.3M	Nov-19 \$743.6M	Harmon Shop Improvements	Construction	Jun-18 \$315.6M	Oct-19 \$315.6M
As of September 2019, 258 cars were accepted and placed in service. The original 2018 goal was for 234 cars.				The design and installation of an enhanced carbon monoxide detection system at the shop/building has been determined to be needed. This additional work will further extend the current forecast for completion from July 2019 to October 2019.			
<i>Passenger Stations</i>							
Sea Beach Contract at 6 Stations	Construction	Dec-18 \$278.7M	Oct-19 \$309.2M				
Extension was granted to contractor for additional work for Track Wall at 8th Avenue. The completion will be delayed further to December 2019 due to the addition of southbound elevator at 8th Ave station to the contract. Project cost increased due to contract modification for design of added work related to two new elevators at 8th Ave.							
LIRR							
<i>Track</i>							
Massapequa Pocket Track	Construction	Nov-17 \$19.6M	Feb-20 \$19.6M				
Delay due to lack of available force account resources in the signals area.							
MNR							
<i>Power</i>							
Power Infrastructure Restoration - Substations	Construction Completion	Aug-17 \$43.8M	Mar-20 \$45.7M				
Delay due to additional time needed for acceptance testing and coordination with the local utility company for power cutover. The forecasted completion is March 2020.							
<i>Track & Structures</i>							
Substation Bridge 23 - Construction	Construction	Oct-17 \$41.7M	Dec-19 \$41.7M				
Delay due to risks associated with the final cutover of the substation and to coordinate with the local utility company, which required elements to be altered. The forecasted completion is December 2019.							

Prior Year Major Completions – September 2019 – Schedule Variances				Actual Results Shaded			
Project	Completion	Goal	Actual	Project	Completion	Goal	Forecast
10 All-Agency Yellow Completions							
NYCT				MTA Bus Company			
<i>Bus Replacement</i>				<i>Bus Company Projects</i>			
Purchase 110 CNG Articulated Buses	Fleet Purchase	Dec- 18	Jan- 19	Bus Command Center	Construction	Dec- 17	Jun- 19
		\$104.2M	\$107.4M			\$17.1M	\$17.1M
A total of 106 of the 110 buses were received in December 2018. The remaining 4 are now received.				Substantial completion was delayed for mitigation of sewer connectivity issues and testing of the sprinkler system.			
<i>Passenger Stations</i>				MTACC			
Sea Beach Contract at 3 Stations	Construction Completion	Dec- 18	Mar- 19	<i>East Side Access</i>			
		\$114.1M	\$134.6M	Plaza Substation and Structures (CQ032)	Construction Completion	Aug- 16	Apr- 19
Project completed March 6th. Delays were due to fabrication of windows for the control houses. Project cost increased due to contract modification for design of added work related to two new elevators at 8th Ave.						\$250.2M	\$250.2M
<i>Signals and Communications</i>				A final delay for mitigation of leaks and duct bench issues was resolved and the project is now complete.			
CBTC Flushing Line	Construction Completion	Nov- 17	Mar- 19	Manhattan Northern Structures (CM006)	Construction Completion	Jun- 17	Apr- 19
		\$505.2M	\$564.2M			\$361.6M	\$361.6M
CBTC is in full operation for the entire Flushing line since November. Substantial completion was delayed to March due to pending completion of the required training and tours.				A final delay to complete punchlist work and to resolve remaining commercial issues is now complete.			
<i>Buses</i>				Bridges and Tunnels			
Bus Command Center Construction - NYCT	Construction	Nov- 17	Jun- 19	<i>Queens Midtown Tunnel</i>			
		\$51.4M	\$62.5M	Tunnel Ventilation Building Electrical Upgrade & Flood Mitigation (QMT)	Construction	Jul- 18	Apr- 19
Substantial completion was delayed for mitigation of sewer connectivity issues and testing of the sprinkler system. Cost increase due to extended project duration as well as funding additional scope items.						\$57.4M	\$57.4M
LIRR				Extension to substantial completion was required to provide additional factory acceptance testing and additional field installation verification /testing.			
<i>Track</i>							
Mainline Double Track- F/A Construction(L10683)	Construction	Oct- 18	Apr- 19				
		\$33.M	\$24.7M				
Delay due to lack of availability of track outages for remainder of 2018, completion moved to April 2019 to include switches. Reduction in budget reflects change to F/A Labor requirements.							
<i>Signals & Communications</i>							
Centralized Traffic Control	Construction	Jun- 15	Mar- 19				
		\$12.9M	\$17.9M				
Delay due to pending ESO (Engineering System Operators) relocation installation of required equipment. <i>Previously unreported in Q2.</i>							

Status of MTA Capital Program Funding

Capital Funding (September 2019)

\$ in millions



Capital Funding Detail (September 30, 2019)

\$ in millions

	Funding Plan	Receipts		
	Current	August	This month	Received to date
1992-1999 Program	18,095	18,095	-	18,095
2000-2004 Program	21,668	21,668	-	21,668
2005-2009 Program	24,409	23,984	17	24,002

	Funding Plan	Receipts		
	Current	August	This month	Received to date
2010-2014 Program				
Federal Formula, Flexible, Misc	\$5,853	\$5,839	\$ -	\$5,839
Federal High Speed Rail	295	295	-	295
Federal New Start	1,257	1,257	-	1,257
Federal Security	189	101	-	101
Federal RRIF Loan	-	-	-	-
City Capital Funds	719	608	-	608
State Assistance	770	400	-	400
MTA Bus Federal and City Match	132	112	-	112
MTA Bonds (Payroll Mobility Tax)	11,483	9,606	-	9,606
Other (Including Operating to Capital)	1,365	1,239	-	1,239
B&T Bonds	2,026	1,812	-	1,812
Hurricane Sandy Recovery				
<i>Insurance Proceeds/Federal Reimbursement</i>	6,329	5,587	26	5,613
<i>PAYGO</i>	235	81	-	81
<i>Sandy Recovery MTA Bonds</i>	758	55	-	55
<i>Sandy Recovery B&T Bonds</i>	230	18	-	18
Total	31,640	27,010	26	27,036

	Funding Plan	Receipts		
	Current	August	This month	Received to date
2015-2019 Program				
Federal Formula, Flexible, Misc	\$6,704	\$3,852	\$646	\$4,498
Federal Core Capacity	100	-	-	-
Federal New Start	500	-	-	-
Federal Security	3	3	-	3
State Assistance	8,640	979	-	979
City Capital Funds	2,667	790	-	790
MTA Bonds	7,968	4,793	-	4,793
Asset Sales/Leases	1,017	318	-	318
Pay-as-you-go (PAYGO)	2,145	1,730	-	1,730
Other	592	-	-	-
B&T Bonds & PAYGO	2,936	553	-	553
Total	33,273	13,017	646	13,663