



Metropolitan Transportation Authority

Metro-North Railroad Committee Meeting

January 2019

Members

S. Metzger

N. Brown

R. Glucksman

C. Moerdler

M. Pally

A. Saul

V. Vanterpool

N. Zuckerman

Metro-North Railroad Committee Meeting

20th floor Board Room

2 Broadway

New York, NY

Tuesday, 1/22/2019

8:30 - 9:30 AM ET

1. Public Comments

2. Approval of Minutes

Minutes - Page 4

3. Approval of 2019 Work Plan

2019 MNR Work Plan - Page 15

4. President's Reports

Safety Report

Safety Report - Page 22

MTA Police Report

MTA Police Report - Page 25

5. Action Item

MNR Action Item - Page 32

MOU between MNR and City of Newburgh for Ferry Landing/Parking Lease

Newburgh MOU for Ferry-Parking Lease - Page 33

6. Information Items

MNR Information Items - Page 38

2019 Infrastructure Program

2019 Infrastructure Program - Page 39

Track Program Quarterly Update

Track Program Quarterly Update - Page 55

PTC Status Report

PTC Status Report - Page 66

7. Procurements

MNR Procurements - NONE

MTA CC Procurements

MTA CC Procurements - Page 76

Competitive

MTA CC Competitive - Page 79

8. Operations Report

MNR Operations Report - Page 83

9. Financial Report

MNR Finance Report - Page 95

10. Ridership Report

MNR Ridership Report - Page 118

11. Capital Program Report

MNR Capital Program Report - Page 129

Next Meeting: Joint with LIRR on Monday, February 25 @ 8:30 am

Minutes of the Regular Meeting
Metro-North Committee
Monday, December 10, 2018

Meeting held at
2 Broadway – 20th Floor
New York, New York 10004
8:30 a.m.

The following members were present:

Hon. Susan G. Metzger, Chair of the Metro-North Committee
Hon. Mitchell H. Pally, Chair of the Long Island Committee
Hon. Norman Brown
Hon. Randy Glucksman
Hon. Charles G. Moerdler
Hon. Andrew Saul
Hon. Veronica Vanterpool
Hon. Neal J. Zuckerman

Also Present:

Hon. Ira Greenberg
Hon. Scott Rechler
Hon. Vincent Tessitore, Jr
Janno Lieber, MTA Chief Development Officer
Catherine Rinaldi – President, Metro-North Railroad
Susan J. Doering – Executive Vice President, Metro-North Railroad
Glen Hayden – Vice President, Engineering
Yvonne Hill-Donald - Vice President, Human Resources
Richard L. Gans – Vice President and General Counsel
John Kennard – Vice President – Capital Programs
John Kesich – Senior Vice President, Operations
Mark Mannix – Sr. Director, Corporate and Public Affairs
Thomas Mitchell – Vice President, Customer Service and Stations
Owen Monaghan, Chief, MTA Police Department
Andrew Paul – Vice President, Labor Relations
Michael Shiffer – Vice President, Planning
Justin Vonashek – Vice President, System Safety
Steve Weiss – Executive Director Management and Budget

The members of the Metro-North Committee met jointly with the members of the Long Island Committee. Ms. Metzger, as Chair of the Metro-North Committee, called the joint meeting to order. In addition to the Metro-North President and Metro-North staff noted above, President Eng and various staff of the Long Island Rail Road attended the joint committee meeting. The minutes of the Long Island Committee for the meeting of October 10, 2018 should be consulted for matters addressed at the joint meeting relating to the Long Island Rail Road.

SAFETY PROCEDURES

Justin Vonashek, Vice President, System Safety, reviewed the emergency safety procedures.

PUBLIC COMMENT

Orrin Getz, Vice Chairman Metro-North Railroad Commuter Council (“Commuter Council”), commented on the cancellation of scheduled trains on the Pascack Valley Line. He stated that on December 10, 2018, express train 1606 was cancelled by New Jersey Transit (NJT) due to equipment availability for the second time that month. On December 7, express train 1629 to Rockland County was also cancelled due to equipment availability; and local train 1608 has also been cancelled. Mr. Getz stated that, pursuant to the operating agreement with NJT, Metro-North is to supply the equipment for the Pascack Valley Line express trains. He asked that the Commuter Council be provided with the status of the 65 Comet V Coaches and 15 locomotives that are to be used for the west of Hudson fleet. When NJT cancelled the second Pascack Valley Line express train in June 2018, west of Hudson riders were told that express trains 1606 and 1629 would not be cancelled. Mr. Getz stated that Metro-North must tell NJT to stop cancelling trains 1606 and 1629.

Jason Pineiro stated that Senator Schumer’s report on Positive Train Control (PTC) is alarming. He suggested that Metro-North and Long Island Rail Road review their winter service changes. He congratulated Board member Greenberg on his appointment to the position of Queens County Judge and wished him the best of luck.

Murray Bodin stated that cultural changes are needed at the railroads. He stated that staff summaries should be signed electronically to save time. He expressed his opinion that Metro-North should not be purchasing railcars in married pairs and commented on traffic signals used at railroad crossings.

Lisa Daglian, Executive Director of the Permanent Citizens Advisory Committee (“PCAC”), thanked Board member Greenberg for his service on the Board. She is aware that tough fiscal times call for tough fiscal measures which are reflected in the budget recommendations. She believes some of the proposed budget reductions are tantamount to service cuts which the PCAC does not support. Ms. Daglian stated that there should be a rider’s dashboard that provides data about on-time performance, mean distance between failures, on-board railcar cleanliness, trains with short cars, and cancelled trains. The dashboard would permit the PCAC to see how the budget reductions affect riders. Ms. Daglian stated that the PCAC will support the MTA in locating funding sources.

Additional details of the comments made by the public speakers are contained in the video recording of the meeting produced by the MTA and maintained in the MTA records.

APPROVAL OF MINUTES

Upon motion duly made and seconded, the Committee approved the minutes of the November 13, 2018 Metro-North Committee meeting.

METRO-NORTH 2018 WORK PLAN

President Rinaldi reported that there are no changes to the Metro-North and Long Island Rail Road 2018 Work Plans.

The details of the 2018 Work Plans are contained in reports filed with the records of this meeting.

MOMENT OF SILENCE

President Rinaldi led the Committee in observing a moment of silence in memory of Gerald Schroeder, a Metro-North plumber who passed away recently after he was badly injured in a mid-October explosion in a privately-owned car parked in the Metro-North North White Plains shop facility.

MTA METRO-NORTH RAILROAD PRESIDENT'S REPORT

President Rinaldi presented some highlights of the Joint PTC Project Update. She reported that Metro-North achieved an important milestone on November 21, 2018 when it successfully operated its first train in passenger service using PTC on the Hudson Line segment between Croton-Harmon and Tarrytown Stations. This is a significant milestone as Metro-North continues to move forward on the safety front and expand PTC technology system-wide. President Rinaldi reported that the railroad is finalizing a schedule that calls for the simultaneous commissioning of PTC on multiple line segments.

President Rinaldi reported that Metro-North achieved one of the key strategic priorities of the Way Ahead plan that will improve the day-to-day experience of customers. She gave a photographic presentation of some of the capital improvements recently made using “before” and “after” photographs. President Rinaldi reported that Metro-North’s contractor completed the rehabilitation of the Spring Valley Station parking facility and Metro-North forces reconstructed the three bus islands that provide intermodal county bus service and connections to Metro-North trains. The work done by Metro-North forces complements the new bus shelters installed by Rockland County and recent improvements made by the New York State Department of Transportation (NYSDOT) to add an additional bus island that provides connections to the new Hudson Link bus service from Spring Valley Station over the Governor Mario M. Cuomo Bridge to Westchester County. In another project, Metro-North repaved the access road to Metro-North’s Nanuet Station parking facility. In 2019, Metro-North plans to replace the platform shelter, repaint the station canopy, and rehabilitate the Americans with Disabilities Act (ADA) accessible ramp at that station. Improvements to accessibility were also made in Grand Central Terminal (GCT). Metro-North completed the construction of two new elevators in GCT that replace staircases and improve accessibility for customers traveling from the upper level of GCT to the top of the Kitty Kelly ramp which provides access to and from to the corner of 42nd Street and Vanderbilt Avenue. The new elevators are ADA compliant, providing needed vertical access in the southwest corner of the terminal. President Rinaldi reported that the project to replace the Prospect Hill Road Overhead Bridge in Southeast, New York has been completed. The project is an example of Metro-North’s ongoing commitment to investing in its infrastructure. This design-build project was done within budget and more than two-months ahead of schedule. The 270-foot-long bridge, originally built in 1910, is located just south of the Southeast Station; it carries Prospect Hill Road over the Harlem Line tracks and parts of Metro-North’s Brewster Yard. The Prospect Hill Bridge has been a key component of the Town of Southeast’s infrastructure for over a century. Its reopening will increase resident and commercial mobility in the area. The railroad partnered with the local community on the project. President Rinaldi thanked the project team led by the Capital Engineering Department, headed by John Kennard, for delivering this project safely and expeditiously. She thanked Metro-North project managers Ziona Rubin and Margarita Calbitaza who report to Mari Miceli, Metro-North’s Assistant Vice President of Special Projects.

President Rinaldi reported that Metro-North’s Maintenance of Way crew completed infrastructure improvements between Manitou and Beacon located on the Hudson Line in Putnam County. Metro-North crews resurfaced track south of Breakneck Ridge, which will help ensure that customers have a smooth ride and safe, reliable service. This work was part of the Fast

Track initiatives that were announced in September 2018. The project required a single-track operation, permitting Metro-North to replace the pedestrian overpass roofs at Garrison and Cold Spring Stations.

President Rinaldi reported on the proactive measures the railroad is taking to prepare for the winter season, some of which were already in place at the time of the mid-November snow storm. Metro-North is completing its winter preparations for the rolling stock fleet and the infrastructure. Snow-fighting equipment is ready to clean yard switches and the third rail simultaneously at more locations, as well as main line interlockings, yard switches, passenger platforms, yard facilities, and right-of-way roadways. In addition, Metro-North has front-end loaders and backhoes which enable the railroad to plow more of the right-of-way to access track interlockings and power substation locations. Metro-North's upgraded jet hot air blowers with greater power and fuel efficiency are ready for the winter elements. With respect to station parking facilities, the railroad has ongoing coordination with its contractors to make sure the facilities are maintained and accessible. The railroad will ensure that customers are well-informed before, during and after a storm event with timely and accurate information through station announcements, platform display signs, email alerts, social media, special notices, and service status updates on the website. The Metro-North Train Time App also provides real-time service status on your smartphone or computer and is conveniently linked to the eTix mobile ticketing app. During any severe weather event, Metro-North's goal is to provide customers with the best and safest service available, and to return to regularly scheduled service as soon as possible.

President Rinaldi discussed west of Hudson service. She believes that equipment shortages are attributed to NJT's stepped up campaign to have PTC equipment installed on all NJT equipment. She noted that NJT has had issues related to engineer availability that were somewhat abated with the hiring of some new engineers at the end of the summer. President Rinaldi stated that the railroad is sensitive to the concerns of west of Hudson customers who have had a tough commute over the past 12 to 18 months. She noted that when Metro-North met with the Executive Director of NJT, Kevin Corbett, and his executive team, they agreed to convene a working group to examine the NJT agreement with Metro-North to see if there are opportunities for Metro-North to negotiate incentives and penalties when performance does not meet Metro-North's desired level of performance. President Rinaldi reported that the first working group meeting has been scheduled during which there will be a discussion of what can be done to improve service delivery west of Hudson. President Rinaldi noted that there has been some improvement but the service is still not up to the level that Metro-North and customers expect and pay for.

The details of the President's Report are contained in the video recording of the meeting produced by the MTA and maintained in the MTA records.

REVIEW OF NOVEMBER OPERATIONS

Mr. Kesich stated that the railroad's main challenge in 2018 was how to accommodate the extensive infrastructure work that was done on all three lines. In the spring of 2018, the schedule was adjusted on the Harlem Line to accommodate the capital work being performed to rehabilitate White Plains Station. The schedules were not adjusted to add running time on the Hudson and New Haven Lines. The work on those two lines has been completed and the railroad will begin to have increased track availability on December 10. Mr. Kesich noted that the infrastructure work season is winding down with the beginning of the cold weather season. He noted that year-to-date November 2018, system-wide the railroad operated at 89.9% with most of the delays in the six to 10-minute range because the railroad did not have adequate running time within the schedules. In the month of November 2018, the railroad operated at 83.3% which was driven by weather conditions and slippery rail delays that occurred during the first two weeks of November

when the railroad operated at approximately 79%. There was also a winter storm on November 15 that affected on-time performance. There was significant improvement in on-time performance during the second half of November when the railroad's on-time performance moved from 79% to 89%. Performance has steadily increased with the railroad operating in the high 90's during the past three weeks. Mr. Kesich noted that consist compliance and availability of railcars due to the installation of PTC equipment also affected performance. It is anticipated that the installation of PTC equipment on all cars will be completed by the beginning of 2019.

Mr. Kesich reported that the fall slip slide season was a bit better than in prior years. The season was compressed due to a few severe weather events with high winds and heavy rains. There were some M-3 and M-8 railcars out of service for wheel truing. The M-8 railcars have all been put back in service and the M-3 railcars should be back in service by December 14. There were more standees in 2018 than in previous years with program standees primarily on the New Haven Line. Mr. Kesich noted that delivery of the 66 new M-8 railcars for that line is scheduled to begin at the end of 2019 with all railcars scheduled for delivery by the summer of 2020. Metro-North's mechanical department is working diligently to develop strategies to increase car availability.

Board member Moerdler stated that in the month of November 2018, there were twice the number of trains late by over 15 minutes than in the comparable period of 2017, there were more trains terminated and there were more standees. Mr. Kesich noted that the weather was partially to blame for slippage in performance. In the months of March and May 2018, performance was affected by severe storms. Performance was also affected in the annual slip slide season. Mr. Kesich will present a report in January 2018 setting forth the percentage of delays, terminations and cancellations that were due to weather events versus events that were Metro-North's direct responsibility. Mr. Kesich noted that the railroad has reached the operating limits of its infrastructure with the railroad carrying the maximum number of passengers with the minimum number of cars. Since the railroad is at the limits of its capacity, if any piece of the puzzle happens to fail on any given day, it will generate many train delays. As ridership continues to increase, the railroad must continue to bring the infrastructure to a state of good repair, but the railroad needs significant capital dollars to make that happen. Board member Moerdler asked the railroad to specifically lay out what it needs and the budget needed to obtain those needs.

President Rinaldi noted that she will be giving a presentation at the January 2019 Committee meeting that is a retrospective on the railroad's 2018 performance. The presentation will address the issues Board member Moerdler discussed and will also detail the infrastructure work planned in 2019, the impacts that work will have on service, and how the railroad proposes to mitigate those impacts. The MTA is analyzing the requests submitted by the MTA agencies in terms of their capital programs. The Board will be advised of the projects that the agencies are advocating for and the issues they face, including the issue highlighted by Mr. Kesich – that the railroad is operating at capacity. President Rinaldi will keep the Committee apprised of the information the railroad is providing to the MTA so that the Committee may voice its opinions. Board member Saul expressed his opinion that the railroad is a stable operating environment whose business and ridership has not changed much. He said trains are always late and railroad customers, who already pay a fare that is expensive for the average individual, will be faced with a fare increase for a service that is deteriorating. Board member Saul stated that while there maybe too many competing projects, such as, PTC and infrastructure work, the railroad needs to get back to running the railroad for its customers. He believes that the problems faced by the railroad are not strictly related to a lack of capital. Board member Saul expressed his opinion that, because the railroad has lost many key management employees, the day to day business is not properly managed. He believes that President Rinaldi and Mr. Kesich need to analyze the

situation and provide the Committee with the results of that analysis. Chair Metzger stated that the Committee will receive that evaluation at the January 2019 Committee meeting.

In response to Board member Saul's comments, President Rinaldi noted that the railroad has doubled its efforts to repair an infrastructure that was neglected for many years. She stated that the railroad's commitment to get the infrastructure back to a state of good repair has changed remarkably over the past few years. The railroad pushed the envelope in an aggressive way during the summer of 2018 in terms of its infrastructure program and on-time performance suffered. President Rinaldi noted that the Hudson and New Haven Line schedules were not adjusted to account for that work. She stated that the schedules need to be adjusted because customers have a right to expect a reliable ride and to know when they are going to arrive at their destination. President Rinaldi stated that the railroad is focused on improving the railroad's performance and reliability while continuing work to bring the railroad back to a state of good repair. Board member Saul said that management is key. President Rinaldi noted that the railroad has been seeing an uptick in retirements and expects to lose another third of its employees in the next five-years. She noted that good, experienced employees are retiring every day and it is never the same after they leave. The railroad needs to be prepared to absorb the loss of its workforce and to attract and retain talented employees which is a challenge faced across the railroad industry. President Rinaldi noted that the railroad is focused on human resources issues, such as how to retain and compensate employees and what needs to be done to recruit a qualified, committed team of managers and represented employees. Board member Saul would like the January report to contain an examination of the railroad's management.

Board member Zuckerman asked the railroad to examine the existing train schedules and to produce a realistic schedule. He asked the railroad to examine the performance line by line and, if necessary, consider lowering the on-time performance goal considering the infrastructure work being performed, PTC, and the ever-increasing erratic weather. President Rinaldi stated that these issues will be addressed in her January report to the Committee, the details of which will be provided to the Committee prior to its January meeting.

Board member Brown noted that safety has become a higher priority. He expressed his opinion that you cannot expect the railroad's performance not to suffer while the railroad is doing a great deal of infrastructure work to bring the railroad to a state of good repair and is introducing another level of safety – PTC. He expressed his opinion that management is not the issue.

Board member Moerdler expressed his opinion that you cannot comment on problems without advancing potential solutions. He admires the work that President Rinaldi and her team are doing in adverse circumstances. Board member Moerdler stated that the railroad should be selling its development rights or using them in railroad owned parking lots. He stated that the railroad must think out of the box on how to raise money.

The details of the above report on operations are contained in the video recording of the meeting produced by the MTA and maintained in the MTA records which recording contains discussions between Board members, President Rinaldi and staff regarding that report.

MTA METRO-NORTH RAILROAD SAFETY REPORT

Mr. Vonashek reported that in the current 12-month period from November 2017 to October 2018 both customer and employee lost time injuries trended better than the previous 12-month period. Customer injuries decreased by nearly 10% versus the previous 12-month period and employee lost time injuries decreased 22%. Metro-North's community outreach program,

TRACKS, reached 9,500 individuals in September. Year-to-date September 2018, TRACKS reached over 91,000 individuals.

In October 2018, Metro-North held its annual full-scale emergency preparedness exercise in the Park Avenue Tunnel. The scenario simulated the evacuation of a train in the tunnel. Metro-North, the MTA Police Department (MTAPD), and the New York City Fire Department participated in the scenario. Coordination and communication processes between the agencies was evaluated. The efforts of all the agencies made this a successful exercise and further ensured Metro-North's ability to respond in a real-life situation.

Metro-North's fourth quarterly Safety Focus Day was held on November 28, 2018. Some of the topics covered were the importance of detailed job safety briefings and winter safety hazards. As we enter the winter months, Metro-North has begun its winter safety campaign, including safety messages on-board trains and in stations.

The details of Mr. Vonashek's report are contained in the safety report filed with the records of this meeting and the video recording of the meeting produced by the MTA and maintained in the MTA records.

MTAPD REPORT

Chief Monaghan reported on crime statistics, noting that in November 2018 total major felonies system-wide decreased by 8 crimes versus the comparable period of 2017, 22 versus 30 or a decrease of 27%. Year-to-date November 2018, total major felonies system-wide decreased by 21 crimes versus the comparable period of 2017, 226 versus 247 or a decrease of 9%. In November 2018, total major felonies on the Metro-North system were equal to the comparable period of 2017, 13 versus 13. Of the 13 major felonies, there was one robbery, four felony assaults, one burglary, six grand larcenies and one grand larceny auto. Of the 13 major felonies, seven resulted in an arrest. Year-to-date November 2018, total major felonies on the Metro-North system decreased by 7 versus the comparable period of 2017, 125 versus 132 or a decrease of 5%. Year-to-date November 2018, there were 26 hate crimes versus 24 in the comparable period of 2017.

The details of Chief Monaghan's report are contained in the MTAPD report filed with the records of this meeting and the video recording of the meeting produced by the MTA and maintained in the MTA records.

METRO-NORTH ACTION ITEM:

One action item was presented to the Committee:

- Board adoption of the MTA Metro-North Railroad's (MNR) 2018 November Forecast, 2019 Final Proposed Budget, and the Four-Year Financial Plan 2019-2022.

President Rinaldi reported that action is required by the Committee to adopt Metro-North's 2018 November Forecast, 2019 Final Proposed Budget and the Four-Year Financial Plan for 2019-2022. These items will then be voted on by the full Board on Wednesday, December 12, 2018 for final Board approval. Metro-North's mission, as stated in its Strategic Plan and Way Ahead Plan, is to be a safe, reliable and efficient railroad providing regional mobility and excellent service to our customers. This financial plan continues to support Metro-North's three priority areas: Our Customers, Our Infrastructure, and Our People. The initiatives identified in this Financial Plan include accelerated video surveillance installations at 10 Metro-North Stations,

rehabilitation of the upper Harlem Line pole system by replacing 1,200 transmission poles to minimize outages caused by severe weather, replacing vestibule floors and seats in 99 center door coaches, adding a second shift of 15 employees in the Diesel Shop to ensure excellent performance of the aging locomotive fleet, and acquiring 66 M-8 rail cars through a previously negotiated option. This Financial Plan includes annual budget reduction programs averaging \$49 million starting in 2019 and continuing in each following year of the plan. The cost savings initiatives include targeted reductions based on operational efficiencies and historical spending trends. Additional details are included in the Staff Summary and in previously published material. Metro-North recommends that the MTA Board adopt the 2018 November Forecast, 2019 Final Proposed Budget, and the Four-Year Financial Plan for 2019-2022 for MTA Metro-North Railroad.

Board member Vanterpool asked what will happen to the Chief Rail Traffic Controller position that will assist with the Revenue Service Demonstration (RSD) and PTC implementation once the railroad moves beyond full PTC implementation. Mr. Kesich noted that the position will be permanent because it will be needed to cover the additional workload following the full implementation of PTC.

Board member Vanterpool commented on subsidies for the Rockland County Bus Service. She stated that, although she advocated for the service and realizes the importance of the service for Rockland and Westchester Counties, she does not believe that it is Metro-North's responsibility to pay the \$480,000 bill for that service because it is a New York State Department of Transportation (NYSDOT) sponsored project. Board member Vanterpool stated that the \$480,000 could be used to offset the fare increase in Rockland, Orange and Dutchess Counties. President Rinaldi responded that NYSDOT is paying for the major portion of the new Hudson Link bus service. The railroad has been in communication with Rockland County about continuation of the subsidy. Rockland County will use the funds to supplement their existing local bus service to provide connectivity to the Hudson Link service to Metro-North stations. President Rinaldi noted that Metro-North contributes approximately \$17,000 towards the Uniticket and the balance is paid for by NYSDOT. President Rinaldi noted that use of the \$480,000 to offset the fare increase is an issue for the Board and MTA Headquarters.

Board member Pally and Mr. Weiss discussed the reimbursable operating revenue Metro-North will receive in the years 2019 to 2022 from the Connecticut Department of Transportation (CDOT). It was noted that the statistics on page 62 of the Committee book refer to the reimbursement Metro-North receives from CDOT for force account work performed by Metro-North forces to support CDOT projects.

Upon motion duly made and seconded, the Committee approved the foregoing action item for recommendation to the Board. Board member Saul voted in opposition. The details of the action item are contained in a staff summary and report filed with the records of this meeting and in the video recording of the meeting produced by the MTA and maintained in the MTA records, which recording includes discussion of the proposed action item.

JOINT INFORMATION ITEMS:

One joint information item was presented to the Committee.

- December 2018 Joint MNR/LIRR Committee Meeting PTC Project Update.

LIRR Executive Director-PTC Deborah Chin reported on the railroads' overall PTC project status. She reported that Metro-North and LIRR have achieved the four major PTC milestones. Metro-North initiated RSD on the Hudson Line on November 21, 2018 and will continue the RSD,

and the LIRR has received approval to initiate RSD on its Port Washington Line with a target date of December 17, 2018. The railroads have achieved 100% of the goals set for PTC compliance. Ms. Chin noted that the railroads have submitted the revised implementation plan, the revised schedule to meet the new 2020 deadline, and the written notification to affirm that the railroads have achieved all the statutory requirements for the new schedule to the Federal Railroad Administration (FRA). Ms. Chin reported that the railroads have achieved all required hardware installations, including those on Metro-North's Port Jervis Line. Ms. Chin reported on the railroads' new working schedules to achieve compliance by the new 2020 deadline. The schedules are more aggressive than that submitted to the FRA. The railroads are working towards having all their lines in PTC operations by early 2020. Ms. Chin noted that based on feedback from the industry, it will take approximately one year for the PTC safety plan to be approved by the FRA. The railroads will submit the safety plan to the FRA in July 2019. Ms. Chin noted that the working schedules are dependent on the timely resolution of the interoperability issues with Amtrak. She noted that the railroads need to meet all regulatory FRA safety requirements and all operational and performance requirements to ensure that the railroads can run safe and reliable service. Ms. Chin noted that Metro-North's schedule is a bit different than LIRR's because Metro-North has one pilot and has begun the RSD successfully. Metro-North plans to start the next RSD segment by May 2019 on the Danbury Branch and the northern segment of the Hudson Line. She stated that because Metro-North has more tenant railroads, it is going to take Metro-North longer to demonstrate interoperability and perform testing with their tenants. Metro-North also received a waiver for its Waterbury Branch and will be implementing both the railroad's conventional system and their PTC system at the same time.

President Rinaldi noted that Metro-North has been using Civil Speed Enforcement since early 2018. All passenger equipment east of Hudson are operated with Civil Speed Enforcement. Civil Speed Enforcement protects the railroad from overspeed derailments, such as the one at Spuyten Duyvil.

Ms. Chin reported on the railroads' RSD readiness. She reported that the railroads are faced with some project risks and concerns. The slow resolution of several software issues may elongate the completion of RSD on the Pilot segments and impact project completion. The system integrator's (SI) schedule shows that the final baseline of system software for extended RSD will be available in late July 2019. The Railroads believe this date is at risk given the number of outstanding technical issues and the SI's track record. The SI also continues to have limited resources to support both LIRR and Metro-North. There is also a concern over the reliability of the system while performing RSD. The completion of the project also depends on timely resolution of the interoperability issues with Amtrak.

Board member Zuckerman stated that while he knows the railroads worked tirelessly to meet the goal of implementing PTC in 2018, he is disappointed that the railroads did not meet that goal, as is Senator Schumer. He stated that he is proud of the work done by the PTC group to try to accelerate the railroads' efforts, in attaining important milestones and in meeting FRA requirements. Board member Zuckerman stated that he will remain focused on the plan to fully implement PTC in 2020. He would like to know more about the software challenges faced by Bombardier and Siemens. Board member Zuckerman would like Bombardier and Siemens to provide a report at a Committee meeting about how the railroads are going to reach full PTC implementation by 2020 because the railroads cannot miss the deadline. President Rinaldi will arrange to have the SI attend a Committee meeting.

Board member Greenberg is concerned about interoperability issues. He would like Amtrak to attend a Committee meeting to report on their progress. He would like the riders to

know that the railroads are very safe. Chair Metzger stated that she agrees with Board member Zuckerman's comments.

The details of the above information item are contained in the Committee book filed with the records of this meeting and the video recording of the meeting produced by the MTA and maintained in the MTA records, which recording contains discussion between Board members and President Rinaldi.

METRO-NORTH INFORMATION ITEMS:

Three Metro-North information items were presented to the Committee:

- 2019 Proposed Metro-North Railroad Committee Work Plan. Chair Metzger noted that the draft work plan for 2019 was coordinated with LIRR's work plan for consistency in reporting to the Committee during the months the Committees meet jointly and separately.
- Diversity/EEO Report – 3rd Quarter 2018. Chair Metzger noted that the third quarter report will be discussed in detail at the Diversity Committee Meeting on December 12, 2018.
- Acquisition of property from HPH Fleetwood LLC for commuter parking at the Fleetwood Station. President Rinaldi reported that this will be an action item at the October 10, 2018 Finance Committee Meeting. Metro-North requests authorization to execute a contract of sale and purchase privately-owned property to preserve the current use of the property for 125-130 commuter spaces and allow for future improvements at Fleetwood Station.

The details of the above information items are contained in the Committee book filed with the records of this meeting and the video recording of the meeting produced by the MTA and maintained in the MTA records.

METRO-NORTH PROCUREMENTS:

One competitive procurement was presented to the Committee:

- Board adoption of a resolution declaring that competitive, sealed bidding is impractical or inappropriate and that it is therefore in the public interest to use the competitive Request for Proposal process, pursuant to Public Authorities Law Section 1265-a, to solicit proposals for the design, demolition and construction for the replacement of the superstructure and rehabilitation of the substructure of the 3rd Avenue Bridge (NH 13.66) for Metro-North Railroad.

Upon motion duly made and seconded, the Committee approved the foregoing competitive procurement for recommendation to the Board.

The details of the above procurement are contained in a staff summary and documentation filed with the records of this meeting and in the video recording of the meeting produced by the MTA and maintained in the MTA records.

OPERATIONS, FINANCIAL, RIDERSHIP AND CAPITAL PROGRAM REPORTS:

Board member Vanterpool asked if the commuter parking lot at Fleetwood Station used by Metro-North customers can be expanded. Mr. Schiffer stated that there are no plans for expansion, but the railroad is looking at opportunities for future development.

The details of the Operations, Financial, Ridership and Capital Program Reports are contained in reports filed with the records of the meeting and in the video recording of the meeting produced by the MTA and maintained in the MTA records which recording contains discussion between Board members, President Rinaldi, and staff regarding the Operations Report.

ADJOURNMENT

Upon motion duly made and seconded, the Committee unanimously voted to adjourn the meeting.

Respectfully submitted,



Linda Montahino
Assistant Secretary

01/22/2019 10:00 AM - 11:00 AM
Linda Montahino - Secretary

2019 Metro-North Railroad Committee Work Plan

I. <u>RECURRING AGENDA ITEMS</u>	<u>Responsibility</u>
Approval of Minutes	Committee Chairs & Members
2019 Committee Work Plan	Committee Chairs & Members
President's Report	President/Senior Staff
Safety Report	
MTA Police Report	
Information Items (if any)	
Action Items (if any)	
Procurements	
Agency Reports	Senior Staff
Operations	
Finance	
Ridership	
Capital Program	
II. <u>SPECIFIC AGENDA ITEMS</u>	<u>Responsibility</u>
.....	
<u>January 2019</u>	
Approval of 2019 Committee Work Plan	Committee Chairs & Members
Track Program Quarterly Update	Engineering
PTC Status Report	Engineering
<u>February 2019 (Joint meeting with LIRR)</u>	
Adopted Budget/Financial Plan 2019	Finance
2018 Annual Operating Results	Operations
2018 Annual Fleet Maintenance Report	Operations
LIRR/MNR PTC Project Update	President
Diversity/EEO Report – 4 th Quarter 2018	Diversity and EEO
2019 Spring/Summer Schedule Change	Operations Planning & Analysis
<u>March 2019</u>	
Annual Strategic Investments & Planning Studies	Capital Planning
Annual Elevator & Escalator Report	Engineering
Customer Satisfaction Survey Report	Operations Planning & Analysis
PTC Status Report	Engineering

April 2019 (Joint meeting with LIRR)

Final Review of 2018 Operating Budget Results	Finance
2018 Annual Ridership Report	Operations Planning & Analysis
Annual Inventory Report	Procurement
Track Program Quarterly Update	Engineering
MTA Homeless Outreach	MTA
LIRR/MNR PTC Project Update	President

May 2019

Diversity/EEO Report – 1 st Quarter 2019	Diversity and EEO
PTC Status Report	Engineering
Progress on Way Ahead Strategic Plan	Strategic Initiatives

June 2019 (Joint meeting with LIRR)

LIRR/MNR PTC Project Update	President
-----------------------------	-----------

July 2019

Grand Central Terminal Retail Development	MTA Real Estate
Environmental Audit	Environmental Compliance
Track Program Quarterly Update	Engineering
PTC Status Report	Engineering

September 2019

2020 Preliminary Budget (Public Comment)	Finance
2019 Mid-Year Forecast	Finance
2019 Fall Schedule Change	Operations Planning & Analysis
PTC Status Report	Engineering
Diversity/EEO Report – 2 nd Quarter 2019	Diversity and EEO

October 2019 (Joint meeting with LIRR)

2020 Preliminary Budget (Public Comment)	Finance
LIRR/MNR PTC Project Update	President
Track Program Quarterly Update	Engineering
MTA Homeless Outreach	MTA

November 2019

Review of Committee Charter	Committee Chair & Members
Holiday Schedule	Operations Planning & Analysis
PTC Status Report	Engineering
Progress on Way Ahead Strategic Plan	Strategic Initiatives

December 2019 (Joint meeting with LIRR)

2020 Final Proposed Budget	Finance
2020 Proposed Committee Work Plan	Committee Chairs & Members
Diversity/EEO Report – 3 rd Quarter 2019	Diversity and EEO
LIRR/MNR PTC Project Update	President

METRO-NORTH RAIL ROAD COMMITTEE WORK PLAN

DETAILED SUMMARY

I. RECURRING AGENDA ITEMS

Approval of Minutes

The Committee Chair will request a motion to approve the minutes of the prior month's meeting.

2019 Work Plan

The Work Plan will list, by month, the topics scheduled for review. The Committee will be advised if any changes have been made to the plan.

President's Report

A monthly report will be provided highlighting major accomplishments and progress on key initiatives and performance indicators.

Safety

A monthly report will be provided highlighting key safety performance statistics and indicators.

Police Activity Report

MTA Police will highlight the significant police activities incurred during the month reported.

Information Items (if any)

Materials presented to the Committee for review pertaining to certain agency initiatives and functions.

Action Items (if any)

Staff summary documents presented to the Board for approval of items affecting business standards and practices.

Procurements

List of procurement action items requiring Board approval. The Non-Competitive items will be first, followed by the Competitive items and then the Ratifications. The list will include items that need a 2/3 vote of the Board for approval.

Operations

A monthly report will be provided highlighting key operating and performance statistics and indicators.

Finance

A monthly report will be provided that compares the Railroad's actual financial performance against its budget and/or forecast both on an accrual and cash basis.

Ridership

A monthly report will be provided that includes a comparison of actual monthly ticket sales, ridership and revenues with the budget and prior year results.

Capital Program

A monthly report will be provided highlighting significant capital program accomplishments in the month reported.

II. SPECIFIC AGENDA ITEMS

JANUARY 2019

Approval of 2019 Committee Work Plan

The Committee will approve the Proposed Metro-North Railroad Committee Work Plan for 2019 that will address initiatives to be reported on throughout the year.

Track Program Quarterly Update

A quarterly report will be provided that highlights the progress made on track maintenance work to bring the infrastructure to a state of good repair.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

FEBRUARY 2019 (Joint Meeting with LIRR)

Adopted Budget/Financial Plan 2019

The Agency will present its revised 2019 Financial Plan. These plans will reflect the 2019 Adopted Budget and an updated Financial Plan for 2019 reflecting the out-year impact of any changes incorporated into the 2019 Adopted Budget.

2018 Annual Operating Results

A review of the prior year's performance of railroad service will be provided to the Committee.

2018 Annual Fleet Maintenance Report

An annual report will be provided to the Committee on the Agency's fleet maintenance plan to address fleet reliability and availability.

LIRR/MNR PTC Project Update

The Committee will be briefed on the status of PTC, including activities to date and the current strategy to meet critical milestones identified in the Rail Safety Improvement Act of 2008. Highlights to include cost of PTC along with operation and implementation risks.

Diversity & EEO Report– 4th Quarter 2018

A quarterly report to the Committee providing data on key Equal Employment Opportunity (EEO) and Human Resources indicators relating to MNR's EEO and Diversity efforts, such as composition of the agency's workforce, new hires, and discrimination complaints. In alternating quarters, the report will include additional information on diversity initiatives.

2019 Spring/Summer Schedule Change

The Committee will be informed of the schedule changes taking effect for train service on the Hudson, Harlem, New Haven, Pascack and Port Jervis lines during the spring and summer of 2019.

MARCH 2019

Annual Strategic Investments & Planning Studies

A comprehensive annual report will be provided to the Committee of the Agency's strategic investments & planning studies that will include fleet, facility, infrastructure, station projects, station access improvements, and environmental and feasibility studies.

Annual Elevator/Escalator Report

Annual report to the Committee on system-wide reliability and availability for elevators and escalators throughout the system.

Customer Satisfaction Survey Report

The committee will be informed on the results of the 2018 survey distributed to customers on the Hudson, Harlem and New Haven Lines and West of Hudson service.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

APRIL 2019 (Joint Meeting with LIRR)

Final Review of 2018 Operating Results

A review of the prior year's budget results and their implications for current and future budget performance will be presented to the Committee.

2018 Annual Ridership Report

A report will be presented to the Committee on Metro-North's ridership trends during 2018 based on monthly ticket sales data and the results of train ridership counts conducted by Metro-North.

Annual Inventory Report

The Agency will present its annual report on Inventory.

Track Program Quarterly Update

A quarterly report will be provided that highlights the progress made on track maintenance work to bring the infrastructure to a state of good repair.

MTA Homeless Outreach

MTA Operations Support will provide a bi-annual report on homeless outreach efforts including an update on service providers and placements.

LIRR/MNR PTC Project Update

The Committee will be briefed on the status of PTC, including activities to date and the current strategy to meet critical milestones identified in the Rail Safety Improvement Act of 2008. Highlights to include cost of PTC along with operation and implementation risks.

MAY 2019

Diversity & EEO Report– 1st Quarter 2019

A quarterly report to the Committee providing data on key Equal Employment Opportunity (EEO) and Human Resources indicators relating to MNR's EEO and Diversity efforts, such as composition of the agency's workforce, new hires, and discrimination complaints. In alternating quarters, the report will include additional information on diversity initiatives.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

Progress on Way Ahead Strategic Plan

A biannual report to the Committee on Metro-North's progress in setting the standard for safety, reliability and innovation in the delivery of excellent customer service.

JUNE 2019 (Joint Meeting with LIRR)

LIRR/MNR PTC Project Update

The Committee will be briefed on the status of PTC, including activities to date and the current strategy to meet critical milestones identified in the Rail Safety Improvement Act of 2008. Highlights to include cost of PTC along with operation and implementation risks.

JULY 2019

Grand Central Terminal Retail Development

MTA Real Estate will provide an annual report on leasing and construction opportunities and financial and marketing information related to retail development in Grand Central Terminal.

Environmental Audit Report

The Committee will be briefed on the results of the 2019 environmental audit report which is submitted to NYS Department of Environmental Conservation as required by the Environmental Audit Act, as well as the actions implemented to enhance overall compliance, monitoring and reporting.

Track Program Quarterly Update

A quarterly report will be provided that highlights the progress made on track maintenance work to bring the infrastructure to a state of good repair.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

SEPTEMBER 2019

2020 Preliminary Budget

Public comment will be accepted on the 2020 Budget.

2019 Mid-Year Forecast

The agency will provide the 2019 Mid-Year Forecast financial information for revenue and expense by month.

2019 Fall Schedule Change

The Committee will be informed of the schedule changes taking effect for train service on the Hudson, Harlem, New Haven, Pascack and Port Jervis lines for the Fall of 2019.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

Diversity & EEO Report– 2nd Quarter 2019

A quarterly report to the Committee providing data on key Equal Employment Opportunity (EEO) and Human Resources indicators relating to MNR's EEO and Diversity efforts, such as composition of the agency's workforce, new hires, and discrimination complaints. In alternating quarters, the report will include additional information on diversity initiatives.

OCTOBER 2019 (Joint Meeting with LIRR)

2020 Preliminary Budget

Public comment will be accepted on the 2020 Budget.

LIRR/MNR PTC Project Update

The Committee will be briefed on the status of PTC, including activities to date and the current strategy to meet critical milestones identified in the Rail Safety Improvement Act of 2008. Highlights to include cost of PTC along with operation and implementation risks.

Track Program Quarterly Update

A quarterly report will be provided that highlights the progress made on track maintenance work to bring the infrastructure to a state of good repair.

MTA Homeless Outreach

MTA Operations Support will provide a bi-annual report on homeless outreach efforts including an update on service providers and placements.

NOVEMBER 2019

Review of Committee Charter

Annual review and approval of the MNR Committee Charter.

Holiday Schedule

The Committee will be informed of Metro-North's service plans for the Thanksgiving and Christmas/New Year's holiday periods.

PTC Status Report

A monthly status report will be provided that highlights the accomplishments, schedule, challenges and risks associated with the PTC implementation.

Progress on Way Ahead Strategic Plan

A biannual report to the Committee on Metro-North's progress in setting the standard for safety, reliability and innovation in the delivery of excellent customer service.

DECEMBER 2019 (Joint Meeting with LIRR)

2020 Final Proposed Budget

The Committee will recommend action to the Board on the Final Proposed Budget for 2020.

2020 Proposed Committee Work Plan

The Committee Chair will present a draft Metro-North Committee Work Plan for 2020 that will address initiatives to be reported throughout the year.

Diversity & EEO Report– 3rd Quarter 2019

A quarterly report to the Committee providing data on key Equal Employment Opportunity (EEO) and Human Resources indicators relating to MNR's EEO and Diversity efforts, such as composition of the agency's workforce, new hires, and discrimination complaints. In alternating quarters, the report will include additional information on diversity initiatives.

LIRR/MNR PTC Project Update

The Committee will be briefed on the status of PTC, including activities to date and the current strategy to meet critical milestones identified in the Rail Safety Improvement Act of 2008. Highlights to include cost of PTC along with operation and implementation risks.

Safety Report

Justin R. Vonashek

Vice President, Office of System Safety



A safety reminder from Metro-North:

During the winter season, please remember to...

- Watch for icy conditions in station parking lots and on sidewalks, stairs and platforms (including temporary platforms).
- Always use stair handrails.
- Use caution when you enter and exit your train - train floors and platforms may be slippery.
- Avoid moving from car to car, especially on a moving train.
- Please allow extra time for travel during inclement weather.

TRACKS
Together Railroads And Communities Keeping Safe
www.mta.info/mnr/tracks

Your safety is always our first priority.

Winter Safety Campaign for Customers



Metro-North Railroad

November 2018 Highlights: Safety Report

During the month of November, MNR's launched its system-wide Winter Safety Campaign for customers. The targeted safety message focuses on preventive measures to heighten awareness related to slip, trips, and falls, MNR's most common customer injury during the winter season. The message is prominently displayed on trains and informational message boards throughout MNR's operating territory.

MNR's, Office of System Safety through its TRACKS (Together Railroads And Communities Keeping Safe) program, participated in Toys for Tots Annual Operation Toy Train. This annual event is hosted by United States Marine Corps Reserve, where special trains are operated on weekends during the holidays in northern New Jersey and West of Hudson, New York to collect donated toys for children.

MNR continues to see positive trends in reducing employee lost time injuries. Overall, for the current 12-month period (December 17 – November 18) versus the previous 12-month period (December 16 – November 17), lost time injuries per 200,000 working hours were reduced by 15.4%. The decrease can be attributed to various ongoing safety initiatives, such as MNR's system-wide housekeeping safety initiative designed to identify, evaluate, and prevent potential housekeeping issues.

For the current 12-month period (December 17 – November 18), the customer reportable injury rate remains less than one injury per million customers. Slip, trips and falls are the highest category of customer injury. To address this issue, MNR expanded TRACKS to include information on customer slip, trip and fall awareness. In addition, TRACKS continues to focus on its core mission of promoting safe behaviors at or around trains, tracks and grade crossings through safety education outreach in communities in New York and Connecticut.

Justin R. Vonashek
Vice President
Office of System Safety

November 2018 Safety Report

Performance				
Performance Indicator	12-Month Average			
	December 2015 - November 2016	December 2016 - November 2017	December 2017 - November 2018	
FRA Reportable Customer Accident Rate per Million Customers	1.25	0.81	0.92	
FRA Reportable Employee Lost Time Injury Rate per 200,000 worker hours	2.96	2.92	2.47	
	2017		2018	
	November	Year to Date	November	Year to Date
Grade Crossing Incidents ¹	0	1	1	2
Mainline FRA Reportable Train Derailments	0	2	0	0
Mainline FRA Reportable Train Collisions	0	0	0	0

¹ Per FRA - Any impact between railroad on-track equipment and a highway user at a highway-rail grade crossing. The term "highway user" includes automobiles, buses, trucks, motorcycles, bicycles, farm vehicles, pedestrians, and all other modes of surface transportation motorized and un-motorized.

Leading Indicators				
Safety Training	2017		2018	
	November	Year to Date	November	Year to Date
First Responders Trained	72	1,403	98	2,022
Employee Safety Training Courses	135	312	148	368
Employees Trained	2,596	6,609	1,750	6,516
Employee Safety Training Hours	18,678	251,754	19,114	278,464
Customer and Community: Focus on Grade Crossings	2017		2018	
	November	Year to Date	November	Year to Date
Broken Gates	3	23	1	27
MTA Police Details	122	1,349	67	1,171
Summons	48	595	28	617
Warnings	3	154	0	67
Community Education and Outreach	4,650	71,643	3,510	99,520
Cars Equipped with Cameras	Fleet Size	Total Cars Equipped	% Complete	
Inward / Outward Facing Cab Cameras	956	869	90.90%	
Passenger Compartment Cameras	1,085	834	76.87%	

Definitions:

First Responders Trained - The number of first responders trained by MNR's Emergency Management to assist in crisis events, such as train evacuation.

Employee Safety Training Courses - The number of distinct safety-related courses offered, including technical courses that have a safety element. Repeats are excluded so that each course is counted only once.

Employees Trained - The number of unique employees that attended one or more of these safety-related courses.

Employee Safety Training Hours - The total hours of training completed by employees in all safety-related courses attended.

Broken Gates - The number of events at grade crossing locations where a vehicle struck a crossing gate.

MTA Police Detail - The number of details specifically for the purpose of monitoring behavior at Grade Crossings.

Summons - The number of violations issued to a motorist for going around a crossing gate or due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Warnings - The number of warnings issued to motorists due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Community Education and Outreach - The number of individuals reached at a TRACKS event.

Cars Equipped with Cameras - Number of complete inward/outward and passenger compartment camera installations on rolling stock.



Police Report



Metro-North Railroad

December 2018 Highlights: MTA Police Report

- Metro-North Railroad experienced a decrease in the amount of major felonies (7 vs 12) for the month of December compared to the same period last year.
- Year to date Metro-North Railroad is down 13 crimes (131 vs 144).
- There were zero hate crimes to report on Metro-North Railroad for the month of December.

Owen Monaghan
Chief of Police



**METROPOLITAN TRANSPORTATION AUTHORITY
Police Department
Metro North Railroad**

December 2018 vs. 2017

	2018	2017	Diff	% Change
Murder	0	0	0	0%
Rape	0	0	0	0%
Robbery	0	0	0	0%
Felony Assault	3	6	-3	-50%
Burglary	0	1	-1	-100%
Grand Larceny	4	5	-1	-20%
Grand Larceny Auto	0	0	0	0%
Total Major Felonies	7	12	-5	-42%

Year to Date 2018 vs. 2017

	2018	2017	Diff	% Change
Murder	0	0	0	0%
Rape	0	0	0	0%
Robbery	15	14	1	7%
Felony Assault	23	21	2	10%
Burglary	17	13	4	31%
Grand Larceny	74	88	-14	-16%
Grand Larceny Auto	2	8	-6	-75%
Total Major Felonies	131	144	-13	-9%



**METROPOLITAN TRANSPORTATION AUTHORITY
Police Department
System Wide**

December 2018 vs. 2017

	2018	2017	Diff	% Change
Murder	0	0	0	0%
Rape	0	0	0	0%
Robbery	0	0	0	0%
Felony Assault	3	7	-4	-57%
Burglary	0	3	-3	-100%
Grand Larceny	10	14	-4	-29%
Grand Larceny Auto	0	0	0	0%
Total Major Felonies	13	24	-11	-46%

Year to Date 2018 vs. 2017

	2018	2017	Diff	% Change
Murder	0	0	0	0%
Rape	0	0	0	0%
Robbery	26	44	-18	-41%
Felony Assault	43	40	3	8%
Burglary	19	17	2	12%
Grand Larceny	146	160	-14	-9%
Grand Larceny Auto	3	10	-7	-70%
Total Major Felonies	237	271	-34	-13%



Metropolitan Transportation Authority Police Department

Hate Crimes Report (January - December 2018)

Motivation	2018	2017	Diff	% Change
Asian	0	4	-4	-100 %
Black	6	6	0	0 %
Ethnic	0	0	0	0 %
Gender	0	0	0	0 %
Hispanic	2	0	2	0 %
Muslim	0	1	-1	-100 %
Other	1	0	1	0 %
Anti-Semitic	17	17	0	0 %
Sexual Orientation	1	0	1	0 %
White	0	1	-1	-100 %
Motivation Total	27	29	-2	-6 %

Crime Name	2018	2017	Diff	% Change
Aggravated Harassment #1	3	0	3	0 %
Aggravated Harassment #2	2	0	2	0 %
Felony Assault	0	1	-1	-100 %
Misdemeanor Assault	1	1	0	0 %
Criminal Mischief #3	0	0	0	0 %
Criminal Mischief #4	21	27	-6	-22 %
Grand Larceny #4	0	0	0	0 %
Menacing #2	0	0	0	0 %
Robbery #2	0	0	0	0 %
Crime Total	27	29	-2	-6 %



MTA Police Department Arrest Summary: Department Totals

1/1/2018 to 12/31/2018

Arrest Classification	Total Arrests	
	2018	2017
Robbery	35	34
Felony Assault	47	48
Burglary	24	10
Grand Larceny	60	59
Grand Larceny Auto	2	2
Aggravated Harassment	4	4
Aggravated Unlicensed Operator	16	18
Assault-Misdemeanor	76	66
Breach of Peace	19	10
Child Endangerment	1	2
Conspiracy	1	0
Criminal Contempt	8	7
Criminal Impersonation	10	11
Criminal Mischief	52	65
Criminal Possession Stolen Property	15	23
Criminal Tampering	0	9
Criminal Trespass	49	38
Disorderly Conduct	2	3
Drug Offenses	175	110
DUI Offenses	17	7
Failure to Appear	0	1
Falsely Reporting an Incident	10	7
Forgery	67	54
Fraud	3	1
Graffiti	29	27
Harassment	1	5
Identity Theft	1	0
Make Terrorist Threat	3	0
Menacing	23	12
NYC Admin Code	2	0
Obstruct Government	12	10
Petit Larceny	158	132
Public Lewdness	29	21
Reckless Endangerment	7	8
Resisting Arrest	49	37
Sex Offenses	29	19
Stalking	1	1
Theft of Services	239	192
Unlawful Fleeing a Police Officer	0	1
VTL Offenses	1	0
Warrant Arrest	129	56
Weapons Offenses	14	7
Unauthorized Use Vehicle	1	1
Total Arrests	1,421	1,118

INDEX CRIME REPORT
Per Day Average
December 2018

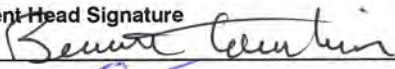

	Systemwide	LIRR	MNRR	SIRT
Murder	0	0	0	0
Rape	0	0	0	0
Robbery	0	0	0	0
Fel. Assault	3	0	3	0
Burglary	0	0	0	0
Grand Larceny	10	6	4	0
GLA	0	0	0	0
Total	13	6	7	0
Crimes Per Day	0.42	0.19	0.23	0.00





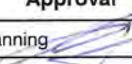
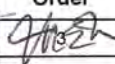


Metro-North Railroad

Action Item

Staff Summary

Subject Fourth Memorandum of Understanding (MOU) between MNR and City of Newburgh for Reimbursement of Ferry Landing/ Parking Lease	Date January 2, 2019
Department Operations Planning and Analysis	Vendor Name N/A
Department Head Name Ben Cornelius	Contract Number N/A
Department Head Signature 	Contract Manager Name N/A
Project Manager Name Scott Ornstein 	Table of Contents Ref#

Board Action						Internal Approvals			
Order	To	Date	Approval	Info	Other	Order	Approval	Order	Approval
	M-N Comm. Mtg.		X			6	President 		Budget
	MTA Board Mtg.		X				VP Operations		VP Capital Programs
							VP Financial Admin		Engr/Const
							Controller		Project Reporting

Internal Approvals (cont.)							
Order	Approval	Order	Approval	Order	Approval	Order	Approval
1	VP Planning 		Government Relations		Labor Relations	2 	General Counsel
	Press		VP Human Resources		Human Resources	4 	Executive Vice-President

PURPOSE: To obtain MTA Board approval for Metro-North to enter into a Fourth Memorandum of Understanding (Fourth MOU) with the City of Newburgh, New York (the City) for Metro-North to reimburse the City for lease payments for the parking and ferry landing facilities used by the Newburgh-Beacon ferry for the period January 1, 2019 through June 30, 2019.

DISCUSSION: In August 2004, Metro-North and the City entered into an agreement concerning the mooring, docking, and use of facilities in Newburgh to be used for the Newburgh-Beacon Ferry. Under that agreement, the City would lease from a private landowner the land and facilities to create a ferry dock and 250-space parking facility for ferry riders. At the same time, the City and the New York State Department of Transportation (NYSDOT) entered into a contract by which NYSDOT reimbursed the City for the rent payments under the lease; that contract has expired and will not be renewed by NYSDOT. NYSDOT reimbursed the City for the lease payments through April 2015. Under an MOU dated May 26, 2015, between Metro-North and the City previously approved by the MTA Board, Metro-North reimbursed the City for lease payments from May through December 2015, at the monthly rate of \$21,278. A second MOU dated January 26, 2016 extended this agreement under the same terms, as did a third MOU, dated January 5, 2017.

In October, 2017, the property on which the Newburgh Ferry Dock and Parking Facility is located was sold for the second time in little more than a year. The City has negotiated a lease extension with the new owner of this property through June 30, 2019, which provides for no increase in rental payments from the current lease. The new property owner is only willing to enter into a 6-month lease with the City at this time under the existing terms, and wants to meet with the City to discuss and address some issues of mutual concern before considering extending the lease. Under the proposed Fourth MOU, Metro-North will reimburse the City for the same period of time as the lease extension (January 1, 2019 – June 30, 2019). The Fourth MOU also provides that the City and Metro-North will continue to work together in a diligent, cooperative and time sensitive manner to identify and make available alternative locations for the Ferry Service and parking facility, should

the current site not be available in the future, as well as work together to identify possible other sources of funding. The Fourth MOU has been authorized and executed by the City.

The City does not have the resources to shoulder the expense of the ferry facility property lease. If Metro-North does not reimburse the City for the expense of leasing the ferry facility lands, the lease will terminate and the Newburgh-Beacon Ferry service will be interrupted.

NYS DOT has committed to provide Metro-North with Congestion Mitigation/Air Quality ("CMAQ") funds, which may be used as reimbursement for assistance payments made to the City by Metro-North to fund the lease extension through December 31, 2020. The MTA Board approved Metro-North's acceptance of these funds for various connecting services-related projects, including the Newburgh-Beacon Ferry. Of the CMAQ funds, \$255,336 will be used to fund the reimbursement to the City upon proof of payment of the monthly lease cost.

BUDGET IMPACT: Metro-North applies for reimbursement from NYS DOT as the payments are made to the City of Newburgh. There is a zero net impact on the operating budget.

ALTERNATIVE: If Metro-North does not enter into this Fourth MOU, then the City would terminate the lease agreement for the Newburgh-Beacon Ferry landing, parking facility, and mooring rights. The likely impact of this action would be interruption of the ferry service while a new site is identified, procured, and any required improvements are constructed.

RECOMMENDATION: That the MTA Board grant approval for MNR to enter into a Fourth Memorandum of Understanding with the City of Newburgh regarding reimbursement of lease expenses paid by the City for land used for the Newburgh-Beacon ferry landing and parking facility for the period January 1, 2019 through June 30, 2019.

ADDENDUM TO AGREEMENT OF LEASE

THIS ADDENDUM TO AGREEMENT OF LEASE ("Addendum"), made as of this ^{19th} day of December, 2018, by and between Riverside Newburgh Realty, LLC., a New York limited liability corporation, having an address of P.O. Box 8, Newburgh, New York 12551, ("Riverside"), and the City of Newburgh, a New York municipal corporation with principal offices at 83 Broadway, City Hall, Newburgh, New York 12550 ("City").

WITNESSETH:

WHEREAS, RBG Newburgh, LLC and the City executed an Agreement of Lease dated January 13, 2017 for a term commencing on February 1, 2017 and terminating on December 31, 2018 (the "Lease Agreement"), covering certain vacant real property situated along the west bank of the Hudson River and comprised of portions of two contiguous parcels of land (commonly known, respectively, Tax Map Nos.: Section 31, Block 5, Lot 13.2 and; Section 31, Block 5, Lot 14) with an aggregate of approximately 3.65 acres, in the City of Newburgh, in the County of Orange and State of New York (the "Property"); and

WHEREAS, RBG Newburgh, LLC transferred the Property to Riverside on November 24, 2017; and

WHEREAS, the City consented to the assignment of the Lease Agreement from RBG of Newburgh, LLC to Riverside on December 5, 2017; and

WHEREAS, the Lease Agreement will expire on December 31, 2018 and the City desires to continue to lease from Riverside the Property for use in connection with parking to be used for ferry service between the Cities of Newburgh and Beacon and uses associated therewith (the "Project") and Riverside desires to lease to City the Property therefor and the parties agree that it is necessary to extend the term of the Lease Agreement for the period January 1, 2019 through June 30, 2019:

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:


1. The term set forth in Paragraph 1.3 of the Lease Agreement shall be extended for an additional term commencing on January 1, 2019 and terminating on June 30, 2019 ("Renewal Term").
2. For the balance of the Renewal Term, rent shall be payable monthly in advance in equal monthly installments of Twenty-One Thousand Two Hundred Seventy-Eight (\$21,278) Dollars, provided however that City shall have the right to terminate this lease if the City has not received reimbursement from state sources, including but not limited to the Metropolitan Transportation Authority, Metro-North Railroad and/or The New York State Department of Transportation, of the full amount of the rent under the Lease Agreement, and in no event shall City's obligation to pay rent to Riverside exceed City's reimbursement from other sources.


3. The City's Tenant Consent to Assignment of Agreement of Lease and Tenant Estoppel Certificate, both dated December 5, 2017 shall remain in full force and effect during the Renewal Term.
4. All other terms and conditions set forth in the Lease Agreement shall remain in full force and effect during the Renewal Term.

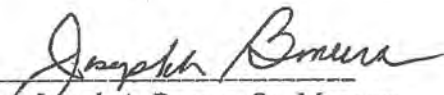
IN WITNESS WHEREOF, Riverside, as Landlord, and the City, as Tenant have duly executed this Lease Addendum in duplicate as of the day and year first above written.

RIVERSIDE NEWBURGH REALTY, LLC Landlord

CITY OF NEWBURGH, Tenant

By: 
William Kaplan, Manager

By: 
Michael G. Ciaravino
City Manager
Per Res. No.: 372-2018

By: 
Joseph A. Bonura, Sr., Manager

Remainder of this page intentionally left blank

STATE OF NEW YORK)
) ss:
COUNTY OF ORANGE)

On the 19th day of December in the year 2018, before me, the undersigned, a Notary Public in and for said State, personally appeared WILLIAM KAPLAN, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted; executed the instrument.

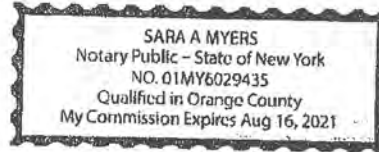
Sara A. Myers



STATE OF NEW YORK)
) ss:
COUNTY OF ORANGE)

On the 19th day of December in the year 2018, before me, the undersigned, a Notary Public in and for said State, personally appeared JOSEPH A. BONURA, SR., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted; executed the instrument.

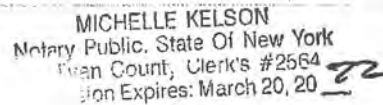
Sara A. Myers



STATE OF NEW YORK)
) ss:
COUNTY OF ORANGE)

On the 12th day of December in the year 2018, before me, the undersigned, a Notary Public in and for said State, personally appeared MICHAEL G. CIARAVINO, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in her capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted; executed the instrument.

[Signature]





Metro-North Railroad

Information Items

Metro-North Railroad Infrastructure Program Impacts on Service Delivery in 2018 and 2019

MNR Committee Meeting
January 22, 2019



Impact of Infrastructure Work on On-Time Performance (OTP)

- What factors affect Metro-North's OTP?
- 2018 OTP
- Impact of 2018 Infrastructure Projects on OTP
- Improving OTP in 2019 while continuing our infrastructure program



What factors affect OTP?

- Factors that affect OTP
 - **Scheduled events** – Capital projects and routine maintenance work on right-of-way (tie installations, rail replacement, surfacing, switch installations)
 - **Non-Scheduled Events** – rolling stock failures, broken rails, signal failures, inclement weather, police activity, trespasser incidents
- Infrastructure work impacts OTP and are similar to those experienced driving on a roadway under construction
 - Reduced or restricted speeds
 - Lane closures (tracks out of service and adjacent track protection)
 - Cascade of delays due to traffic volume



2018 On-Time Performance East of Hudson

Month	Target	Actual	Impact Cause
January	93%	92.4%	Major blizzard on 1/4
February	93%	96.3%	
March	93%	91.3%	Major winter storms on 3/2 and 3/7
April	93%	94.7%	
May	93%	91%	Tornadoes and more than 100 trees down on tracks
June	93%	88.7%	OTP begins to decline with commencement of undercutting, which took multiple tracks out of service on the New Haven Line
July	93%	86.8%	
August	93%	86.4%	10 Major projects: 2 Harlem Line; 3 Hudson Line; 5 New Haven Line
September	93%	89.0%	Significant number of additional Capital and maintenance projects on each line were completed
October	93%	89.6%	
November	93%	83.3%	Slippery rail season (leaves on the tracks) as projects continued
December	93%	92.8%	OTP rebounded strongly after conclusion of annual infrastructure program
Year End	93%	90.1%	Metro-North's on-time performance of 90.1% was significantly affected by its aggressive 2018 infrastructure program



Harlem Line – 91.8 % OTP

Major Projects

- ❑ Upper Harlem Power Pole Emergency Repairs
- ❑ White Plains Station Rehabilitation



Mitigation – Schedule Adjustment

- ❑ Harlem Line was hit hardest by storms throughout the year, but performance was relatively consistent and surpassed that of the other two lines.
- ❑ The Harlem Line off-peak schedule significantly revised (with some service reductions) in March to accommodate track outages required for the White Plains project.



Power Pole Emergency Repairs



Hudson Line – 90.0% OTP

Major Projects

- ❑ Superstorm Sandy Restoration continuation
- ❑ Tie/Rail Replacement
- ❑ Rock Slope Remediation



No Schedule Adjustments

- ❑ At a disappointing 81% OTP in August, Hudson Line service was significantly impacted by the summer work on these projects.



Rock Slope Remediation



New Haven Line – 88.9% OTP

Major Projects

- ❑ Undercutting on track 2 between New Rochelle and Rye
- ❑ Atlantic Street undergrade bridge replacement project near Stamford
- ❑ Activities associated with WALK Bridge replacement project in South Norwalk
- ❑ Sound Beach/Tomac Bridge repairs near Greenwich
- ❑ Continuation of catenary replacement project



No Schedule Adjustments

- ❑ New Haven Line service reliability suffered significantly because of the lack of operational flexibility caused by the undercutting project – multiple tracks were out of service in the busiest segment of the Line.



Undercutter Work on the New Haven Line





New Haven Line

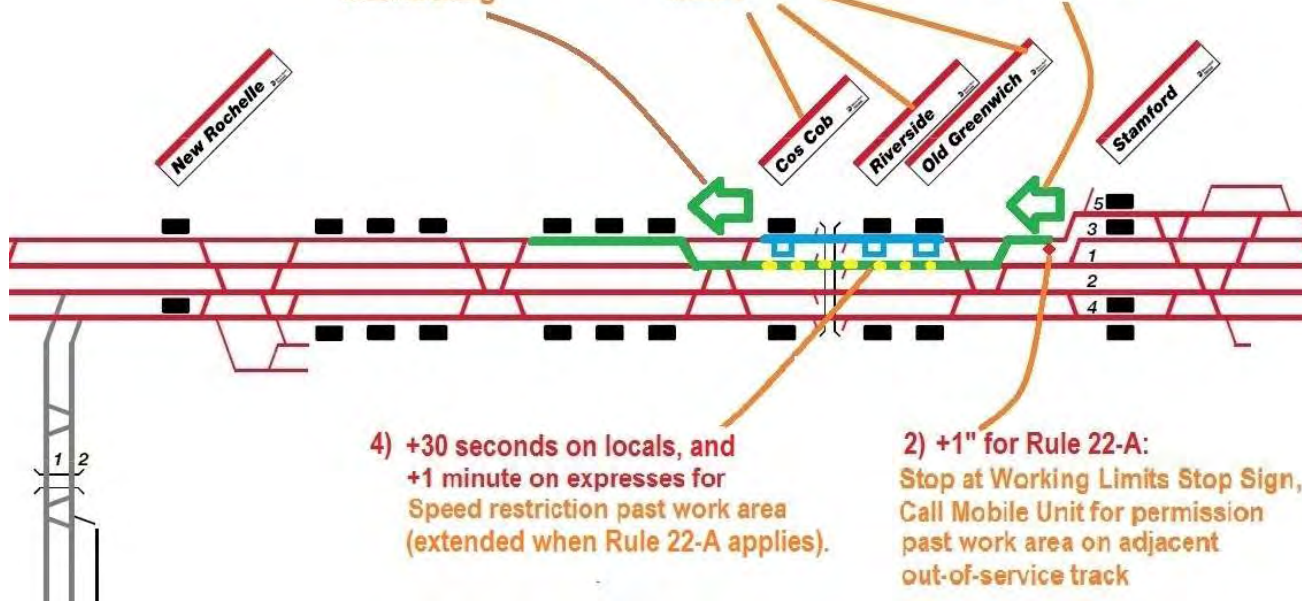
Run Time Impact of Bridge-Plating One Block (Three Stations)

Trip Time Impact for local trains: 4 minutes, 30 sec.

5) +30 seconds for deceleration and slower speed through interlocking

3) +30 seconds at each of 3 stations for bridge plates: slower approach and precise alignment of doors

1a) +30 seconds for deceleration and slower speed through interlocking
1b) +30 seconds for PTC effects



4) +30 seconds on locals, and +1 minute on expresses for Speed restriction past work area (extended when Rule 22-A applies).

2) +1" for Rule 22-A: Stop at Working Limits Stop Sign, Call Mobile Unit for permission past work area on adjacent out-of-service track

Lessons Learned

- Balance is key to delivering safe and reliable service
 - Cannot sacrifice important infrastructure work to OTP – the safety of our infrastructure is paramount
- Striking the balance in 2019
 - Carefully plan infrastructure priorities
 - Prioritize those improvements
 - Preserve operational flexibility wherever possible
 - Be mindful of customer impacts and minimize to the extent possible
 - SMART TRACK – Identify locations where multiple state of good repair projects can be performed simultaneously, reducing the need to return to the same location on multiple occasions.
 - Develop schedules that account for the impact of work (as done on the Harlem Line in 2018) to allow for more reliable service.
 - Impact of PTC on running times is not fully known



2019 Major Projects

Hudson Line

- Switch replacements at CP 8 and CP 11 (Bronx), CP 26 (Philipse Manor), and CP 72 (Poughkeepsie)
- CP 46-CP 53 (Manitou to Cold Spring), rock-slope remediation
- CP 19-CP 25 (Greystone to Tarrytown) continuous outage for Superstorm Sandy work
- CP 12 – CP 19 (Spuyten Duyvil to Greystone) tie replacement
- CP 6 – CP 10 (Bronx) tie and rail replacement

Harlem Line

- CP 106-CP 112 (Bronx) continuous SMART TRACK outage for fiber optic cables and mud spot remediation
- CP 121-CP 123 continuous outage for White Plains station enhancement
- CP 160- CP170 (Patterson) bridge replacements
- Upper Harlem Line power pole replacement



2019 Major Projects

New Haven Line

- CP 212 - CP 215 (Bronx to Pelham) continuous outage for SMART TRACK work
- CP 223 – CP 229 (Rye to Greenwich) tie renewal
- CP 229-CP 232 continuous outage for miter rails on Cos Cob bridge and completion of Sound Beach and Tomac bridge replacements
- CP 233- CP 234 (Stamford) Atlantic Street Bridge replacement
- CP 241-CP 248 (Norwalk to Southport) continuous outage for installation of new CP 243 and catenary renewal
- CP 248 – CP 257 (Southport to Bridgeport) rail renewal
- CP 255-CP 261 (Bridgeport to Devon) continuous outage for catenary work and Devon bridge work



More Reliable Schedules in April and July to Reflect 2019 Infrastructure Program

Hudson Line

- Hudson Line has additional schedule adjustments of 2-7 minutes to enhance reliability.

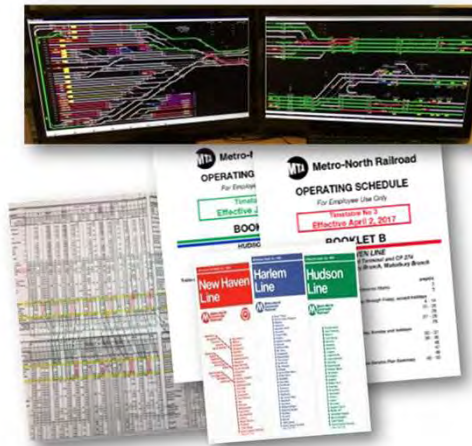
Harlem Line

- Harlem Line has additional schedule adjustments of 1-5 minutes to enhance reliability.

New Haven Line

- New Haven Line has significant changes to reflect longer running times for track outages, diversions around work, enhanced safety compliance and bridge-plating at stations.
- Inner NHL schedules are 4-8 minutes longer
- Outer NHL schedules are 5-12 minutes longer

July schedules will be adjusted to follow track work projects on all three lines.



Conclusion

- Metro-North's on-time performance of 90.1% was significantly affected by our aggressive 2018 infrastructure program.
- Metro-North's goal in planning and scheduling investments for the 2019 infrastructure program is to continue our state of good repair work while providing consistently safe and reliable service to our customers.
- Metro-North will be adjusting schedules in April – and again in July – to ensure that the schedules account for the extent of the infrastructure work being performed on all three lines.
- A comprehensive customer communication plan includes printed schedules, seat drops, website, email alerts, social media, station posters, *Mileposts* and press releases.



2018 4th Quarter Maintenance of Way Division

Track, Structures, Stations & Facilities

Metro-North Railroad

January 9, 2019



Track Projects Systemwide

▣ Production Tie Replacement – 1,758,250 systemwide wood ties (28,200 ties planned)

▣	Hudson Line	25,600 ties planned	25,710 complete	100%
▣	*New Haven	2,600 ties planned	7,722 complete	297%
	Total 2018	28,200 ties planned	33,432 complete	119% complete

* **Notes:** NHL Gang created July 2018

▣ Rail Vac (Wood Ties) – 4,000 ties planned

▣	GCT	54 ties complete		
▣	Hudson	2,950 ties complete		
▣	Harlem	804 ties complete		
▣	New Haven	964 ties complete		
	Total 2018	4,772 ties complete	119% complete	



▣ **Rail Replacement – 1,508 rail miles systemwide (15.8 miles planned)**

▣	Hudson Line	9	miles planned	5.1	completed	57%	complete
▣	New Haven	6.6	miles planned	1.7	completed	26%	complete
▣	Port Jervis	0.19	miles planned	0	completed	0%	complete
	Total 2018	15.79	miles planned	6.8	completed	43%	complete

▣ **Welds (2,000 joints planned)**

▣	Hudson Line	830	joints completed			
▣	Harlem Line	598	joints completed			
▣	New Haven	503	joints completed			
▣	West of Hudson	8	joints completed			
	Total 2018	1,939	joints completed	97%	complete	

▣ **Loram Rail Grinder (15.4 miles planned)**

▣	Hudson Line	5.4	Miles planned	0	complete	0%	
▣	New Haven	10	Miles planned	0	complete	0%	3 curves
	Total 2018	15.4	Miles planned	0	complete	0%	complete



Switch Renewal - 1,500 Switches systemwide (38 switches planned)

■	GCT-	9 switches	planned	9	switches completed	100% complete
■	Hudson-	9 switches	planned	6	switches completed	67% complete
■	Harlem-	7 switches	planned	8	switches completed	114% complete
■	New Haven-	10 switches	planned	8	switches completed	80% complete
■	Waterbury-	3 switches	planned	0	switches completed	0% complete
	Total 2018	38 switches	planned	31	switches completed	82% complete

Grade Crossing Renewal – 111 Grade Crossings systemwide (20 crossings planned)

■	Hudson Line	2	Crossings planned	1	complete	50%	
■	Harlem Line	5	Crossings planned	1	complete	20%	
■	New Haven						
	■	New Canaan	1	Crossings planned	1	complete	100%
	■	Danbury	7	Crossings planned	2	complete	29%
	■	Waterbury	4	Crossings planned	1	complete	25%
■	West of Hudson	1	Crossings planned	1	complete	100%	
	Total 2018	20	Crossings planned	7	complete	35% complete	



▣ **Undercutter- New Haven Line**

- ▣ Tracks 1&2, CP 217 – CP 223 (5 miles planned),
- ▣ Trk 2, 2.5 miles planned, 2.5 miles complete (100% completed)
- ▣ Trk 1, 2.5 miles planned, (0% complete)

▣ **Surfacing - 754 track miles systemwide (130 miles planned)**

▣	Hudson Line	73	miles planned	50.3	completed	69%	complete
▣	Harlem Line	18	miles planned	10.7	completed	60%	complete
▣	New Haven - NY	6	miles planned	14.8	completed	247%	complete
▣	New Haven - CT	26.6	miles planned	19.1	completed	72%	complete
▣	New Haven - WTBY	6.4	miles planned	3.6	completed	56%	complete
	Total 2018	130	miles planned	98.5	completed	76%	complete



- ▣ **Sperry Rail**

- ▣ 1st run - field survey 100% complete
- ▣ Defects corrected from 1st run: NY- 129, CT – 28
- ▣ 2nd run - field survey 16% complete
- ▣ Defects corrected from 2nd run: NY- 3, CT – 3

- ▣ **Ensco Geometry (2x per year)**

- ▣ Contracted for 6 tests over 3 years
- ▣ 1st run – Survey completed April 19, 2018
- ▣ 2nd run – Survey completed December 4, 2018



■ **GCT Station Track Rehabilitation (44 Platforms)**

- Track 32 – (Completed)
 - 2,200' rail, 90 bracket ties, 1,000 block ties
- Track 24 – Pre - Amtrak-GCT Service (Completed)
 - 455 ties
- Track 113 – Post Amtrak GCT Service (Completed)
 - 1,020' rail
- Track 102 – (Completed)
 - 100 ties
- Track 40 – (Completed)
 - 1050 ties, 100 Bracket ties

■ **Direct Fixation Fasteners, Park Ave Viaduct & Trainshed Repairs 31,584 Fasteners systemwide**

- Park Avenue Viaduct – replaced 24,064 fasteners with new fastening system (Tk 4 – 67%, Tk 2 – 71% , Tk 1 – 90%, Tk 3 – 71%, Overall – 75%)

■ **GCT Trainshed**

- Repoint circular arch brick vents (Track 3/4, 66th to 95th streets)
- Completed repointing brick tunnel (Track 3/4, 87th to 95th streets)



■ **Overhead Bridge Program**

- Typical repairs include replacing deteriorated members, rebuilding deteriorated bridge seats, repairing abutment walls, repairing load bearing supports timber deck replacements. (60% complete)
 - NH 12.85 South Street - Sidewalk and barrier support repairs - 100% complete
 - NH 16.37 Centre Avenue – Replaced overlay and flag repairs (100% Complete)
 - NH 20.89 North Barry - Abutment, floorbeam and steel pier repairs - 75% complete
 - NH 22.91 Broadway - Steel floorbeam repairs - 50%
 - NH 25.39 Williams Street - painting floorbeams - 25%

■ **Bridge Timbers (NY only – 1,140 Timbers planned)**

■ New Haven – Mamaroneck Ave (MP 20.37, Trk 1, Trk 2, Trk 3, Trk 4)	240	timbers	50%	Trks 1 & 2 100%
■ New Haven – Locust Avenue (MP 23.71, Trk 1, Tk2, Trk 3 & Tk4)	86	timbers	50%	Trks 1 & 2 100%
■ New Haven – Westchester Ave (MP 25.54, All Tracks)	240	timbers	0%	
■ Port Jervis – Pond Brook (MP 33.94, Trk 1 & Trk 2)	106	timbers	100%	
■ Port Jervis - Cattle Pass (MP 38.98, Single)	16	timbers	100%	
■ Port Jervis – Pine Hill Road (MP 48.51, Single)	32	timbers	100%	
■ Port Jervis – Moodna Viaduct (MP 55.03, Single) (Spot only)	420	timbers	19%	
Total 2018	1,140	Timbers	60%	complete



- ▣ **NY Bridge Repair Program**

- ▣ Hudson Line

- ▣ Wells Ave. (MP 15.31) – Masonry repairs (100% complete)

- ▣ New Haven

- ▣ Highland Ave. (MP 25.83) – Masonry repairs (100% complete)

- ▣ Port Jervis

- ▣ Ramapo River (MP 32.06JS) – Steel repairs (89% complete)

- ▣ Stream (MP 44.80JS) – Wingwall repairs (100% complete)

- ▣ Shea Rd. (MP 63.04JS) – Concrete repairs on arch (0% complete)

- ▣ NY O&W RR – Floorbeam repair (85% complete)

- ▣ **Bridge Flag Repairs (Harlem, Hudson New Haven-NY/Port Jervis Line)**

- ▣ Completed 38 various steel /or concrete repairs



CT Bridge Projects

▣ Bridge Timbers (CT only – 593 ties planned)

▣ NH 33.75 Elm St Tk2	52	timbers	0%
▣ NH 33.75 Elm St Tk3	52	timbers	0%
▣ NH 34.17 East Main Tk1	92	timbers	0%
▣ NH 40.89 Franklin Street Tk1, Tk2 (43 timbers each)	86	timbers	0%
▣ NH 41.28 Washington & Main Tk2	96	timbers	0%
▣ NH 53.72 Hancock Ave Tk4	50	timbers	0%
▣ NH 53.84 Howard Ave Tk1	53	timbers	0%
▣ NH 56.20 East Main Street Tk2	56	timbers	100%
▣ NH 59.96 East Main St. Tk3	56	timbers	0%
Total 2018	593	Timbers planned	11% complete

▣ S-Program (New Haven – CT only)

- ▣ Canal St. (MP 33.41) – Steel repairs/masonry repairs(95% complete)
- ▣ Main St. (MP 59.01) – Steel repairs/masonry repairs (100% complete)
- ▣ East Main St. (MP 59.96) – Steel repairs/masonry repairs (80% complete)

▣ Railroad Maintenance Memorandum Items (RMM, New Haven - CDOT)

- ▣ Completed 150 various steel /or concrete repairs



- ▣ **Cos Cob (Greenwich, CT)**

- ▣ Mitre Rail Replacement and timbers (Track 1) – (100% complete)
 - ▣ Fabricated/installed steel ties
 - ▣ Installed 840 bridge timbers

- ▣ **Saga Bridge (Westport, CT)**

- ▣ Mitre Rail Replacement and timbers (Track 4) – (80% complete)
 - ▣ Fabricated/installed steel ballast retainers
 - ▣ Installed 260 bridge timbers

- ▣ **Right of Way Fence**

- ▣ Installed 4,273 ft of fence throughout systemwide

- ▣ **Graffiti Removal Program**

- ▣ Hudson & Harlem - cleaned graffiti off various buildings, bridges, retaining walls & rock cuts



MNR Committee Meeting January 2019

PTC Project Update January 22, 2019



MNR Overall PTC Project Status

Item	Comments
Schedule	<ul style="list-style-type: none"><li data-bbox="583 526 1667 574"><input type="checkbox"/> Continue running RSD (Tarrytown – Croton-Harmon).<li data-bbox="583 639 1751 737"><input type="checkbox"/> Met 2018 federal compliance requirements to request an alternative schedule.
Overall Completion	85%
Budget	\$546M (Including CDOT Share)



MNR East of Hudson PTC Hardware Installations

PTC Subsystem	FRA Goals	MNR Totals	December 2018 Totals	FRA Goal
Transponders	2931	2980	2980	100%
WIUs	94	94	94	100%
Radio Cases	107	107	107	100%
M7	167	167	167	100%
M3	32	69	69	100%
P32	23	31	31	100%
Cab Cars	35	51	51	100%
M8	106	190	190	100%
BL20	9	12	10	100%
GP35	4	8	4	100%



MNR Port Jervis Line (PJL) PTC Hardware Installation

PTC Subsystem	FRA/PJL Totals	December 2018	FRA Goal
Transponders	240	240	100%
WIUs	10	10	100%
Radio Cases	11	11	100%



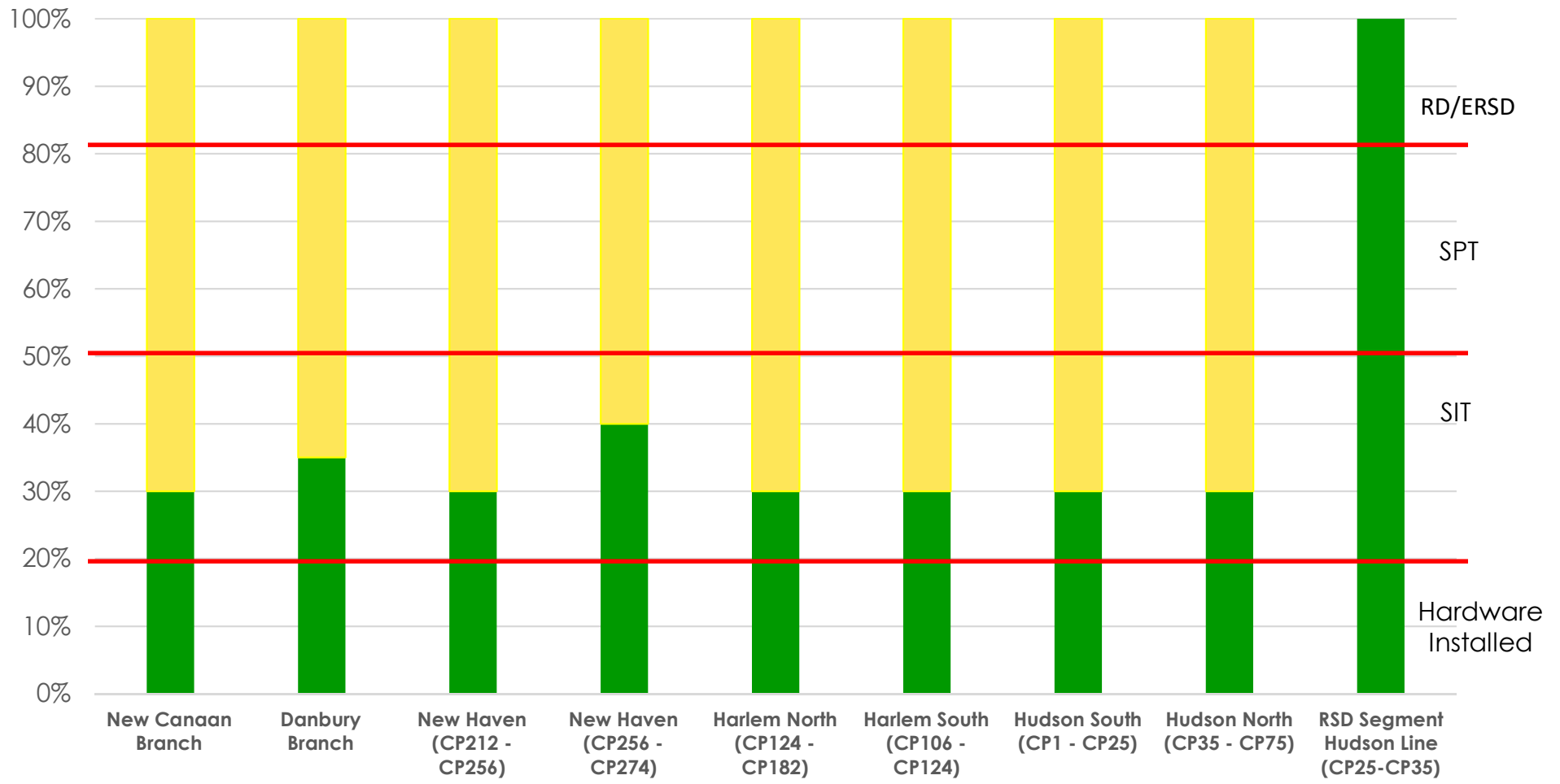
Full PTC Implementation by December 2020

■ Steps to full PTC implementation:

- Completion of RSD (110 successful trips)
 - Obtain FRA conditional approval
 - FRA approval to Extend RSD (ERSD) on other segments
- Interoperability
 - All tenants must be interoperable with our wayside
 - Boundaries must be seamless
- PTC FRA Certification
 - Develop/submit the PTC Safety Plan (PTCSP)
 - FRA has 180 – 360 days to approve PTCSP.



MNR Segment PTC Readiness

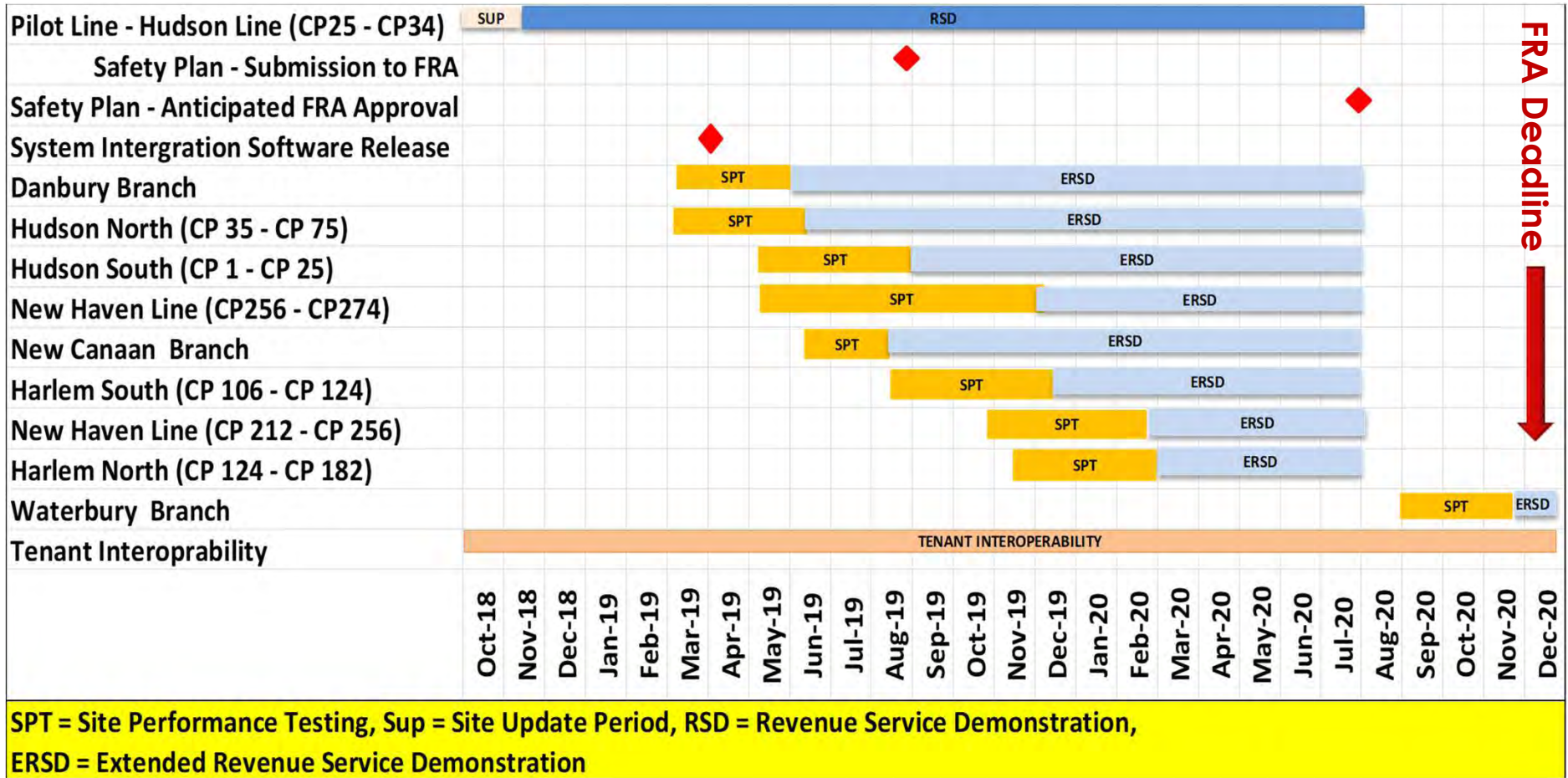


SIT = Site Integration Testing, SPT = Site Performance Testing, (E)RSD/ERSD = (Extended) Revenue Service Demonstration.

■ % complete ■ Remaining



MNR Working Schedule and Sequence



MNR Project Update

- Compliant with FRA December 2018 PTC regulations, by achieving the following:
 - All necessary employees trained in how to operate the system
 - All PTC equipment installed along the wayside, office and on-board trains
 - Radio spectrum acquired
 - Revenue Service Demonstration (RSD) in progress on pilot segment (prove system reliability and functionality under normal railroad operating conditions)
- Submitted revised PTCIP December 17, 2018 along with Alternative Schedule
- Submitted *Notification and Certification of Compliance* on December 21, 2018.
- As of January 15, 2019 completed **38** RSD successful trips between Tarrytown and Croton-Harmon towards the FRA goal of 110 trips.
- Waterbury Main Line Track Exclusion Addendum (MTEA) operation began 12/28/2018
- **Metro-North Awarded Up to \$2.3M from FRA to Enhance PTC Implementation**



MNR Project Concerns

- Completion of the project depends on timely resolution of interoperability with the wayside and Boundary issues with Amtrak.
- The SI is still resource limited
 - Supporting MNR/LIRR with software development
- Equipment Reliability and Quality Control concerns
 - Calibration issue with all on-board undercar Scanners/Antennas
- Working with the SI to resolve software variances which impact the non-pilot segments and operations.



MNR PTC Timeline and Look-ahead

December 2018

- ✓ Submitted *Notification and Certification of Compliance (Alternative Schedule)* to the FRA stating that MNR has met all statutory criteria.
- ✓ Started Site Integration Testing (SIT) on non-pilot segments.

2019

- Continue to perform required RSD runs.
- Submit PTC Safety Plans to FRA for approval.
- Start placing non-pilot segments in PTC Operations (ERSD).



PROCUREMENT PACKAGE
January 2019

Subject	Request for Authorization to Award Various Procurements				
Department	Procurement				
Department Head Name David K. Cannon					
Department Head Signature 					
Board Action					
Order	To	Date	Approval	Info	Other
1	MNR Committee	1/22/19	X		
2	Board	1/24/19	X		

Date: January 16, 2019			
Vendor Name HNTB			
Contract Number PS864			
Contract Manager Name J. Hanna			
Internal Approvals			
	Approval		Approval
2	Vice President & Chief Financial Officer 	4	President
1	Vice President, Program Controls 	3	Executive Vice President & General Counsel

PURPOSE

To obtain the approval of the Board to award a contract and, to inform the Metro-North Railroad Committee of this procurement actions.

DISCUSSION

MTA Capital Construction proposes to award a Competitive Procurement in the following category:

	<u># of Actions</u>	<u>\$ Amount</u>
<u>Schedules Requiring Majority Vote</u>		
Schedule F Personal Service Contracts	1	\$32,240,000 ¹
TOTAL	1	\$32,240,000

Budget Impact:

The approval of the contract will obligate MTA Capital Construction capital funds in the amounts listed. Funds are available in the capital budget for this purpose.

Recommendation:

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

¹ Excludes Contract Options - For Information about the Options, please refer to the Schedule F Staff Summary

MTA Capital Construction Company

BOARD RESOLUTION

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

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

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

NOW, the Board resolves as follows:

1. As to each purchase and public work contract set forth in annexed Schedule A, the Board declares competitive bidding to be impractical or inappropriate for the reasons specified therein and authorizes the execution of each such contract.
2. As to each request for proposals (for purchase and public work contracts) set forth in Schedule B for which authorization to solicit proposals is requested, for the reasons specified therein, the Board declares competitive bidding to be impractical or inappropriate, declares it is in the public interest to solicit competitive request for proposals and authorizes the solicitation of such proposals.
3. As to each request for proposals (for purchase and public work contracts set forth in Schedule C for which a recommendation is made to award the contract), the Board authorizes the execution of said contract.
4. As to each action set forth in Schedule D, the Board declares competitive bidding impractical or inappropriate for the reasons specified therein, and ratifies each action for which ratification is requested.
5. The Board authorizes the execution of each of the following for which Board authorization is required: i) the miscellaneous procurement contracts set forth in Schedule E; ii) the personal service contracts set forth in Schedule F; iii) the miscellaneous service contracts set forth in Schedule G; iv) the modifications to personal/miscellaneous service contracts set forth in Schedule H; v) the contract modifications to purchase and public work contracts set forth in Schedule I; vi) the modifications to miscellaneous procurement contracts set forth in Schedule J.
6. The Board ratifies each action taken set forth in Schedule K for which ratification is requested.
7. The Board authorizes the budget adjustments to estimated contracts set forth in Schedule L.

JANUARY 2019

LIST OF COMPETITIVE PROCUREMENTS FOR BOARD APPROVAL

Procurements Requiring Majority Vote:

Schedule F. Personal Service Contracts

(Staff Summaries required for all items greater than: \$100K Sole Source; \$750K other Non-Competitive; \$1M Competitive)

- | | | |
|--|---------------------------------|--------------------------------------|
| 1. HNTB New York Engineering and Architecture, P.C.
Contract No. PS864
18 Months plus Options Ranging From 18 – 66 Months | \$32,240,000² | <u>Staff Summary Attached</u> |
|--|---------------------------------|--------------------------------------|

Pursuant to Article X of the MTA All-Agency Service Contract Procurement Guidelines, MTACC seeks Board approval to award a competitively solicited design consultant contract to provide General Engineering Consultant Services for the Penn Station Access Project.

² Excludes Contract Options - For Information about the Options, please refer to the Schedule F Staff Summary

Item Number		1			
Dept & Dept Head Name: Penn Station Access/E. Michel 					
Division & Division Head Name: 					
Board Reviews					
Order	To	Date	Approval	Info	Other
1	MNR Committee	1/22/19	X		
2	Board	1/24/19	X		
Internal Approvals					
Order	Approval	Order	Approval		
	Vice President, Program Controls	5	President		
2	VP & Chief Financial Officer	4	Executive Vice President & General Counsel		
1	VP & Chief Procurement Officer				

SUMMARY INFORMATION	
Vendor Name HNTB New York Engineering and Architecture, P.C.	Contract Number PS864
Description General Engineering Consultant Services for the Penn Station Access Project	
Total Amount: Not-To-Exceed Base, \$32.24M; Option 1: \$7,667,811; Option 2: \$15,542,869; Option 3: \$44,259,115; Option 4: \$22,407,589; Incentive \$0.264M	
Contract Term 18 Months Base and up to 66 Months with Options	
Option(s) included in Total Amount? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Renewal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Procurement Type <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Non-competitive	
Solicitation Type <input checked="" type="checkbox"/> RFP <input type="checkbox"/> Bid <input type="checkbox"/> Other:	
Funding Source <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Capital <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Other:	

I. PURPOSE/RECOMMENDATION:

Pursuant to Article X of the MTA All-Agency Service Contract Procurement Guidelines, MTACC seeks Board approval to award a competitively solicited design consultant contract to HNTB New York Engineering and Architecture, P.C. (“HNTB”) to provide General Engineering Consultant Services for the Penn Station Access Project (the “Project”).

The Project includes additional passenger tracks within the Amtrak Hell Gate Line (HGL) right-of-way, along with various other supporting improvements, to provide access for Metro-North Railroad (MNR) New Haven Line trains to the West Side of Manhattan at Penn Station New York (PSNY). The Project will also add four new community-based MNR stations along Amtrak’s HGL in the eastern Bronx.

This Contract is structured with a base scope of work and four options which may be exercised by the MTA at its sole discretion. Under the base scope HNTB will provide Preliminary Design services for the Project and general project support services through the Preliminary Design phase. Option 1 provides for the packaging of a design build contract and any necessary ancillary contracts and procurement support through the award of those contracts. Option 2 provides for the construction phase services and program support services in support of the design build approach. Should the design build approach be deemed not feasible for this project, Option 3 provides for final design services, packaging of construction

contracts and procurement services to support the award of the design, bid, build contracts. Option 4 provides for the construction phase services and program support services in support of the design-bid-build approach.

The Not-To Exceed Amount for the base contract is \$32,236,716 with a duration of 18 Months. The base contract also provides for an additional incentive fee of 1% of the base amount less overhead and profit (an additional \$264,146) for completing the preliminary design on time. The not-to-exceed amount for the options is as follows: Option 1: \$7,667,811; Option 2: \$15,542,869; Option 3: \$44,259,115; Option 4: \$22,407,589. By this request MTACC seeks Board approval to award the base contract and up to two of the four options after evaluating the feasibility of the design build approach.

II. DISCUSSION:

Selection was determined through a one-step qualification based procurement process as mandated by the federal "Brooks Act" for federally funded projects. Under the Brooks Act, contracts for architecture and engineering, and other federally defined services, must be negotiated with the proposer whose proposal is determined to be the most technically qualified based on established evaluation criteria. Price is not a consideration in the ranking of the firms and negotiations are conducted with the proposer whose proposal is rated most technically qualified.

The Request for Proposal ("RFP") was advertised on January 11, 2018 and the advertisement appeared in the New York State Contract Reporter, the New York Post, Engineering News-Record, Minority Commerce Weekly and on the MTA Website. Twenty firms requested the RFP document and on February 28, 2018 technical proposals were submitted by the following entities:

1. AECOM/Jacobs, Joint Venture
2. HNTB New York Engineering and Architecture, P.C. (HNTB)
3. Partners for Penn Station Access, (a Joint Venture of Parsons Transportation Group of New York, Inc. and STV Inc.)

The Selection Committee for this Contract consisted of representatives from MTACC and Metro North and the proposers were invited to supplement their proposals with oral presentations. After the oral presentations, the Selection Committee evaluated the technical proposals based on the criteria listed below:

1. Qualifications and experience of the project team;
2. Qualifications and experience of proposed key personnel;
3. Proposed management approach;
4. Proposed technical approach;
5. Diversity practices; and
6. Other relevant matters, including overall adherence to the requirements of the RFP.

HNTB's proposal was unanimously determined by the Selection Committee to be the highest ranked technically. HNTB demonstrated the best plan of approach, innovation and a thorough understanding of MTACC's requirements in their technical proposal and oral presentation; provided an experienced and streamlined team; clearly recognized the unique challenges of this project and offered solutions to overcome those challenges; stressed the importance of engaging all stakeholders at an early stage to keep the project on schedule and avoid future problems and; HNTB, along with their sub-consultant Gannett Fleming, have extensive experience designing projects along Amtrak's right-of-way. In accordance with the requirements of the Brooks Act, only HNTB, the highest ranked technical proposer, was invited to submit a cost proposal and enter into negotiations.

MTACC's estimate was \$32,627,181 for the base contract services and the following for the four options: Option 1: \$7,349,600; Option 2: \$15,925,070; Option 3: \$43,892,403; Option 4: \$22,102,016. HNTB's initial proposal was \$35,638,925 for the base contract services and the following for the four options: Option 1: \$10,584,432; Option 2: \$17,623,527; Option 3: \$47,027,230; Option 4: \$26,937,717. After several rounds of negotiations HNTB's best and final offer was \$32,236,716 for the base contract and the following for the four options: Option 1: \$7,667,811; Option 2:

Item Number 1

Page 3 of 3

\$15,542,869; Option 3: \$44,259,115; Option 4: \$22,407,589. A cost analysis was performed and the negotiated not-to-exceed costs were deemed to be fair and reasonable.

In addition to the costs listed above, the contract includes an incentive program pursuant to which the consultant will receive an additional one percent (1%) fee for completing the base contract on time (within the 18 months) and an additional \$264,145.52 has been allocated for that fee. The contract also includes a savings initiative which will allow the consultant and the MTA to share in up to \$3 Million of savings if the project is completed on time and below the agreed to costs. In addition, if the consultant does not complete the base contract services within 21 months the contract provides that the fixed fee will be reduced by 0.5% for each month of delay, up to a maximum of 1.5%.

The MTA and Amtrak are in the final stages of negotiating a Memoranda of Understanding with regard to the design, construction and operation of a new commuter service to be operated by MNR along the Amtrak Hell Gate Line and we anticipate that an agreement will be reached in advance of the Board's consideration of this procurement action.

III. DBE INFORMATION:

The MTA's Department of Diversity and Civil Rights ("DDCR") reviewed the requirements of the Contract and after undertaking a thorough analysis based on the nature of the work and the availability of Disadvantage Business Enterprises (DBEs) capable of performing the work required under this Contract, established a 20% DBE participation goal for this contract. HNTB has indicated that they will meet the 20% goal and their Utilization Plan has been approved by DDCR. HNTB has achieved their D/M/WBE/SDVOB goals on prior MTA Agency contracts.

V. IMPACT ON FUNDING

Funding for this contract is available in the MTACC's 2015-2019 Capital Program (Federal).

VI. ALTERNATIVES

The alternative would be for MTACC and MNR to provide all the services under this contract in-house. However, MTACC and MNR do not have the in-house technical personnel to perform the specific tasks required under the scope of work for this contract.

VII. RECOMMENDATION

It is recommended that the Board approve the award of a competitively solicited professional services contract to HNTB New York Engineering and Architecture, P.C. for General Engineering Consulting Services for the Penn Station Access Project.

Operations Report

John Kesich

Senior Vice President, Operations



M7 EMU



M8 EMU



Comet 5 Cab Car

December 2018 Highlights: Operations Report

December service delivery operated near goal at 92.8%.

2018 OTP finished below goal at 90.1% against a target of 93%.

OTP improved significantly on December 8th when the 2018 Infrastructure work came to an end and we operated at an average 96.1% on-time for the remainder on the month.

Hudson Line – 93.8% 90.0% YTD

97.7% of trains arrived within 10" of schedule in Dec with 5 (0.11%) cancelled or terminated

Harlem Line – 92.9% 91.8% YTD

96.5% of trains arrived within 10" of schedule in Dec with 3 (0.05%) cancelled or terminated

New Haven Line – 92.2% 88.9% YTD

96.4% of trains arrived within 10" of schedule in Dec with 14 (0.17%) cancelled or terminated

In December 3.9% of trains arrived 6-10" late with 22 (0.1%) cancelled or terminated.

Overall, 96.7% of trains arrived within 10" of schedule.

Consist Compliance: 98.4% overall with 96.2% during Peak. 98.5% YTD

We had a reduced number of cars available due to PTC Installations that were completed in December. We also have additional M8 cars out of service due to on-going warranty modifications and we removed the last 20 old M2 cars from service at the end of the month.

Harmon Shop releases provide the Hudson Line the ability to generate replacement cars to meet the requirement. Due to the lack of spare cars the Harlem Line has difficulty recovering from cars becoming unavailable for service later in the day for the following morning. We are working with LIRR to procure new M9A cars in the next Capital Program to provide additional capacity and replace M3s.

Due to significant ridership increases on the New Haven we have the minimum number cars to support the daily requirement. The additional 66 new M8 cars will start to be available for service late next year with delivery completion in the summer of 2020.

West of Hudson Service operated below goal at 90.5% due Weather, equipment failures and disruptions due to accelerated PTC installations. Overall 2018 is **90.7%**

Pascack Valley – 91.6% **93.8% YTD**

12/07: Train 1605 struck a vehicle in Pearl River

Port Jervis – 89.1% **86.5% YTD**

12/17: Trains 42 and 57 terminated due to equipment failures

Cancelled Trains

30 (1.8%) PVL: 20, PVL: 10

19 trains were due to PTC Equipment installation (PVL – 11 and PVL – 8)

8 trains due to No Available Engineer (PVL – 6 and PVL – 2)

Equipment Performance

Fleet Availability improved from November as we addressed previous wheel damage from slippery rails and completing PTC Installations. Consist compliance was 98.4%

Fleet MDBF in November operated below goal at 158,792 with YTD at 144,212.

We are experiencing increased failures due to implementation of new PTC equipment.

Excluding PTC System failures adjusted MDBF for November is 204,893 adjusted YTD is 198,093.

Genesis locomotives operated 35% below goal thru November. The 31 locomotives are at the end of their useful life and we are proceeding with a RFP for their replacement.

John Kesich
Senior Vice President
Operations

Performance Summary			2018 Data			2017 Data		
			Annual Goal	December	YTD thru December	December	YTD thru December	
On Time Performance <i>(Trains that arrive at their final destination within 5 minutes 59 seconds of scheduled arrival time)</i>	System	Overall	93.0%	92.8%	90.1%	89.8%	93.4%	
		AM Peak	93.0%	81.7%	86.9%	82.5%	92.6%	
		AM Reverse Peak	93.0%	90.0%	92.8%	91.0%	94.9%	
		PM Peak	93.0%	95.6%	89.9%	87.3%	94.3%	
		Total Peak	93.0%	88.6%	89.0%	85.7%	93.6%	
		Off Peak Weekday	93.0%	93.4%	88.5%	88.6%	91.7%	
		Weekend	93.0%	97.0%	94.8%	97.0%	96.0%	
		Hudson Line	Overall	93.0%	93.8%	90.0%	90.3%	93.5%
			AM Peak	93.0%	85.9%	85.9%	85.2%	92.6%
			AM Reverse Peak	93.0%	93.3%	95.1%	91.8%	96.5%
			PM Peak	93.0%	98.3%	92.4%	88.1%	95.8%
			Total Peak	93.0%	92.0%	89.8%	87.3%	94.4%
			Off Peak Weekday	93.0%	93.5%	87.7%	88.3%	91.3%
			Weekend	93.0%	96.4%	94.4%	97.4%	95.8%
		Harlem Line	Overall	93.0%	92.9%	91.8%	90.4%	94.9%
			AM Peak	93.0%	81.0%	88.3%	85.2%	94.3%
			AM Reverse Peak	93.0%	86.1%	91.7%	90.8%	96.1%
			PM Peak	93.0%	94.6%	89.5%	85.8%	94.7%
			Total Peak	93.0%	87.3%	89.4%	86.4%	94.8%
			Off Peak Weekday	93.0%	94.0%	92.0%	89.2%	93.9%
			Weekend	93.0%	98.6%	95.8%	98.4%	97.1%
		New Haven Line	Overall	93.0%	92.2%	88.9%	89.0%	92.1%
			AM Peak	93.0%	79.5%	86.5%	78.5%	91.1%
			AM Reverse Peak	93.0%	91.7%	92.6%	90.7%	92.9%
			PM Peak	93.0%	94.7%	88.7%	88.0%	93.0%
			Total Peak	93.0%	87.5%	88.3%	84.2%	92.1%
			Off Peak Weekday	93.0%	92.9%	86.4%	88.3%	90.3%
		Weekend	93.0%	96.2%	94.4%	95.8%	95.3%	
Operating Statistics	Trains Scheduled		18,773	229,587	19,111	229,780		
	Avg. Delay per Late Train (min) <small>excluding trains cancelled or terminated</small>		13.0	12.6	12.2	12.2		
	Trains Over 15 min. Late <small>excluding trains cancelled or terminated</small>		2,300	312	4,415	398		
	Trains Canceled		230	5	596	56		
	Trains Terminated		230	17	383	39		
	Percent of Scheduled Trips Completed		99.8%	99.9%	99.6%	99.5%		
Consist Compliance	System	Overall	99.0%	98.4%	98.5%	98.1%	99.1%	
<i>(Percent of trains where the number of seats provided was greater than or equal to the required number of seats per loading standards)</i>		AM Peak	98.0%	95.1%	96.4%	94.1%	97.8%	
		AM Reverse Peak	99.5%	100.0%	99.9%	99.3%	99.7%	
		PM Peak	98.0%	95.9%	96.4%	95.9%	97.9%	
		Total Peak	98.0%	96.2%	97.2%	95.6%	97.9%	
		Off Peak Weekday	99.5%	99.6%	99.4%	99.1%	99.4%	
		Weekend	99.5%	99.4%	99.5%	99.7%	99.8%	
		Hudson Line	AM Peak	99.5%	99.6%	99.5%	98.7%	99.7%
			PM Peak	99.5%	100.0%	99.0%	99.9%	99.9%
		Harlem Line	AM Peak	98.5%	95.3%	96.0%	92.7%	97.9%
			PM Peak	98.5%	95.0%	96.9%	96.7%	98.5%
		New Haven Line	AM Peak	97.5%	91.6%	94.5%	92.2%	96.5%
			PM Peak	97.5%	93.9%	94.2%	92.5%	96.1%

SYSTEM Category of Delay

Delay Minutes / Delay Threshold	% Total	November	2018 Data		2017 Data		YTD 2018 Vs 2017
			December	YTD thru December	December	YTD thru December	
Engineering (Scheduled)	4.6%	311	131	5,949	339	5,504	446
Engineering (Unscheduled)	34.9%	1,081	1,003	12,454	1,262	7,959	4,495
Maintenance of Equipment	27.1%	998	779	7,704	559	4,482	3,222
Transportation	3.7%	92	106	1,303	257	1,257	46
Capital Projects	3.5%	536	100	2,583	0	9	2,575
Weather and Environmental	2.4%	2,495	70	8,242	947	3,632	4,609
Police	5.0%	471	144	2,813	292	3,030	-217
Customers	3.5%	106	101	1,728	107	1,131	597
Other	15.1%	193	435	2,727	39	2,731	-4
3rd Party Operations	0.2%	13	7	191	5	45	147
TOTAL	100.0%	6,296	2,875	45,694	3,807	29,778	15,916

HUDSON LINE	% Total	November	December	YTD thru December	December	YTD thru December	YTD 2018 Vs 2017
Engineering (Scheduled)	17.1%	168	88	1,745	106	1,906	-161
Engineering (Unscheduled)	21.7%	207	112	2,931	235	1,499	1,432
Maintenance of Equipment	27.6%	273	142	1,949	124	1,075	874
Transportation	4.1%	31	21	333	38	234	99
Capital Projects	10.1%	192	52	1,051	0	0	1,051
Weather and Environmental	8.7%	333	45	1,258	250	797	461
Police	6.0%	103	31	427	25	620	-193
Customers	3.1%	23	16	587	26	389	198
Other	1.2%	65	6	385	16	328	57
3rd Party Operations	0.4%	3	2	57	2	15	42
TOTAL	100.0%	1,398	515	10,723	822	6,863	3,860

HARLEM LINE	% Total	November	December	YTD thru December	December	YTD thru December	YTD 2018 Vs 2017
Engineering (Scheduled)	1.0%	51	9	946	65	1,054	-108
Engineering (Unscheduled)	43.0%	280	388	3,695	372	1,900	1,795
Maintenance of Equipment	28.8%	323	260	1,958	158	1,058	900
Transportation	3.2%	31	29	359	54	306	53
Capital Projects	1.6%	68	14	293	0	0	293
Weather and Environmental	2.2%	1,154	20	3,487	318	1,564	1,923
Police	4.2%	164	38	792	173	982	-190
Customers	4.7%	36	42	470	30	259	211
Other	11.3%	48	102	666	4	381	285
3rd Party Operations	0.1%	0	1	20	0	0	20
TOTAL	100.0%	2,155	903	12,686	1,174	7,504	5,182

NEW HAVEN LINE	% Total	November	December	YTD thru December	December	YTD thru December	YTD 2018 Vs 2017
Engineering (Scheduled)	2.3%	92	34	3,258	168	2,544	714
Engineering (Unscheduled)	34.5%	594	502	5,832	656	4,559	1,273
Maintenance of Equipment	25.8%	402	376	3,796	277	2,349	1,447
Transportation	3.8%	30	56	611	164	718	-107
Capital Projects	2.3%	276	34	1,240	0	9	1,231
Weather and Environmental	0.3%	1,008	5	3,497	378	1,272	2,225
Police	5.2%	204	75	1,594	94	1,428	166
Customers	3.0%	47	43	670	50	482	188
Other	22.5%	80	327	1,676	20	2,022	-346
3rd Party Operations	0.3%	10	4	110	2	29	81
TOTAL	100.0%	2,743	1,456	22,284	1,809	15,412	6,872



EVENTS RESULTING IN 10 or MORE LATE (L), CANCELED (C) or TERMINATED (T) TRAINS

Date	Day	DESCRIPTION OF EVENT	Number of Late Trains														
			AM Peak			AM Reverse			PM Peak			Off Peak			TOTAL		
			L	C	T	L	C	T	L	C	T	L	C	T	Late	Cxld	Term
12/03	Mon	Delays and congestion account 42 Switch failure in CP109.	70	0	0	14	0	0	0	0	0	13	0	0	97	0	0
12/03	Mon	Congestion between CP1 - CP5 account 339 Switch failure in GCT.	0	0	0	0	0	0	29	0	0	28	0	0	57	0	0
12/03	Mon	Congestion from CP5 - CP113 due to N13 Switch failure in CP112.	0	0	0	0	0	0	7	0	0	15	0	0	22	0	0
12/03	Mon	Delays between CP19 - CP25 account Track 4 out of service for Sandy work.	5	0	0	0	0	0	0	0	0	5	0	0	10	0	0
12/04	Tue	Delays between CP106 - CP212 account N13 Switch failure in CP112.	14	0	0	1	0	0	0	0	0	2	0	0	17	0	0
12/04	Tue	Delays between CP19 - CP25 account Track 4 out of service for Sandy work.	9	0	0	0	0	0	0	0	0	3	0	0	12	0	0
12/05	Wed	Delays between CP5 - CP121 account 3rd Rail fire on Track 4 at Fleetwood Station.	21	0	0	3	0	0	0	0	0	1	0	0	25	0	0
12/05	Wed	Delays between CP19 - CP25 account Track 4 out of service for Sandy work.	6	0	0	2	0	0	0	0	0	9	0	0	17	0	0
12/05	Wed	Train 1723 disabled on Track 2 at Cat 27 due to car 9235 breaker trip.	12	0	0	0	0	0	0	0	0	1	0	0	13	0	0
12/06	Thu	Necessary to change equipment of Train 508 in NWP Yard account missing 3rd Rail shoes.	10	0	0	3	0	0	0	0	0	4	0	0	17	0	0
12/07	Fri	Congestion between CP124 - CP130 due to Track 1 out of service for rail repair.	0	0	0	0	0	0	4	0	0	6	0	0	10	0	0
12/07	Fri	Train 1315 disabled on Track 2 at CP4 due to loco 223 failure.	75	0	1	4	0	0	0	0	0	2	0	0	81	0	1
12/13	Thu	Train 1572 struck trespasser on Track 2 at Noroton Heights Station.	0	0	0	0	0	0	7	0	0	21	0	1	28	0	1
12/13	Thu	Delays between CP3 - CP212 account Train 505 lost brake release indication south of Tremont on Track 3.	56	0	0	17	0	2	0	0	0	1	0	0	74	0	2
12/14	Fri	The 13 Switch at CP212 was out of correspondence.	16	0	0	0	0	0	0	0	0	0	0	0	16	0	0

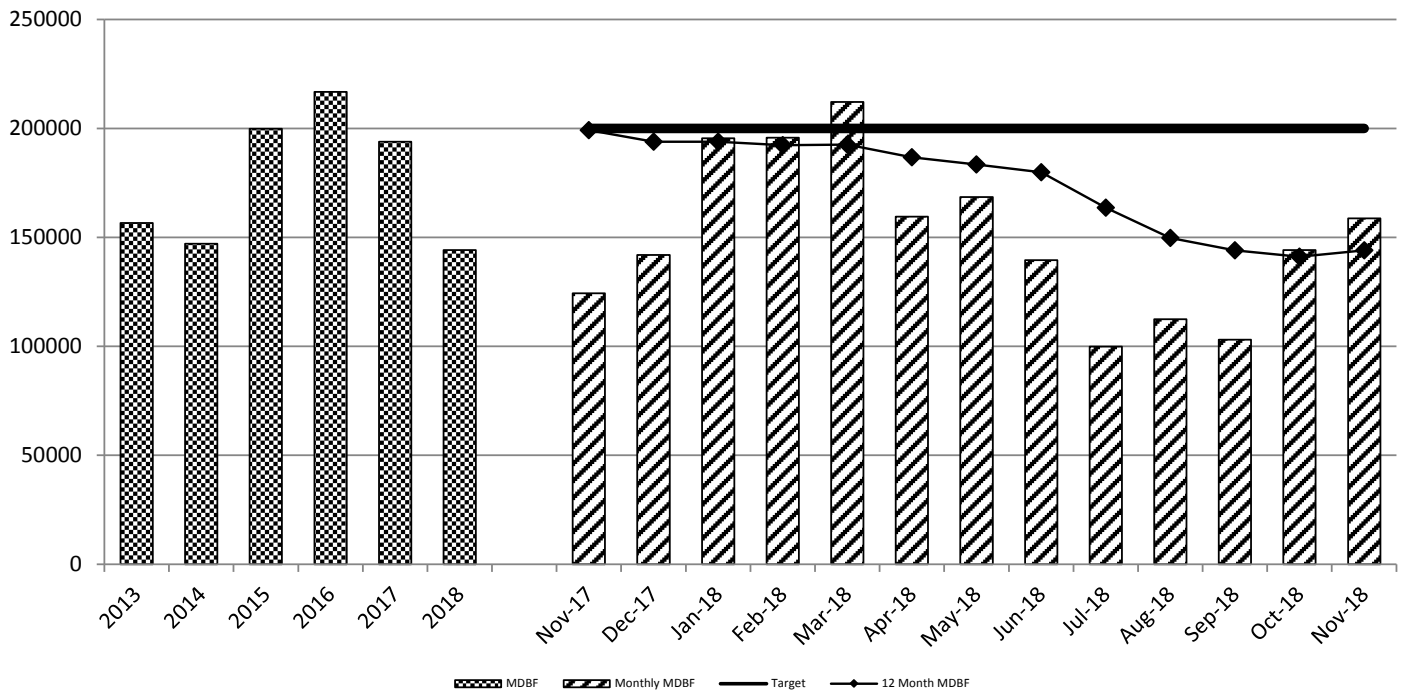
EVENTS RESULTING IN 10 or MORE LATE (L), CANCELED (C) or TERMINATED (T) TRAINS

Date	Day	DESCRIPTION OF EVENT	Number of Late Trains														
			AM Peak			AM Reverse			PM Peak			Off Peak			TOTAL		
			L	C	T	L	C	T	L	C	T	L	C	T	Late	Cxld Term	
12/21	Fri	The 3rd Rail was arcing on Track 3 at CP106.	82	0	0	21	0	0	0	0	0	17	0	0	120	0	0
12/21	Fri	Delays account tree down on Track 3 at MP 23.5 north of Irvington Station.	9	1	0	3	0	0	0	0	0	0	0	0	12	1	0
12/28	Fri	Train 1225 hit concrete bin block that fell from adjacent property on Track 4 at MP 9.8 north of Botanical Garden.	42	0	1	2	0	0	0	0	0	24	0	0	68	0	1
12/28	Fri	A 30mph speed restriction over the N31 switch at CP112 due to a cracked frog.	0	0	0	6	0	0	1	0	0	7	0	0	14	0	0
TOTAL FOR MONTH			427	1	2	76	0	2	48	0	0	159	0	1	710	1	5
															716		

			2018 Data						2017 Data		
	Equip-ment Type	Total Fleet Size	MDBF Goal (miles)	Nov MDBF (miles)	Primary Failure Goal	Nov No. of Primary Failures	YTD MDBF thru Nov (miles)	12 month MDBF Rolling Avg (miles)	Nov MDBF (miles)	Nov No. of Primary Failures	YTD MDBF thru Nov (miles)
Mean Distance Between Failures	M2	20	20,000	31,958	2	2	58,607	56,288	14,307	5	27,394
	M8	405	350,000	220,852	7	11	208,824	208,840	145,055	17	318,339
	M3	138	120,000	99,557	3	3	76,931	71,327	56,300	5	113,507
	M7	334	440,000	318,496	4	6	312,585	290,848	220,734	9	326,156
	Coach	209	260,000	157,847	6	9	161,137	170,765	204,067	7	324,880
	P-32	31	27,000	23,473	7	8	17,517	18,184	26,507	7	25,238
	BL-20	12	13,000	40,348	3	1	19,143	18,056	21,922	2	30,305
	Fleet	1149	200,000	158,792	32	40	144,212	144,024	124,297	52	200,459
	M2/8		260,000	191,791	9	13	193,599	192,831	115,340	22	246,225
	M3/7		300,000	245,516	7	9	226,893	210,868	162,007	14	257,421
Diesel/Coach		110,000	91,597	16	18	76,425	79,203	103,616	16	125,670	

Mean Distance Between Failures (MDBF) is the average number of miles a railcar or locomotive travels in revenue service before breaking down and causing a delay. The higher the MDBF, the more reliable the equipment and the service.

ALL FLEETS Mean Distance Between Failures 2013 - 2018



**West of Hudson
Performance Summary**

			2018 Data			2017 Data	
			Annual Goal	December	YTD thru December	December	YTD thru December
On Time Performance <i>(Trains that arrive at their final destination within 5 minutes 59 seconds of scheduled arrival time)</i>	West of Hudson Total	Overall	95.5%	90.5%	90.7%	91.9%	94.1%
		AM Peak	95.5%	87.3%	90.2%	87.1%	92.9%
		PM Peak	95.5%	89.2%	91.3%	95.0%	94.1%
		Total Peak	95.5%	88.3%	90.8%	90.9%	93.5%
		Off Peak Weekday	95.5%	89.2%	90.1%	93.1%	94.5%
		Weekend	95.5%	95.5%	92.1%	91.3%	93.9%
	Pascack Valley Line	Overall	96.5%	91.6%	93.8%	93.3%	95.7%
		AM Peak	96.5%	90.0%	93.5%	89.4%	95.1%
		PM Peak	96.5%	90.0%	95.0%	95.0%	95.5%
		Total Peak	96.5%	90.0%	94.2%	92.0%	95.3%
		Off Peak Weekday	96.5%	90.6%	93.4%	93.3%	95.9%
		Weekend	96.5%	94.8%	94.1%	94.8%	95.7%
	Port Jervis Line	Overall	95.0%	89.1%	86.5%	89.9%	91.8%
		AM Peak	95.0%	84.2%	86.2%	84.2%	90.0%
		PM Peak	95.0%	88.3%	87.0%	95.0%	92.6%
	Total Peak	95.0%	86.3%	86.6%	89.5%	91.3%	
	Off Peak Weekday	95.0%	87.3%	85.5%	92.7%	92.6%	
	Weekend	95.0%	96.8%	88.6%	85.3%	90.9%	
Operating Statistics	Trains Scheduled			1,647	19,911	1,684	20,237
	Avg. Delay per Late Train (min) <small>excluding trains canceled or terminated</small>			18.4	20.1	22.6	21.2
	Trains Over 15 min. Late <small>excluding trains canceled or terminated</small>		300	55	724	54	486
	Trains Canceled		60	30	260	19	142
	Trains Terminated		60	5	67	4	54
	Percent of Scheduled Trips Completed		99.4%	97.9%	98.4%	98.6%	99.0%
	Consist Compliance* <i>(Percent of trains where the number of coaches provided met the scheduled requirement)</i>	System - AM	Overall	99.0%	96.7%	97.6%	98.9%
Pascack Valley - AM		99.0%	95.7%	97.2%	99.2%	99.0%	
Port Jervis - AM		99.0%	97.8%	98.1%	98.6%	98.5%	

* Consist Compliance Reporting for West of Hudson PM Peak trains is currently unavailable.

WEST OF HUDSON
EVENTS RESULTING IN 5 or MORE LATE (L), CANCELED (C) or TERMINATED (T) TRAINS

Date	Day	DESCRIPTION OF EVENT	Number of Late Trains														
			AM Peak			PM Peak			Off Peak			Weekend			TOTAL		
			L	C	T	L	C	T	L	C	T	L	C	T	Late	Cxld Term	
12/07	Fri	PVL: Train 1605 struck a vehicle in Pearl River.	0	0	0	0	0	0	3	1	2	0	0	0	3	1	2
12/17	Mon	PJL: Train 57 terminated at Harriman account loco 4905 failure.	0	0	0	3	0	1	2	0	0	0	0	0	5	0	1
12/17	Mon	PJL: Train 42 terminated at Otisville account loco 4912 failure.	5	0	1	0	0	0	0	0	1	0	0	0	5	0	2
12/18	Tue	Short equipment account PTC equipment installations.	0	1	0	1	2	0	1	1	0	0	0	0	2	4	0
12/21	Fri	PVL: NJT Bergen Line Train 1157 disabled leaving Secaucus Junction.	0	0	0	0	0	0	6	0	0	0	0	0	6	0	0
TOTAL FOR MONTH			5	1	1	4	2	1	12	2	3	0	0	0	21	5	5
												31					

DECEMBER 2018 STANDEE REPORT

East of Hudson			DEC 2017	YTD 2017	DEC 2018	YTD 2018
Daily Average	Hudson Line	Program Standees	0	0	0	0
		Add'l Standees	27	6	0	11
		Total Standees	27	6	0	11
AM Peak	Harlem Line	Program Standees	0	0	31	3
		Add'l Standees	229	49	127	105
		Total Standees	229	49	158	108
	New Haven Line	Program Standees	0	0	24	2
		Add'l Standees	178	44	216	128
		Total Standees	178	44	240	130
EAST OF HUDSON TOTAL - AM PEAK			434	99	398	248
Daily Average	Hudson Line	Program Standees	0	0	0	0
		Add'l Standees	5	1	0	6
		Total Standees	5	1	0	6
PM Peak	Harlem Line	Program Standees	0	0	0	0
		Add'l Standees	54	19	52	33
		Total Standees	54	19	52	33
	New Haven Line	Program Standees	0	0	140	13
		Add'l Standees	306	117	172	143
		Total Standees	306	117	312	156
EAST OF HUDSON TOTAL - PM PEAK			365	137	364	195

West of Hudson			DEC 2017	YTD 2017	DEC 2018	YTD 2018
Daily Average	Port Jervis Line	Program Standees	0	0	0	0
		Add'l Standees	0	0	0	0
		Total Standees	0	0	0	0
AM Peak	Pascack Valley Line	Program Standees	0	0	0	0
		Add'l Standees	0	0	0	0
		Total Standees	0	0	0	0
WEST OF HUDSON TOTAL - AM PEAK			0	0	0	0

* Consist compliance and Standee Reporting for the West of Hudson PM Peak trains is currently unavailable .

Definitions

Weekday standees are calculated based on the most recent average weekday customer counts for the train's maximum load point. For Hudson, Harlem and most New Haven Line trains, this point occurs at GCT/125th St.. However, for certain New Haven Line trains, this maximum load point is east of Stamford.

"Program Standees" is the average number of customers in excess of programmed seating capacity.

"Additional Standees" reflect the impact of reduced train car consists reported as consist compliance less than 100%.

Note: These statistics do not include the effects of daily ridership variation or uneven distribution of customers within trains. Holidays and Special Events for which there are special equipment programs are not included.

Operations Planning and Analysis/jc

ELEVATOR AND ESCALATOR OPERATING REPORT FOR MONTH OF December 2018

Elevator Availability	2018		2017	
	December	Year to Date	December	Year to Date
Grand Central Terminal	86.31%	89.93%	93.75%	93.56%
Harlem	100.00%	99.87%	99.93%	99.87%
Hudson	100.00%	99.89%	99.54%	99.93%
New Haven	100.00%	99.81%	100.00%	99.75%
Overall Average	96.58%	97.37%	98.30%	98.28%

GCT Availability for December 2018 is impacted by the NE-1 Elevator being Out of Service due to East Side Access construction since February 2017. The T-20 Elevator (leftmost B-Hall elevator) is Out of Service for conversion for Tracking Center Program

Escalator Availability	2018		2017	
	December	Year to Date	December	Year to Date
Grand Central Terminal	81.50%	93.89%	91.67%	96.71%
White Plains	100.00%	100.00%	100.00%	98.54%
Overall Average	90.75%	96.94%	95.83%	97.62%

Escalator #3 (East Side near Market) was Out of Service since November 28 for repair and installation of new motor soft starter. Escalator #10 (45th St Cross Passage to West Spine) was Out of Service since December 27 for repair to the drive. Escalator #12 (245 Park Ave) is Out of Service since October 16 for repair to the step chain.

Finance Report

Steven Weiss

Executive Director, Management & Budget



Metro-North, along with ferry operator NY Waterway, replaced the aging, 20-year-old Haverstraw Ferry Dock. The new dock is modern, streamlined with a simpler construction, safer and more stable which improves the customer experience.



Metro-North Railroad

November 2018 Highlights: Financial Report

The Metro-North Railroad’s Monthly Financial Report provides year-to-date fiscal information comparing actual revenues, expenses and staffing levels to Budget and key financial performance indicators. These results are compared to the Mid-Year Forecast.

Summary of Non-Reimbursable Year-to-Date (YTD) November 2018 Financial Results

Ridership and accrual results, versus forecast, are summarized as follows:

- Ridership of 79.3 million, which includes East of Hudson ridership of 77.8 million and West of Hudson ridership of 1.5 million, was 0.3% unfavorable vs. forecast. Consequently, Farebox revenue of \$675.6 million was \$7.5 million (1.1%) lower than forecast.
- Total revenue of \$722.1 million was \$10.3 million (1.4%) lower than forecast primarily due to lower farebox revenue, advertising revenue and net GCT retail income.
- Total expenses of \$1,216.4 million were \$3.4 million (0.3%) unfavorable vs. forecast primarily due to higher labor costs partially offset by lower discretionary contractual spending in the Maintenance and Other Operating Contracts and Professional Services categories.

Financial results for Year-to-Date (YTD) November 2018 are presented in the table below and compared to the forecast.

November 2018 Year-to-Date Results				
(in millions)				
	Mid-Year Forecast	Actual	Fav/(Unfav) Variance	
			\$ Var	% Var
Total Revenue	\$732.5	\$722.1	(\$10.3)	-1.4%
Total Expenses before Non-Cash Liability Adjs.	1,213.0	1,216.4	(3.4)	-0.3%
Other Non-Cash Liabilities	289.0	280.0	9.0	3.1%
Net Surplus/(Deficit) after Non-Cash Liability Adjs.	(769.5)	(774.2)	(4.7)	-0.6%
Cash Adjustments	284.8	295.0	10.2	3.6%
Net Cash Surplus/(Deficit)	(\$484.7)	(\$479.2)	\$5.5	1.1%

Steven Weiss

Executive Director, Management & Budget

NON-REIMBURSABLE and REIMBURSABLE SUMMARY

November 2018 YTD Net Deficit (Non-Reimbursable and Reimbursable) of \$774.2 million was \$4.7 million or 0.6% unfavorable vs. the Mid-Year Forecast. The month of November Net Deficit (Non-Reimbursable and Reimbursable) of \$66.4 million was \$1.9 million or 2.9% unfavorable vs. the Mid-Year Forecast.

Major drivers of the November 2018 YTD unfavorable result of \$4.7 million include lower Non-Reimbursable Revenues of \$10.3 million due to lower farebox revenue (\$7.5 million) and Other Operating Revenue (\$2.8 million) primarily driven by lower advertising revenue and net GCT retail income. Partly offsetting these unfavorable revenue results were lower Non-Reimbursable Expenses of \$5.6 million mainly due to favorable maintenance and other operating contracts and timing of non-cash liability adjustments.

November 2018 YTD Reimbursable Expenses of \$226.0 million was \$39.3 million favorable vs. the Mid-Year Forecast primarily due to timing for several capital projects including the Cyclical Track and Turnout Replacement Programs.

REVENUE/RIDERSHIP

- **Farebox Revenue** – YTD was \$7.5 million (1.1%) unfavorable vs. the Mid-Year Forecast due to a lower than anticipated commutation yield per passenger as well as lower non-commutation ridership driven by adverse weather conditions and station improvement work on the Harlem line.
 - YTD Ridership of 79.3 million was 0.3% unfavorable vs. the Mid-Year Forecast and 0.3% unfavorable vs. YTD 2017.
- **Other Operating Revenue** – YTD was \$2.8 million (5.7%) unfavorable vs. the Mid-Year Forecast primarily due to lower advertising revenue and net GCT retail income.
- **Capital and Other Reimbursements** – YTD was \$39.3 million (14.8%) unfavorable vs. the Mid-Year Forecast due to scheduling and timing changes noted above.

TOTAL EXPENSES (Non-Reimbursable and Reimbursable)

Total Expenses – YTD expenses of \$1,722.3 million were \$44.9 million or 2.5% favorable vs. the Mid-Year Forecast.

Labor Expenses (including fringes and overhead recoveries) of \$1,021.6 million YTD were \$15.7 million unfavorable vs. the Mid-Year Forecast.

- **Payroll** – YTD was \$3.2 million unfavorable vs. the Mid-Year Forecast which primarily reflects an increase in the reserve for sick-bank payouts due to revised agreement contract terms and higher retiree payouts.
- **Overtime** – YTD was \$7.2 million unfavorable vs. the Mid-Year Forecast primarily due to the impact of four nor'easter storms in March, several other significant storms throughout the year including Winter Storm Avery in November as well as higher Reimbursable activity.

Non-Labor Expenses of \$420.8 million YTD were \$51.5 million favorable vs. the Mid-Year Forecast.

- **Electric Power** – Higher rates yielded unfavorable YTD results of \$1.6 million vs. the Mid-Year Forecast.
- **Fuel** – YTD expenses were \$0.4 million unfavorable vs. the Mid-Year Forecast due to a higher diesel fuel price per gallon.
- **Maintenance & Other Operating Contracts** – YTD was \$7.2 million favorable vs. the Mid-Year Forecast primarily due to lower than anticipated Non-Reimbursable expenses for BL-20

Locomotive Overhauls, Bridgeport Derailment M-8 repairs and other lower maintenance and operating contracts as well as GCT utilities costs partially offset by higher Reimbursable project activity.

- **Professional Services** – YTD was \$34.4 million favorable vs. the Mid-Year Forecast primarily due to lower Reimbursable project activity as well as lower than anticipated Non-Reimbursable expenses for engineering, EAM consulting, medical services, outside training and the Market Share Study.
- **Materials & Supplies** – YTD was \$11.6 million favorable vs. the Mid-Year Forecast primarily due to lower Reimbursable project activity.
- **Other Business Expenses** – YTD was \$1.0 million unfavorable vs. the Mid-Year Forecast due to write-offs related to capital project activity in addition to higher than anticipated credit card fees.

Depreciation and Other Non-Cash Liability Adjustments were \$9.0 million favorable vs. the YTD Mid-Year Forecast primarily due to timing.

CASH DEFICIT SUMMARY

November YTD Net Cash Deficit of \$479.2 million was \$5.5 million or 1.1% favorable to the Mid-Year Forecast. This was mainly due to revised milestone scheduling of capital projects and timing of payments in several expenditure categories.

FINANCIAL PERFORMANCE MEASURES

- Adjusted Farebox Operating Ratio of 61.2% was 0.3% unfavorable vs. the Mid-Year Forecast.
- Adjusted Cost per Passenger of \$15.06 was \$0.08 favorable vs. the Mid-Year Forecast.
- Revenue per Passenger of \$8.52 was (\$0.06) unfavorable vs. the Mid-Year Forecast.

MTA METRO-NORTH RAILROAD
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
ACCURAL STATEMENT of OPERATIONS by CATEGORY
November 2018
(\$ in millions)

SCHEDULE I - A

	Nonreimbursable				Reimbursable				Total			
	Mid-Year Forecast	Favorable (Unfavorable)			Mid-Year Forecast	Favorable (Unfavorable)			Mid-Year Forecast	Favorable (Unfavorable)		
		Actual	Variance	Percent		Actual	Variance	Percent		Actual	Variance	Percent
Revenue												
Farebox Revenue	\$65.302	\$63.667	(\$1.635)	(2.5)	\$0.000	\$0.000	\$0.000	-	\$65.302	\$63.667	(\$1.635)	(2.5)
Vehicle Toll Revenue	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Other Operating Revenue	4.461	4.994	0.533	12.0	0.000	0.000	0.000	-	4.461	4.994	0.533	12.0
<i>Capital & Other Reimbursements:</i>												
MTA	0.000	0.000	0.000	-	11.824	10.588	(1.236)	(10.5)	11.824	10.588	(1.236)	(10.5)
CDOT	0.000	0.000	0.000	-	14.516	8.422	(6.094)	(42.0)	14.516	8.422	(6.094)	(42.0)
Other	0.000	0.000	0.000	-	0.693	0.846	0.153	22.1	0.693	0.846	0.153	22.1
Total Capital and Other Reimbursements	0.000	0.000	0.000	-	27.033	19.856	(7.177)	(26.5)	27.033	19.856	(7.177)	(26.5)
Total Revenue/Receipts	\$69.762	\$68.661	(\$1.101)	(1.6)	\$27.033	\$19.856	(\$7.177)	(26.5)	\$96.795	\$88.517	(\$8.278)	(8.6)
Expenses												
<i>Labor:</i>												
Payroll	\$42.485	\$46.151	(\$3.666)	(8.6)	\$4.452	\$3.650	\$0.802	18.0	\$46.937	\$49.801	(\$2.864)	(6.1)
Overtime	7.831	9.792	(1.961)	(25.0)	2.285	2.301	(0.016)	(0.7)	10.116	12.094	(1.977)	(19.5)
Health and Welfare	8.567	8.175	0.392	4.6	1.524	1.288	0.236	15.5	10.091	9.464	0.628	6.2
OPEB Current Payment	2.812	2.949	(0.137)	(4.9)	0.000	0.000	0.000	-	2.812	2.949	(0.137)	(4.9)
Pensions	8.773	9.142	(0.368)	(4.2)	1.049	0.911	0.138	13.2	9.822	10.053	(0.230)	(2.3)
Other Fringe Benefits	10.282	10.392	(0.111)	(1.1)	1.145	0.996	0.150	13.1	11.427	11.388	0.039	0.3
Reimbursable Overhead	(5.359)	(4.886)	(0.474)	(8.8)	5.091	4.428	0.663	13.0	(0.268)	(0.457)	0.189	70.7
Total Labor	\$75.392	\$81.717	(\$6.325)	(8.4)	\$15.547	\$13.575	\$1.972	12.7	\$90.938	\$95.291	(\$4.353)	(4.8)
<i>Non-Labor:</i>												
Electric Power	\$5.782	\$6.091	(\$0.309)	(5.4)	\$0.000	\$0.000	\$0.000	-	\$5.782	\$6.091	(\$0.309)	(5.4)
Fuel	1.654	1.907	(0.253)	(15.3)	0.000	0.000	0.000	-	1.654	1.907	(0.253)	(15.3)
Insurance	1.473	1.418	0.055	3.7	0.527	0.333	0.194	36.8	2.000	1.751	0.249	12.4
Claims	0.092	0.014	0.077	84.4	0.000	0.000	0.000	-	0.092	0.014	0.077	84.4
Paratransit Service Contracts	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Maintenance and Other Operating Contracts	10.541	10.638	(0.096)	(0.9)	1.282	1.634	(0.353)	(27.5)	11.823	12.272	(0.449)	(3.8)
Professional Service Contracts	3.537	0.550	2.987	84.5	6.005	2.290	3.716	61.9	9.542	2.839	6.703	70.2
Materials & Supplies	8.037	5.915	2.123	26.4	3.645	1.958	1.687	46.3	11.682	7.872	3.810	32.6
Other Business Expenses	2.436	2.909	(0.473)	(19.4)	0.027	0.067	(0.039)	*	2.464	2.976	(0.512)	(20.8)
Total Non-Labor	\$33.552	\$29.442	\$4.110	12.3	\$11.486	\$6.281	\$5.205	45.3	\$45.038	\$35.723	\$9.315	20.7
<i>Other Adjustments:</i>												
Other	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Total Other Adjustments	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-
Total Expenses before Non-Cash Liability Adjts.	\$108.944	\$111.158	(\$2.214)	(2.0)	\$27.033	\$19.856	\$7.177	26.5	\$135.977	\$131.015	\$4.962	3.6
Depreciation	20.542	18.872	1.670	8.1	0.000	0.000	0.000	-	20.542	18.872	1.670	8.1
OPEB Obligation	4.833	4.551	0.282	5.8	0.000	0.000	0.000	-	4.833	4.551	0.282	5.8
GASB68 Pension Adjustment	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Environmental Remediation	0.000	0.492	(0.492)	-	0.000	0.000	0.000	-	0.000	0.492	(0.492)	-
Total Expenses	\$134.320	\$135.073	(\$0.753)	(0.6)	\$27.033	\$19.856	\$7.177	26.5	\$161.352	\$154.929	\$6.423	4.0
Net Surplus/(Deficit)	(\$64.557)	(\$66.412)	(\$1.855)	(2.9)	\$0.000	\$0.000	\$0.000	-	(\$64.557)	(\$66.412)	(\$1.855)	(2.9)
<i>Cash Conversion Adjustments:</i>												
Depreciation	20.542	18.872	(1.670)	(8.1)	0.000	0.000	0.000	-	20.542	18.872	(1.670)	(8.1)
Operating/Capital	(6.948)	(8.028)	(1.080)	(15.5)	0.000	0.000	0.000	-	(6.948)	(8.028)	(1.080)	(15.5)
Other Cash Adjustments	(3.349)	(7.652)	(4.303)	*	0.000	0.000	0.000	-	(3.349)	(7.652)	(4.303)	*
Total Cash Conversion Adjustments	\$10.245	\$3.191	(\$7.054)	(68.8)	\$0.000	\$0.000	\$0.000	-	\$10.245	\$3.191	(\$7.054)	(68.8)
Net Cash Surplus/(Deficit)	(\$54.313)	(\$63.221)	(\$8.908)	(16.4)	\$0.000	\$0.000	\$0.000	-	(\$54.313)	(\$63.221)	(\$8.908)	(16.4)

Notes:

-- Results are based on the preliminary close of the general ledger and are subject to review and adjustment. Please note that the current months' actuals do not include post-close adjustments, which will be captured in the subsequent month's YTD results.

--The impact of MNR's Way Ahead which was captured in MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, has been allocated and is now reflected within the baseline Mid-Year Forecast

-- Differences are due to rounding.

* Variance exceeds 100%.

MTA METRO-NORTH RAILROAD
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
ACCURAL STATEMENT of OPERATIONS by CATEGORY
November Year-To-Date
(\$ in millions)

SCHEDULE I - B

	Nonreimbursable				Reimbursable				Total			
	Mid-Year Forecast	Favorable (Unfavorable)			Mid-Year Forecast	Favorable (Unfavorable)			Mid-Year Forecast	Favorable (Unfavorable)		
		Actual	Variance	Percent		Actual	Variance	Percent		Actual	Variance	Percent
Revenue												
Farebox Revenue	\$683.102	\$675.607	(\$7.495)	(1.1)	\$0.000	\$0.000	\$0.000	-	\$683.102	\$675.607	(\$7.495)	(1.1)
Vehicle Toll Revenue	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Other Operating Revenue	49.351	46.540	(2.811)	(5.7)	0.000	0.000	0.000	-	49.351	46.540	(2.811)	(5.7)
<i>Capital & Other Reimbursements:</i>												
MTA	0.000	0.000	0.000	-	128.101	117.422	(10.679)	(8.3)	128.101	117.422	(10.679)	(8.3)
CDOT	0.000	0.000	0.000	-	129.140	96.939	(32.201)	(24.9)	129.140	96.939	(32.201)	(24.9)
Other	0.000	0.000	0.000	-	7.987	11.609	3.622	45.3	7.987	11.609	3.622	45.3
Total Capital and Other Reimbursements	0.000	0.000	0.000	-	265.228	225.970	(39.258)	(14.8)	265.228	225.970	(39.258)	(14.8)
Total Revenue/Receipts	\$732.453	\$722.147	(\$10.306)	(1.4)	\$265.228	\$225.970	(\$39.258)	(14.8)	\$997.681	\$948.117	(\$49.564)	(5.0)
Expenses												
<i>Labor:</i>												
Payroll	\$473.974	\$481.795	(\$7.821)	(1.7)	\$48.003	\$43.397	\$4.607	9.6	\$521.977	\$525.192	(\$3.215)	(0.6)
Overtime	86.339	92.210	(5.871)	(6.8)	23.677	25.035	(1.358)	(5.7)	110.016	117.244	(7.228)	(6.6)
Health and Welfare	95.757	101.164	(5.406)	(5.6)	16.566	15.372	1.194	7.2	112.323	116.535	(4.212)	(3.8)
OPEB Current Payment	31.188	33.314	(2.126)	(6.8)	0.000	0.000	0.000	-	31.188	33.314	(2.126)	(6.8)
Pensions	96.723	95.874	0.848	0.9	11.358	10.712	0.646	5.7	108.080	106.586	1.494	1.4
Other Fringe Benefits	112.810	114.373	(1.563)	(1.4)	12.461	11.761	0.700	5.6	125.271	126.134	(0.864)	(0.7)
Reimbursable Overhead	(55.446)	(56.767)	1.321	2.4	52.518	53.340	(0.822)	(1.6)	(2.929)	(3.427)	0.499	17.0
Total Labor	\$841.344	\$861.963	(\$20.619)	(2.5)	\$164.582	\$159.616	\$4.966	3.0	\$1,005.926	\$1,021.579	(\$15.652)	(1.6)
<i>Non-Labor:</i>												
Electric Power	\$67.420	\$68.955	(\$1.535)	(2.3)	\$0.000	\$0.107	(\$0.107)	-	\$67.420	\$69.062	(\$1.642)	(2.4)
Fuel	19.549	19.958	(0.410)	(2.1)	0.000	0.000	0.000	-	19.549	19.958	(0.410)	(2.1)
Insurance	15.970	16.103	(0.133)	(0.8)	5.572	3.952	1.620	29.1	21.542	20.055	1.487	6.9
Claims	4.620	4.723	(0.103)	(2.2)	0.000	0.000	0.000	-	4.620	4.723	(0.103)	(2.2)
Paratransit Service Contracts	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Maintenance and Other Operating Contracts	112.780	95.907	16.873	15.0	11.306	20.949	(9.643)	(85.3)	124.086	116.856	7.230	5.8
Professional Service Contracts	36.019	32.608	3.410	9.5	47.773	16.807	30.966	64.8	83.792	49.416	34.376	41.0
Materials & Supplies	87.869	87.760	0.109	0.1	35.719	24.225	11.494	32.2	123.588	111.985	11.602	9.4
Other Business Expenses	27.413	28.408	(0.995)	(3.6)	0.276	0.313	(0.037)	(13.3)	27.689	28.721	(1.032)	(3.7)
Total Non-Labor	\$371.639	\$354.423	\$17.216	4.6	\$100.646	\$66.354	\$34.292	34.1	\$472.285	\$420.776	\$51.508	10.9
<i>Other Adjustments</i>												
Other	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Total Other Adjustments	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-
Total Expenses before Non-Cash Liability Adjs.	\$1,212.983	\$1,216.386	(\$3.403)	(0.3)	\$265.228	\$225.970	\$39.258	14.8	\$1,478.211	\$1,442.355	\$35.856	2.4
Depreciation	223.094	209.460	13.633	6.1	0.000	0.000	0.000	-	223.094	209.460	13.633	6.1
OPEB Obligation	53.167	49.186	3.981	7.5	0.000	0.000	0.000	-	53.167	49.186	3.981	7.5
GASB68 Pension Adjustment**	9.750	3.993	5.757	59.0	0.000	0.000	0.000	-	9.750	3.993	5.757	59.0
Environmental Remediation	3.000	17.351	(14.351)	*	0.000	0.000	0.000	-	3.000	17.351	(14.351)	*
Total Expenses	\$1,501.993	\$1,496.376	\$5.617	0.4	\$265.228	\$225.970	\$39.258	14.8	\$1,767.221	\$1,722.345	\$44.876	2.5
Net Surplus/(Deficit)	(\$769.540)	(\$774.229)	(\$4.688)	(0.6)	\$0.000	(\$0.000)	(\$0.000)	-	(\$769.540)	(\$774.229)	(\$4.688)	(0.6)
<i>Cash Conversion Adjustments:</i>												
Depreciation	223.094	209.460	(13.633)	(6.1)	0.000	0.000	0.000	-	223.094	209.460	(13.633)	(6.1)
Operating/Capital	(56.135)	(47.724)	8.411	15.0	0.000	0.000	0.000	-	(56.135)	(47.724)	8.411	15.0
Other Cash Adjustments	117.848	133.243	15.395	13.1	0.000	0.000	0.000	-	117.848	133.243	15.395	13.1
Total Cash Conversion Adjustments	\$284.807	\$294.980	\$10.173	3.6	\$0.000	\$0.000	\$0.000	-	\$284.807	\$294.980	\$10.173	3.6
Net Cash Surplus/(Deficit)	(\$484.734)	(\$479.249)	\$5.485	1.1	\$0.000	(\$0.000)	(\$0.000)	-	(\$484.734)	(\$479.249)	\$5.485	1.1

Notes:

-- Results are based on the preliminary close of the general ledger and are subject to review and adjustment. Please note that the current months' actuals do not include post-close adjustments, which will be captured in the subsequent month's YTD results.

--The impact of MNR's Way Ahead which was captured in MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, has been allocated and is now reflected within the baseline Mid-Year Forecast

-- Differences are due to rounding.

* Variance exceeds 100%.

MTA METRO-NORTH RAILROAD
ACCUAL STATEMENT OF OPERATIONS BY CATEGORY
EXPLANATION OF VARIANCE BETWEEN MID-YEAR FORECAST AND ACTUAL RESULTS
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
NOVEMBER 2018
(\$ in millions)

Generic Revenue or Expense Category	Non Reimb. or Reimb.	Current Month vs. Mid-Year Forecast			Year to Date vs. Mid-Year Forecast		
		Variance Fav (Unfav)		Reason for Variance	Variance Fav (Unfav)		Reason for Variance
		\$	%		\$	%	
OTHER OPERATING REVENUE	Non-Reimb	\$0.533	12.0%	Higher net GCT retail income partially offset by lower advertising revenue due to a reduced MNR allocation of the overall MTA contracted advertising revenue.	(\$2.811)	(5.7%)	Lower advertising revenue due to a reduced MNR allocation of the overall MTA contracted advertising revenue as well as lower net GCT retail income.
CAPITAL AND OTHER REIMBURSEMENTS	Reimb	(\$7.177)	(26.5%)	Lower reimbursements reflect scheduling and timing changes in capital project expenditures.	(\$39.258)	(14.8%)	Lower reimbursements reflect scheduling and timing changes in capital project expenditures.
PAYROLL	Non-Reimb	(\$3.666)	(8.6%)	Reflects the reallocation of forces to operations coverage due to the rescheduling of capital projects and an increase in the reserve for sick-bank payouts due to revised agreement contract terms and higher retiree payouts.	(\$7.821)	(1.7%)	Reflects the reallocation of forces to operations coverage due to the rescheduling of capital projects and an increase in the reserve for sick-bank payouts due to revised agreement contract terms and higher retiree payouts.
	Reimb	\$0.802	18.0%	Reflects lower monthly activity in the Cyclical and Connecticut Track Programs.	\$4.607	9.6%	Reflects lower year-to-date activity in the following projects: Cyclical and Connecticut Track Programs as well as the Cyclical Replacement Joint.
OVERTIME	Non-Reimb	(\$1.961)	(25.0%)	See overtime tables.	(\$5.871)	(6.8%)	See overtime tables.
	Reimb	(\$0.016)	(0.7%)	See overtime tables.	(\$1.358)	(5.7%)	See overtime tables.
HEALTH AND WELFARE	Non-Reimb	\$0.392	4.6%		(\$5.406)	(5.6%)	Reflects higher than forecasted rates combined with higher labor costs.
	Reimb	\$0.236	15.5%	Reflects lower monthly activity in the Cyclical and Connecticut Track Programs.	\$1.194	7.2%	Reflects lower year-to-date activity driven by the Cyclical and Connecticut Track Programs.
OPEB CURRENT PAYMENT	Non-Reimb	(\$0.137)	(4.9%)		(\$2.126)	(6.8%)	Reflects additional retirees as well as higher than forecasted rates.
PENSIONS	Reimb	\$0.138	13.2%	Reflects lower monthly activity in the Cyclical and Connecticut Track Programs.	\$0.646	5.7%	Reflects lower year-to-date activity driven by the Cyclical and Connecticut Track Programs.
OTHER FRINGE BENEFITS	Reimb	\$0.150	13.1%	Reflects lower monthly activity driven by the Cyclical Track Program.	\$0.700	5.6%	Reflects lower year-to-date activity driven by the Cyclical Track Program.

MTA METRO-NORTH RAILROAD
ACCRUAL STATEMENT OF OPERATIONS BY CATEGORY
EXPLANATION OF VARIANCE BETWEEN MID-YEAR FORECAST AND ACTUAL RESULTS
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
NOVEMBER 2018
(\$ in millions)

Generic Revenue or Expense Category	Non Reimb. or Reimb.	Current Month vs. Mid-Year Forecast			Year to Date vs. Mid-Year Forecast		
		Variance Fav (Unfav)		Reason for Variance	Variance Fav (Unfav)		Reason for Variance
		\$	%		\$	%	
REIMBURSABLE OVERHEAD	Non-Reimb	(\$0.474)	(8.8%)	The non-reimbursable and reimbursable variances reflect lower monthly activity driven by the Connecticut Track Program.	\$1.321	2.4%	
	Reimb	\$0.663	13.0%		(\$0.822)	(1.6%)	
ELECTRIC POWER	Non-Reimb	(\$0.309)	(5.4%)	Primarily due to higher rates.	(\$1.535)	(2.3%)	
FUEL	Non-Reimb	(\$0.253)	(15.3%)	Reflects higher diesel fuel price per gallon.	(\$0.410)	(2.1%)	
INSURANCE	Reimb	\$0.194	36.8%	Reflects lower monthly activity in the following projects: Cyclical and Connecticut Track Programs as well as the Turnouts for Mainline High Speed.	\$1.620	29.1%	Reflects lower year-to-date activity in the following projects: Cyclical and Connecticut Track Programs, Positive Train Control, Turnouts for Mainline High Speed, Bridge Timbers Installation and West of Hudson Signal Improvement.
CLAIMS	Non-Reimb	\$0.077	84.4%	Primarily due to lower passenger claims.	(\$0.103)	(2.2%)	
MAINTENANCE AND OTHER OPERATING CONTRACTS	Non-Reimb	(\$0.096)	(0.9%)	Reflects higher monthly activity in the Signal Replacement from Greenwich to South Norwalk Project (budgeted in Professional Services) partially offset by lower activity in the following projects: Hot Bearing & Wheel Impact, Transformer Rehabilitation, Cyclical Track Program, Bridge Timbers Installation and the Grade Crossing Renewal Program.	\$16.873	15.0%	Reflects timing delays for the BL-20 locomotive overhauls, Bridgeport Derailment M-8 repairs, lower than anticipated expense for other miscellaneous maintenance and operating contracts, and lower GCT utilities expense resulting from efficient chiller equipment implemented in conjunction with NYPA.
	Reimb	(\$0.353)	(27.5%)		(\$9.643)	(85.3%)	Reflects higher year-to-date activity in the Signal Replacement from Greenwich to South Norwalk Project (budgeted in Professional Services).
PROFESSIONAL SERVICE CONTRACTS	Non-Reimb	\$2.987	84.5%	Reflects reversal of prior month's PTC expense from non-reimbursable to reimbursable as well as an additional true up of 2017 New Haven Line share of MTA BSC and IT allocations.	\$3.410	9.5%	Primarily due to timing of expenses for engineering, EAM consulting, medical services, outside training and the Market Share Study.
	Reimb	\$3.716	61.9%	Reflects lower monthly activity in the Positive Train Control and Signal Replacement from Greenwich to South Norwalk (actuals recorded in Maintenance and Other Operating Contracts) projects.	\$30.966	64.8%	Reflects lower year-to-date activity in the following projects: Positive Train Control, Signal Replacement from Greenwich to South Norwalk (actuals recorded in Maintenance and Other Operating Contracts) and Cameras for M-8 Fleet.

MTA METRO-NORTH RAILROAD
ACCRUAL STATEMENT OF OPERATIONS BY CATEGORY
EXPLANATION OF VARIANCE BETWEEN MID-YEAR FORECAST AND ACTUAL RESULTS
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
NOVEMBER 2018
(\$ in millions)

Generic Revenue or Expense Category	Non Reimb. or Reimb.	Current Month vs. Mid-Year Forecast			Year to Date vs. Mid-Year Forecast		
		Variance Fav (Unfav)		Reason for Variance	Variance Fav (Unfav)		Reason for Variance
		\$	%		\$	%	
MATERIAL AND SUPPLIES	Non-Reimb	\$2.123	26.4%	Capitalization of year-to-date Camera project expense originally charged to non-reimbursable as well as lower obsolete and excess materials reserve.	\$0.109	0.1%	Reflects lower year-to-date activity in the following projects: Turnouts Mainline High Speed, Positive Train Control, Cyclical Track Program, Waterbury Branch Cab Signal, GCT Turnouts/Switch Renewal, Saga Bridge Repairs and Harmon Shop Improvements.
	Reimb	\$1.687	46.3%	Reflects lower monthly activity in the following projects: Cyclical Track Program, Turnouts for Mainline High Speed, PBX Replacement, and GCT PA/VIS system.	\$11.494	32.2%	
OTHER BUSINESS EXPENSES	Non-Reimb	(\$0.473)	(19.4%)	Primarily due to write-offs related to capital project activity.	(\$0.995)	(3.6%)	Reflects higher year-to-date activity in the Overhead Bridge Program.
	Reimb	(\$0.039)	*	Reflects higher monthly activity in the M-8 Fleet Purchase project.	(\$0.037)	(13.3%)	
DEPRECIATION	Non-Reimb	\$1.670	8.1%	Reflects lower capitalization of assets than forecasted due to timing differences in project completions and assets reaching beneficial use.	\$13.633	6.1%	Reflects lower capitalization of assets than forecasted due to timing differences in project completions and assets reaching beneficial use.
OTHER POST EMPLOYMENT BENEFITS	Non-Reimb	\$0.282	5.8%	Reflects an updated actuarial estimate. OPEB obligation will be further adjusted pending the year-end Actuarial Valuation report.	\$3.981	7.5%	Reflects an updated actuarial estimate. OPEB obligation will be further adjusted pending the year-end Actuarial Valuation report.
GASB68 PENSION ADJUSTMENT	Non-Reimb	\$0.000	-		\$5.757	59.0%	Reflects adjustments to account for MNR's net pension liability.
ENVIRONMENTAL REMEDIATION	Non-Reimb	(\$0.492)	-	Primarily reflects the recognition of environmental abatement and disposal costs associated with Positive Train Control and Lead/Asbestos Monitoring for the Harlem River Lift Bridge Project.	(\$14.351)	*	Primarily reflects the recognition of environmental abatement and disposal costs associated with demolition and excavation activities required as part of the Harmon Shop Improvements Capital Project.
OPERATING CAPITAL	Non-Reimb	(\$1.080)	(15.5%)	Reflects higher monthly activity in the following projects: Cameras for Non-M8 Fleet, Procurement of Two Catenary Maintenance Vehicles, GCT Escalators and Brewster Yard Paving & Drainage partially offset by lower activity in the Maybrook Trailway.	\$8.411	15.0%	Reflects lower year-to-date activity in the following projects: GP 35 Locomotive Overhaul, 525 North Broadway Façade Repair, Hot Box/Wheel Impact Load Detector System, Track Geometry Car, GCT Restaurant Ductwork Fire Restore and Maybrook Trailway.

* Variance exceeds 100%.

MTA Metro-North Railroad
July Financial Plan - 2018 Mid-Year Forecast
Non-Reimbursable/Reimbursable Overtime
(\$ in millions)

	November						Year To Date(November)					
	Mid-Year Forecast		Actual		Var. - Fav/(Unfav)		Mid-Year Forecast		Actual		Var. - Fav/(Unfav)	
	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$
NON-REIMBURSABLE OVERTIME												
<u>Scheduled Service</u> ¹	47,068	\$ 3.283	56,306	\$ 3.341	(9,239)	(\$0.059)	488,821	\$ 33.490	545,890	\$ 32.666	(57,069)	\$0.824
					-19.6%	-1.8%					-11.7%	2.5%
<u>Unscheduled Service</u>	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<u>Programmatic/Routine Maintenance</u>	49,624	\$ 2.966	53,076	\$ 3.000	(3,452)	(\$0.034)	533,639	\$ 31.664	570,209	\$ 32.237	(36,569)	(\$0.573)
					-7.0%	-1.1%					-6.9%	-1.8%
<u>Unscheduled Maintenance</u>	375	\$ 0.020	5	\$ 0.000	370	\$0.019	7,683	\$ 0.438	26	\$ 0.001	7,657	\$0.436
					98.6%	98.7%					99.7%	99.7%
<u>Vacancy/Absentee Coverage</u> ²	25,750	\$ 1.451	27,412	\$ 1.493	(1,662)	(\$0.042)	280,807	\$ 15.551	307,461	\$ 16.347	(26,653)	(\$0.797)
					-6.5%	-2.9%					-9.5%	-5.1%
<u>Weather Emergencies</u>	1,868	\$ 0.112	13,360	\$ 0.757	(11,491)	(\$0.645)	73,338	\$ 4.123	144,368	\$ 8.076	(71,030)	(\$3.953)
					*	*					-96.9%	-95.9%
<u>Safety/Security/Law Enforcement</u> ³	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<u>Other</u>	(1)	\$ (0.000)	0	\$ 1.200	(1)	(\$1.200)	36	\$ 1.073	169	\$ 2.882	(133)	(\$1.809)
Subtotal	124,685	\$ 7.831	150,160	\$ 9.792	(25,475)	(\$1.961)	1,384,324	\$ 86.339	1,568,122	\$ 92.210	(183,798)	(\$5.871)
					-20.4%	-25.0%					-13.3%	-6.8%
REIMBURSABLE OVERTIME	36,660	\$ 2.285	35,027	\$ 2.301	1,632	(\$0.016)	384,505	\$ 23.677	435,619	\$ 25.035	(51,114)	(\$1.358)
					4.5%	-0.7%					-13.3%	-5.7%
TOTAL OVERTIME	161,344	\$ 10.116	185,187	\$ 12.094	(23,843)	(\$1.977)	1,768,829	\$ 110.016	2,003,741	\$ 117.244	(234,912)	(\$7.228)
					-14.8%	-19.5%					-13.3%	-6.6%

NOTE: Percentages are based on each type of Overtime and not on Total Overtime.

* Exceeds 100%

¹ Includes Service Delay and Tour Length related overtime.

² Excludes T&E crew coverage (included in Scheduled Service category).

³ Not Applicable.

MTA Metro-North Railroad
July Financial Plan - 2018 Mid-Year Forecast
Non-Reimbursable/Reimbursable Overtime
(\$ in millions)

	November			Year To Date(November)		
	Var. - Fav./(Unfav)		Explanations	Var. - Fav./(Unfav)		Explanations
	Hours	\$		Hours	\$	
NON-REIMBURSABLE OVERTIME						
<u>Scheduled Service</u> ¹	(9,239)	(\$0.059)	Reflects service coverage versus available staff and train dispatchment needs.	(57,069)	\$0.824	Reflects service coverage versus available staff and train dispatchment needs.
	-19.6%	-1.8%		-11.7%	2.5%	
<u>Unscheduled Service</u>	0	\$ -		0	\$ -	
<u>Programmatic/Routine Maintenance</u>	(3,452)	(\$0.034)	Slightly higher Reliability Centered Maintenance (RCM) in Maintenance of Equipment.	(36,569)	(\$0.573)	Higher Reliability Centered Maintenance (RCM) in Maintenance of Equipment.
	-7.0%	-1.1%		-6.9%	-1.8%	
<u>Unscheduled Maintenance</u>	370	\$0.019		7,657	\$0.436	Fewer unscheduled maintenance events.
	98.6%	98.7%		99.7%	99.7%	
<u>Vacancy/Absentee Coverage</u> ²	(1,662)	(\$0.042)	Slightly higher vacation, sick and vacancy coverage requirements.	(26,653)	(\$0.797)	Higher vacation, sick and vacancy coverage requirements.
	-6.5%	-2.9%		-9.5%	-5.1%	
<u>Weather Emergencies</u>	(11,491)	(\$0.645)	Represents the impact of Winter Storm Avery as well as several other adverse weather events.	(71,030)	(\$3.953)	Primarily due to the impact of the four March Nor'easters, and other significant storms throughout the year.
	*	*		-96.9%	-95.9%	
<u>Safety/Security/Law Enforcement</u> ³	0	\$ -		0	\$ -	
<u>Other</u>	(1)	(\$1.200)	Reflects timing differences related to payroll and calendar cutoff dates.	(133)	(\$1.809)	Reflects timing differences related to payroll and calendar cutoff dates.
Subtotal	(25,475)	(\$1.961)		(183,798)	(\$5.871)	
	-20.4%	-25.0%		-13.3%	-6.8%	
REIMBURSABLE OVERTIME	1,632	(\$0.016)		(51,114)	(\$1.358)	Reflects higher year-to-date activity in the Cyclical Track Program and Turnouts - Yards Sidings Project.
	4.5%	-0.7%		-13.3%	-5.7%	
TOTAL OVERTIME	(23,843)	(\$1.977)		(234,912)	(\$7.228)	

NOTE: Percentages are based on each type of Overtime and not on Total Overtime.

* Exceeds 100%

¹ Includes Service Delay and Tour Length related overtime.

² Excludes T&E crew coverage (included in Scheduled Service category).

³ Not Applicable.

MTA METRO-NORTH RAILROAD
2018 Overtime Report
Overtime Legend

REVISED OVERTIME DECOMPOSITION LEGEND DEFINITIONS

<u>Type</u>	<u>Definition</u>
<i>Scheduled Service</i>	Crew book/Regular Run/Shift hours (above 8 hours) required by train crews, bus/tower/block operators, transportation supervisors/dispatchers, fare sales and collection, Train & Engineers, as well as non-transportation workers whose work is directly related to providing service (includes coverage for holidays).
<i>Unscheduled Service</i>	Service coverage resulting from extraordinary events not related to weather, such as injuries, mechanical breakdowns, unusual traffic, tour length, late tour relief, and other requirements that arise that are non-absence related.
<i>Programmatic/Routine Maintenance</i>	<i>Program Maintenance</i> work for which overtime is planned (e.g. Railroad Tie Replacement, Sperry Rail Testing, Running Board Replacement Programs). This also includes <i>Routine Maintenance</i> work for which OT has been planned, as well as all other maintenance <u>not resulting from extraordinary events</u> , including running repairs. Program/Routine maintenance work is usually performed during hours that are deemed more practical in order to minimize service disruptions, and includes contractual scheduled pay over 8 hours.
<i>Unscheduled Maintenance</i>	Resulting from an <u>extraordinary event</u> (not weather-related) requiring the use of unplanned maintenance to perform repairs on trains, buses, subway and bus stations, depots, tracks and administrative and other facilities, including derailments, tour length and weekend coverage.
<i>Vacancy/Absentee Coverage</i>	Provides coverage for an absent employee or a vacant position.
<i>Weather Emergencies</i>	Coverage necessitated by extreme weather conditions (e.g. snow, flooding, hurricane, and tornadoes), as well as preparatory and residual costs.
<i>Safety/Security/Law Enforcement</i>	Coverage required to provide additional customer & employee protection and to secure MTA fleet facilities, transportation routes, and security training.
<i>Other</i>	Includes overtime coverage for clerical, administrative positions that are eligible for overtime.
<i>Reimbursable Overtime</i>	Overtime incurred to support projects that are reimbursed from the MTA Capital Program and other funding sources.

**MTA METRO-NORTH RAILROAD
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
CASH RECEIPTS AND EXPENDITURES**
(\$ in millions)

SCHEDULE III

	November 2018				Year-to-Date			
	Mid-Year Forecast	Actual	Favorable (Unfavorable)		Mid-Year Forecast	Actual	Favorable (Unfavorable)	
			Variance	Percent			Variance	Percent
Receipts								
Farebox Receipts	\$64.239	\$61.781	(\$2.458)	(3.8)	\$672.429	\$664.761	(\$7.668)	(1.1)
Toll Receipts	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Other Operating Receipts	5.943	17.151	11.208	*	99.823	116.740	16.917	16.9
<i>Capital & Other Reimbursements:</i>								
MTA	14.060	11.459	(2.601)	(18.5)	123.234	117.433	(5.801)	(4.7)
CDOT	14.516	7.528	(6.988)	(48.1)	134.339	108.445	(25.894)	(19.3)
Other	0.693	1.331	0.638	92.2	10.500	13.880	3.380	32.2
Total Capital and Other Reimbursements	29.269	20.318	(8.951)	(30.6)	268.073	239.758	(28.315)	(10.6)
Total Receipts	\$99.451	\$99.250	(\$0.201)	(0.2)	\$1,040.325	\$1,021.259	(\$19.066)	(1.8)
Expenditures								
<i>Labor:</i>								
Payroll	\$57.724	\$55.988	\$1.736	3.0	\$528.669	\$520.440	\$8.229	1.6
Overtime	8.911	10.531	(1.620)	(18.2)	111.270	115.584	(4.314)	(3.9)
Health and Welfare	10.428	14.128	(3.700)	(35.5)	119.522	130.842	(11.320)	(9.5)
OPEB Current Payment	2.812	3.088	(0.276)	(9.8)	29.292	33.474	(4.182)	(14.3)
Pensions	9.871	10.154	(0.283)	(2.9)	109.927	108.848	1.079	1.0
Other Fringe Benefits	12.739	10.047	2.692	21.1	128.444	126.706	1.738	1.4
GASB Account	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Reimbursable Overhead	0.000	0.000	0.000	100.0	0.000	0.000	0.000	100.0
Total Labor	\$102.486	\$103.936	(\$1.450)	(1.4)	\$1,027.125	\$1,035.894	(\$8.769)	(0.9)
<i>Non-Labor:</i>								
Electric Power	\$5.955	\$8.114	(\$2.159)	(36.2)	\$67.208	\$74.141	(\$6.933)	(10.3)
Fuel	1.615	1.510	0.105	6.5	20.693	20.133	0.560	2.7
Insurance	4.104	3.965	0.139	3.4	15.902	15.468	0.434	2.7
Claims	0.592	12.662	(12.070)	*	7.154	18.865	(11.711)	*
Paratransit Service Contracts	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Maintenance and Other Operating Contracts	12.201	11.274	0.927	7.6	135.355	120.875	14.480	10.7
Professional Service Contracts	11.479	6.420	5.059	44.1	81.464	40.927	40.537	49.8
Materials & Supplies	11.611	11.258	0.353	3.0	129.950	136.094	(6.144)	(4.7)
Other Business Expenditures	3.720	3.332	0.388	10.4	40.209	38.111	2.098	5.2
Total Non-Labor	\$51.278	\$58.535	(\$7.257)	(14.2)	\$497.934	\$464.614	\$33.320	6.7
<i>Other Adjustments:</i>								
Other	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Total Other Adjustments	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-
Total Expenditures	\$153.763	\$162.471	(\$8.708)	(5.7)	\$1,525.059	\$1,500.508	\$24.551	1.6
Net Cash Deficit (excludes Opening Cash Balance)	(\$54.313)	(\$63.221)	(\$8.908)	(16.4)	(\$484.734)	(\$479.249)	\$5.485	1.1
Subsidies								
MTA	52.394	37.982	(14.412)	(27.5)	392.109	378.090	(14.019)	(3.6)
CDOT	1.918	12.817	10.899	*	113.205	113.226	0.021	0.0
Total Subsidies	\$54.312	\$50.799	(\$3.513)	(6.5)	\$505.314	\$491.316	(\$13.998)	(2.8)
Cash Timing and Availability Adjustment	\$0.000	\$12.422	\$12.422	-	\$0.000	(\$12.067)	(\$12.067)	-

-- Results are preliminary and subject to audit review.
--The impact of MNR's Way Ahead which was captured in MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, has been allocated and is now reflected within the baseline Mid-Year Forecast

-- Differences are due to rounding.
* Variance exceeds 100%.

MTA METRO-NORTH RAILROAD
 JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
 CASH RECEIPTS AND EXPENDITURES
 EXPLANATION OF VARIANCE BETWEEN MID-YEAR FORECAST AND ACTUAL RESULTS
 (\$ in millions)

\$ Detail

Generic Receipt or Expense Category	November Month vs Mid-Year Forecast			Year-To-Date as of November 30th, 2018		
	Variance Fav (Unfav)		Reason for Variance	Variance Fav (Unfav)		Reason for Variance
	\$	%		\$	%	
FARE REVENUE	(2.458)	(3.8%)	Timing of cash in transit combined with lower than anticipated yield in commutation ridership due to growth in shorter distance commuter trips as well as lower non-commutation ridership driven by station improvement work on the Harlem line.	(7.668)	(1.1%)	
OTHER OPERATING REVENUE	11.208	*	Third party insurance reimbursement for passenger injury claims relating to Spuyten Duyvil combined with timing of Amtrak reimbursement.	16.917	16.9%	Third party insurance reimbursement for passenger injury claims relating to Spuyten Duyvil combined with timing of GCT revenues and Amtrak reimbursement.
CAPITAL AND OTHER REIMBURSEMENTS:						
MTA	(2.601)	(18.5%)	Lower capital related project activity partially offset by higher cash receipts than forecasted.	(5.801)	(4.7%)	Lower capital related project activity partially offset by higher cash receipts than forecasted.
CDOT	(6.988)	(48.1%)	Lower capital related project activity combined with lower cash receipts than forecasted.	(25.894)	(19.3%)	Lower capital related project activity partially offset by higher cash receipts than forecasted.
OTHER	0.638	92.2%	Higher reimbursable related project activity combined with higher cash receipts than forecasted.	3.380	32.2%	Higher cash receipts than forecasted combined with higher reimbursable related project activity.
PAYROLL	1.736	3.0%	Timing differences related to payroll and calendar cutoff dates.	8.229	1.6%	
OVERTIME	(1.620)	18.2%	Higher infrastructure repair work combined with the impact of Winter Storm Avery.	(4.314)	(3.9%)	Primarily the impact of winter storms (Avery, Wiley, Quinn, etc.), higher infrastructure repair work and higher vacation, sick and vacancy coverage requirements.
HEALTH & WELFARE	(3.700)	(35.5%)	Timing of payments for Dental & Vision premiums.	(11.320)	(9.5%)	Reflects timing of payments combined with higher than forecasted rates and higher labor costs.
OPEB CURRENT PAYMENT	(0.276)	(9.8%)	Timing of payments for health insurance premiums for retirees combined with additional retirees.	(4.182)	(14.3%)	Reflects higher number of retirees receiving healthcare premiums combined with higher rates than forecasted.
OTHER FRINGE BENEFITS	2.692	21.1%	Timing of payroll taxes paid.	1.738	1.4%	
ELECTRIC POWER	(2.159)	(36.2%)	Timing of payments combined with higher rates than forecasted.	(6.933)	(10.3%)	Timing of payments combined with higher rates than forecasted.
FUEL	0.105	6.5%	Timing of payments partially offset by higher diesel fuel price per gallon.	0.560	2.7%	

MTA METRO-NORTH RAILROAD
 JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
 CASH RECEIPTS AND EXPENDITURES
 EXPLANATION OF VARIANCE BETWEEN MID-YEAR FORECAST AND ACTUAL RESULTS
 (\$ in millions)

\$ Detail

Generic Receipt or Expense Category	November Month vs Mid-Year Forecast			Year-To-Date as of November 30th, 2018		
	Variance Fav (Unfav)		Reason for Variance	Variance Fav (Unfav)		Reason for Variance
	\$	%		\$	%	
INSURANCE	0.139	3.4%	Timing of payments for insurance premiums relating to Excess Liability offset by Station Liability, All Agency Property and Force Account.	0.434	2.7%	
CLAIMS	(12.070)	*	Primarily due to passenger injury settlements relating to Spuyten Duyvil. Third party insurance reimbursements for Spuyten Duyvil are reflected in the Other Operating Revenue category.	(11.711)	*	Primarily due to passenger injury settlements relating to Spuyten Duyvil. Third party insurance reimbursements for Spuyten Duyvil are reflected in the Other Operating Revenue category.
MAINTENANCE & OTHER OPERATING CONTRACTS	0.927	7.6%	Lower than anticipated expense for other miscellaneous maintenance and operating contracts, Auto & Other Vehicle Purchases and GCT utilities expense partially offset by timing of payments for Real Estate Management Services.	14.480	10.7%	Reflects timing delays for the BL-20 locomotive overhauls, Bridgeport Derailment M-8 repairs and Real Estate Management Services as well as lower than anticipated expense for other miscellaneous maintenance and operating contracts partially offset by payments for capital related projects.
PROFESSIONAL SERVICE CONTRACTS	5.059	44.1%	Reflects lower monthly activity of capital related projects (Positive Train Control, Maybrook Trailway and Signal Replacement from Greenwich to South Norwalk).	40.537	49.8%	Primarily due to revised milestone scheduling of capital related projects (Positive Train Control, Signal Replacement - Greenwich to South Norwalk and Maybrook Trailway) combined with timing of payments for NHL share of BSC/IT Costs and Engineering Services.
MATERIALS & SUPPLIES	0.353	3.0%	Timing of payments for materials placed into inventory.	(6.144)	(4.7%)	Timing of payments for materials placed into inventory.
OTHER BUSINESS EXPENSES	0.388	10.4%	Lower payments for Other Miscellaneous, Travel, Meetings & Conventions and Stationary, Printing & Supplies.	2.098	5.2%	Lower payments for Purchases - Non Operating, Other Miscellaneous and Travel, Meetings & Conventions.
MTA SUBSIDY RECEIPTS	(14.412)	(27.5%)	Available cash balance combined with higher CDOT subsidy partially offset by higher net cash deficit.	(14.019)	(3.6%)	Available cash balance combined with lower net cash deficit.
CDOT SUBSIDY RECEIPTS	10.899	*	Timing of monthly subsidy payments.	0.021	0.0%	

MTA METRO-NORTH RAILROAD
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
CASH CONVERSION (CASH FLOW ADJUSTMENT)
(\$ in millions)

	November 2018				Year-to-Date			
	Mid-Year Forecast	Favorable (Unfavorable)			Mid-Year Forecast	Favorable (Unfavorable)		
		Actual	Variance	Percent		Actual	Variance	Percent
Receipts								
Farebox Revenue	(\$1.063)	(\$1.886)	(\$0.823)	(77.5)	(\$10.673)	(\$10.846)	(\$0.173)	(1.6)
Toll Revenue	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Other Operating Revenue	1.482	12.157	10.675	*	50.472	70.200	19.727	39.1
<i>Capital & Other Reimbursements:</i>		0.000			0.000	0.000		
MTA	2.236	0.871	(1.366)	(61.1)	(4.867)	0.011	4.878	*
CDOT	0.000	(0.894)	(0.894)	-	5.199	11.506	6.307	*
Other	0.000	0.485	0.485	-	2.513	2.271	(0.242)	(9.6)
Total Capital and Other Reimbursements	2.236	0.462	(1.775)	(79.3)	2.845	13.788	10.943	*
Total Revenue/Receipts	\$2.656	\$10.733	\$8.077	*	\$42.645	\$73.142	\$30.498	71.5
Expenditures								
<i>Labor:</i>								
Payroll	(\$10.787)	(\$6.187)	\$4.600	42.6	(\$6.692)	\$4.752	\$11.444	*
Overtime	1.205	1.563	0.358	29.7	(1.254)	1.660	2.914	*
Health and Welfare	(0.337)	(4.664)	(4.327)	*	(7.199)	(14.307)	(7.108)	(98.7)
OPEB Current Payment	0.000	(0.139)	0.000		1.895	(0.160)	(2.055)	*
Pensions	(0.049)	(0.101)	(0.052)	*	(1.847)	(2.262)	(0.414)	(22.4)
Other Fringe Benefits	(1.311)	1.341	2.653	*	(3.173)	(0.572)	2.601	82.0
GASB Account	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Reimbursable Overhead	(0.268)	(0.457)	(0.189)	(70.7)	(2.929)	(3.427)	(0.499)	(17.0)
Total Labor	(\$11.547)	(\$8.645)	\$2.902	25.1	(\$21.199)	(\$14.315)	\$6.883	32.5
<i>Non-Labor:</i>								
Electric Power	(\$0.174)	(\$2.023)	(\$1.849)	*	\$0.213	(\$5.079)	(\$5.292)	*
Fuel	0.039	0.397	0.358	*	(1.144)	(0.175)	0.970	84.7
Insurance	(2.104)	(2.214)	(0.110)	(5.2)	5.640	4.587	(1.053)	(18.7)
Claims	(0.501)	(12.648)	(12.147)	*	(2.534)	(14.142)	(11.608)	*
Paratransit Service Contracts	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Maintenance and Other Operating Contracts	(0.378)	0.998	1.376	*	(11.269)	(4.019)	7.251	64.3
Professional Service Contracts	(1.937)	(3.581)	(1.644)	(84.8)	2.328	8.489	6.161	*
Materials & Supplies	0.071	(3.386)	(3.457)	*	(6.362)	(24.109)	(17.746)	*
Other Business Expenses	(1.256)	(0.356)	0.900	71.6	(12.520)	(9.390)	3.130	25.0
Total Non-Labor	(\$6.239)	(\$22.812)	(\$16.572)	*	(\$25.649)	(\$43.838)	(\$18.188)	(70.9)
<i>Other Adjustments:</i>								
Other	0.000	0.000	0.000	-	0.000	0.000	0.000	-
Total Other Adjustments	\$0.000	\$0.000	\$0.000	-	\$0.000	\$0.000	\$0.000	-
Total Expenditures Adjustments before Non-Cash Liability Adjs.	(\$17.786)	(\$31.456)	(\$13.670)	(76.9)	(\$46.848)	(\$58.153)	(\$11.305)	(24.1)
Depreciation	20.542	18.872	(1.670)	(8.1)	223.094	209.460	(13.633)	(6.1)
OPEB Obligation	4.833	4.551	(0.282)	5.8	53.167	49.186	(3.981)	7.5
GASB68 Pension Adjustment	0.000	0.000	0.000	-	9.750	3.993	(5.757)	59.0
Environmental Remediation	0.000	0.492	0.492	-	3.000	17.351	14.351	*
Total Expenditures Adjustments	\$7.589	(\$7.542)	(\$15.131)	*	\$242.162	\$221.837	(\$20.325)	(8.4)
Total Cash Conversion Adjustments	\$10.245	\$3.191	(\$7.054)	(68.8)	\$284.807	\$294.980	\$10.173	3.6

Notes:

-- Results are based on the preliminary close of the general ledger and are subject to review and adjustment. Please note that the current months' actuals do not include post-close adjustments, which will be captured in the subsequent month's YTD results.

--The impact of MNR's Way Ahead which was captured in MTA Re-estimates within below-the-line adjustments in the 2018 July Financial Plan, has been allocated and is now reflected within the baseline Mid-Year Forecast

-- Differences are due to rounding.

* Variance exceeds 100%.

MTA METRO-NORTH RAILROAD
 JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
 RIDERSHIP/UTILIZATION
 NOVEMBER 2018
 (in millions)

	MONTH			VARIANCE				YTD			VARIANCE			
	MID-YEAR FORECAST	Fav/(Unfav)		MID-YEAR FORECAST	Fav/(Unfav)		MID-YEAR FORECAST	Fav/(Unfav)		MID-YEAR FORECAST	Fav/(Unfav)			
		2018	2017 ^(A)		2017	2018		2017 ^(A)	2017		2018	2017 ^(A)		
FAREBOX REVENUE														
<i>Harlem Line - Commutation</i>	9.532	9.398	9.479	(0.134)	-1.4%	(0.080)	-0.8%	103.579	102.709	102.011	(0.870)	-0.8%	0.698	0.7%
<i>Harlem Line - Non-Commutation</i>	9.240	8.549	8.863	(0.692)	-7.5%	(0.315)	-3.6%	93.771	90.217	92.167	(3.553)	-3.8%	(1.949)	-2.1%
TOTAL HARLEM LINE	\$18.773	\$17.947	\$18.342	(\$0.826)	-4.4%	(\$0.395)	-2.2%	\$197.350	\$192.926	\$194.178	(\$4.424)	-2.2%	(\$1.252)	-0.6%
<i>Hudson Line - Commutation</i>	6.258	6.259	6.183	0.002	0.0%	0.076	1.2%	67.804	67.811	66.628	0.007	0.0%	1.183	1.8%
<i>Hudson Line - Non-Commutation</i>	7.789	7.643	7.395	(0.145)	-1.9%	0.248	3.4%	79.213	79.262	77.403	0.049	0.1%	1.859	2.4%
TOTAL HUDSON LINE	\$14.046	\$13.903	\$13.579	(\$0.144)	-1.0%	\$0.324	2.4%	\$147.017	\$147.073	\$144.031	\$0.056	0.0%	\$3.041	2.1%
<i>New Haven Line - Commutation</i>	13.904	13.256	13.303	(0.648)	-4.7%	(0.046)	-0.3%	148.842	145.655	144.410	(3.187)	-2.1%	1.245	0.9%
<i>New Haven Line - Non-Commutation</i>	17.404	17.037	17.176	(0.367)	-2.1%	(0.139)	-0.8%	176.728	176.567	174.476	(0.161)	-0.1%	2.091	1.2%
TOTAL NEW HAVEN LINE	\$31.308	\$30.293	\$30.478	(\$1.015)	-3.2%	(\$0.185)	-0.6%	\$325.570	\$322.222	\$318.885	(\$3.348)	-1.0%	\$3.337	1.0%
<i>All Lines - Commutation</i>	29.694	28.914	28.964	(0.780)	-2.6%	(0.050)	-0.2%	320.225	316.175	313.049	(4.050)	-1.3%	3.125	1.0%
<i>All Lines - Non-Commutation</i>	34.433	33.229	33.434	(1.205)	-3.5%	(0.206)	-0.6%	349.712	346.046	344.046	(3.665)	-1.0%	2.001	0.6%
TOTAL EAST OF HUDSON LINES	\$64.128	\$62.143	\$62.399	(\$1.985)	-3.1%	(\$0.256)	-0.4%	\$669.937	\$662.221	\$657.095	(\$7.715)	-1.2%	\$5.126	0.8%
<i>West of Hudson^(B)</i>	\$1.174	\$1.524	\$1.218	0.350	29.8%	0.306	25.1%	\$13.165	\$13.385	\$13.184	0.221	1.7%	0.201	1.5%
TOTAL FAREBOX REVENUE	\$65.302	\$63.667	\$63.617	(\$1.635)	-2.5%	\$0.050	0.1%	\$683.102	\$675.607	\$670.279	(\$7.495)	-1.1%	\$5.328	0.8%
RIDERSHIP														
<i>Harlem Line - Commutation</i>	1.360	1.350	1.366	(0.010)	-0.8%	(0.016)	-1.2%	15.417	15.362	15.429	(0.055)	-0.4%	(0.067)	-0.4%
<i>Harlem Line - Non-Commutation</i>	1.001	0.934	0.963	(0.068)	-6.7%	(0.030)	-3.1%	10.189	9.809	10.141	(0.380)	-3.7%	(0.333)	-3.3%
TOTAL HARLEM LINE	2.361	2.283	2.329	(0.078)	-3.3%	(0.046)	-2.0%	25.605	25.171	25.571	(0.435)	-1.7%	(0.400)	-1.6%
<i>Hudson Line - Commutation</i>	0.762	0.770	0.761	0.008	1.0%	0.009	1.2%	8.615	8.688	8.609	0.073	0.9%	0.079	0.9%
<i>Hudson Line - Non-Commutation</i>	0.680	0.669	0.645	(0.011)	-1.6%	0.024	3.7%	7.023	7.046	6.941	0.023	0.3%	0.105	1.5%
TOTAL HUDSON LINE	1.442	1.438	1.406	(0.003)	-0.2%	0.032	2.3%	15.637	15.733	15.550	0.096	0.6%	0.184	1.2%
<i>New Haven Line - Commutation</i>	1.811	1.787	1.813	(0.024)	-1.3%	(0.025)	-1.4%	20.445	20.420	20.568	(0.025)	-0.1%	(0.148)	-0.7%
<i>New Haven Line - Non-Commutation</i>	1.587	1.574	1.586	(0.013)	-0.8%	(0.012)	-0.8%	16.419	16.471	16.322	0.053	0.3%	0.149	0.9%
TOTAL NEW HAVEN LINE	3.399	3.361	3.399	(0.037)	-1.1%	(0.038)	-1.1%	36.864	36.891	36.891	0.027	0.1%	0.001	0.0%
Total Ridership East of Hudson	3.933	3.907	3.940	(0.026)	-0.7%	(0.033)	-0.8%	44.477	44.470	44.606	(0.007)	0.0%	(0.136)	-0.3%
<i>All Lines - Commutation</i>	3.268	3.176	3.195	(0.092)	-2.8%	(0.018)	-0.6%	33.630	33.326	33.405	(0.304)	-0.9%	(0.079)	-0.2%
<i>All Lines - Non-Commutation</i>	7.202	7.083	7.134	(0.118)	-1.6%	(0.051)	-0.7%	78.107	77.796	78.011	(0.311)	-0.4%	(0.215)	-0.3%
TOTAL EAST OF HUDSON LINES	7.202	7.083	7.134	(0.118)	-1.6%	(0.051)	-0.7%	78.107	77.796	78.011	(0.311)	-0.4%	(0.215)	-0.3%
<i>West of Hudson^(B)</i>	0.125	0.147	0.133	0.022	17.9%	0.014	10.5%	1.464	1.497	1.493	0.033	2.2%	0.004	0.3%
TOTAL EAST & WEST OF HUDSON LINES	7.326	7.230	7.267	(0.096)	-1.3%	(0.037)	-0.5%	79.571	79.293	79.504	(0.278)	-0.3%	(0.211)	-0.3%

^(A) 2017 Ridership figures have been restated to simulate the 2018 calendar.

^(B) West of Hudson current year actuals are preliminary and prior year actuals are stated as received from New Jersey Transit.

**MTA METRO-NORTH RAILROAD
2018 MID-YEAR FORECAST VS. ACTUALS
TOTAL FULL-TIME POSITIONS AND FULL-TIME EQUIVALENTS
November 30, 2018**

<u>Department</u>	Mid-Year Forecast	Actual	Favorable (Unfavorable) Variance	Notes
Administration				
President	3	3	-	
Labor Relations	18	14	4	A
Safety	58	56	2	
Security	25	23	2	
Office of the Executive VP	10	9	1	
Corporate & Public Affairs	19	16	3	A
Customer Service	67	61	6	B
Legal	13	12	1	
Claims	12	12	0	
Environmental Compliance & Svce	6	7	(1)	
Human Resources	49	47	2	
Training	86	86	-	
Employee Relations & Diversity	6	5	1	
VP Planning	2	2	-	
Operations Planning & Analysis	21	20	1	
Capital Planning & Programming	13	13	-	
Long Range Planning	8	8	-	
VP Finance & Info Systems	4	-	4	C
Controller	75	72	3	A
Budget	17	17	0	
Procurement & Material Management	25	26	(1)	
Total Administration	537	509	28	
Operations				
Operations Administration	70	75	(5)	C
Transportation	1,643	1,642	1	
Customer Service	291	272	19	B
Metro-North West	25	33	(8)	D
Total Operations	2,029	2,023	6	
Maintenance				
Maintenance of Equipment	1,686	1,664	22	B
Maintenance of Way	2,237	2,149	88	B,C,D
Procurement & Material Mgmt	121	121	0	
Total Maintenance	4,044	3,934	110	
Engineering/Capital				
Construction Management	42	37	5	
Engineering & Design	85	77	8	
Total Engineering/Capital	127	114	13	
Total Positions	6,737	6,580	157	
Non-Reimbursable	6,020	5,992	28	
Reimbursable	717	588	130	
Total Full-Time	6,736	6,579	157	
Total Full-Time-Equivalents (of part-time positions)	1	1	-	

Notes

(A) Variance reflects higher attrition than planned.

(B) Variance reflects delayed hiring of vacant positions.

(C) Variance reflects the transfer of certain Enterprise Asset Management functions and positions from Maintenance of Way and VP Finance & Info Systems to Operations Administration.

(D) Metro-North West unfavorable variance is due to the transfer of Maintenance of Way and Transportation staff supporting West of Hudson activity.

MTA METRO-NORTH RAILROAD
2018 MID-YEAR FORECAST VS. ACTUALS
TOTAL FULL-TIME POSITIONS AND FULL-TIME EQUIVALENTS
November 30, 2018

FUNCTION/OCCUPATION	Mid-Year Forecast	Actual	Favorable (Unfavorable) Variance
Administration			
Managers/Supervisors	186	173	13
Professional, Technical, Clerical	351	336	15
Operational Hourlies	-	-	-
Total Administration	537	509	28
Operations			
Managers/Supervisors	263	245	18
Professional, Technical, Clerical	184	171	13
Operational Hourlies	1,582	1,607	(25)
Total Operations	2,029	2,023	6
Maintenance			
Managers/Supervisors	633	639	(6)
Professional, Technical, Clerical	522	491	31
Operational Hourlies	2,889	2,803	86
Total Maintenance	4,044	3,934	110
Engineering/Capital			
Managers/Supervisors	46	47	(1)
Professional, Technical, Clerical	81	67	14
Operational Hourlies	-	-	-
Total Engineering/Capital	127	114	13
Public Safety			
Managers/Supervisors	-	-	-
Professional, Technical, Clerical	-	-	-
Operational Hourlies	-	-	-
Total Public Safety	-	-	-
Total Positions			
Managers/Supervisors	1,128	1,105	23
Professional, Technical, Clerical	1,138	1,065	73
Operational Hourlies	4,471	4,410	61
Total Positions	6,737	6,580	157

**MTA METRO-NORTH RAILROAD
2018 MID-YEAR FORECAST VS. ACTUALS
November 30, 2018**

Agency-wide (Non-Reimbursable and Reimbursable)	Mid-Year Forecast	Actual	Favorable (Unfavorable) Variance	Explanation of Variances
<i>Functional Classification:</i>				
Administration	537	509	28	Primarily reflects delayed hiring of vacant positions and higher attrition than planned as well as the transfer of certain Enterprise Asset Management functions and positions from Maintenance of Way and VP Finance & Info Systems to Operations Administration.
Operations	2,029	2,023	6	Primarily reflects delayed hiring of vacant positions partially offset by the transfer of certain Enterprise Asset Management functions and positions from Maintenance of Way and VP Finance & Info Systems to Operations Administration.
Maintenance	4,044	3,934	110	Primarily reflects delayed hiring of vacant positions and the transfer of certain Enterprise Asset Management functions and positions from Maintenance of Way and VP Finance & Info Systems to Operations Administration.
Engineering / Capital	127	114	13	
Total Agency-wide Headcount	6,737	6,580	157	
Non-Reimbursable	6,020	5,992	28	
Reimbursable	717	588	130	

**MTA METRO-NORTH RAILROAD
JULY FINANCIAL PLAN - 2018 MID-YEAR FORECAST
MONTHLY PERFORMANCE INDICATORS ^(A)
NOVEMBER 2018**

	MONTH			VARIANCE	
	Fav/(Unfav)				
	MYF	2018	2017	MYF	2017
Farebox Operating Ratio					
Standard ^(B)	57.9%	54.7%	53.3%	-3.1%	1.4%
Adjusted ^(C)	64.0%	61.1%	60.0%	-2.9%	1.1%
Cost per Passenger					
Standard ^(B)	\$15.40	\$16.08	\$16.41	(\$0.69)	\$0.32
Adjusted ^(C)	\$15.03	\$15.70	\$16.29	(\$0.67)	\$0.59
Passenger Revenue/Passenger	\$8.91	\$8.81	\$8.75	(\$0.11)	\$0.05
	YEAR-TO-DATE			VARIANCE	
	Fav/(Unfav)				
	MYF	2018	2017	MYF	2017
Farebox Operating Ratio					
Standard ^(B)	55.3%	55.1%	57.1%	-0.2%	-2.0%
Adjusted ^(C)	61.5%	61.2%	64.1%	-0.3%	-2.9%
Cost per Passenger					
Standard ^(B)	\$15.52	\$15.46	\$14.79	\$0.06	(\$0.67)
Adjusted ^(C)	\$15.15	\$15.06	\$14.43	\$0.08	(\$0.64)
Passenger Revenue/Passenger	\$8.58	\$8.52	\$8.45	(\$0.06)	\$0.07

(A) Monthly Performance Indicators include both East and West of Hudson revenue and expenses.

(B) Standard Farebox Operating Ratio and Cost Per Passenger indicators reflect MTA-wide adopted calculations that exclude non-cash liability adjustments: Depreciation, Other Post Employment Benefits, Environmental Remediation (GASB-49), and the NHL share of MTA Police, Business Service Center and IT costs.

(C) Adjusted Fare Operating Ratio and Cost Per Passenger indicators have been adjusted for comparability between Metro-North and the LIRR and are being presented only at the railroad operating committees. These adjustments are not being used MTA-wide. Adjustments have been made to reflect all operating revenues and significant financial impacts that are outside management's control. These adjustments include: Inclusion of Other Operating Revenue, Removal of OPEB retiree expenses, and Inclusion of estimated farebox revenue from an equalization of the Connecticut fare structure.

MTA METRO-NORTH RAILROAD
MID-YEAR FORECAST AND NOVEMBER FORECAST vs. ACTUAL RESULTS (NON-REIMBURSABLE)
NOVEMBER 2018 YEAR-TO-DATE
(\$ in millions)

	November Year-to-Date			Fav/(Unfav) Variance			
	Mid-Year Forecast	November Forecast	Actual	Mid-Year Forecast		November Forecast	
	\$	\$	\$	\$ Var	% Var	\$ Var	% Var
Total Revenue	732.5	728.5	722.1	(10.3)	(1.4)	(6.4)	(0.9)
Total Expenses before Non-Cash Liability Adjs	1,213.0	1,224.7	1,216.4	(3.4)	(0.3)	8.4	0.7
Depreciation	223.1	222.2	209.5	13.6	6.1	12.8	5.8
OPEB Obligation	53.2	52.8	49.2	4.0	7.5	3.6	6.8
GASB 68 Pension Adjustment	9.8	6.2	4.0	5.8	59.0	2.2	35.6
Environmental Remediation	3.0	3.1	17.4	(14.4)	(478.4)	(14.3)	(464.2)
Total Expenses	1,502.0	1,509.0	1,496.4	5.6	0.4	12.6	0.8
Net Surplus/(Deficit)	(769.5)	(780.5)	(774.2)	(4.7)	(0.6)	6.2	0.8

Note: Totals may not add due to rounding

MTA METRO-NORTH RAILROAD
EXPLANATION OF VARIANCES BETWEEN NOVEMBER FORECAST AND ACTUAL RESULTS
NON-REIMBURSABLE
NOVEMBER 2018 YEAR-TO-DATE
(\$ in millions)

	Favorable/(Unfavorable)		Variance Explanation
	<u>Variance</u>	<u>Percent</u>	
Total Revenue	(\$6.4)	(0.9)	Unfavorable variance primarily due to lower than forecasted fare revenue resulting from a lower commutation yield per passenger and lower non-commutation ridership.
Total Expenses	\$12.6	0.8	Favorable variance primarily due to timing of maintenance and professional services contracts partially offset by unfavorable overtime costs resulting from higher than forecasted programmatic maintenance.

NOTE: Mid-Year Forecast vs. Actual Variance explanations are provided in the monthly report to the Finance Committee

Ridership Report

Michael Shiffer

Vice President, Planning



Grand Central Terminal during the holidays.

Photo courtesy of Linda Morris



Metro-North Railroad

January 2018 Highlights: Ridership Report

(Note: November West of Hudson data is not yet available from NJT)

November 2018 vs. 2017

- East of Hudson ridership decreased 0.7% vs. November 2017 and was 1.6% below forecast
 - Commutation ridership decreased 0.8%
 - Non-Commutation ridership decreased 0.6%
- Decreases in non-commutation ridership can be attributed in part to the wet weather which occurred during the month of November
 - Total water precipitation for November 2018 was 7.62 inches compared to last November 2017 when only 1.58 inches of rain fell in Central Park.
 - Measured precipitation was observed on 15 days vs. 10 days last November.
- Harlem Line non-commutation ridership was down 3.1% due in part to the reduced weekday off-peak and weekend service levels to accommodate White Plains station improvements.
- East of Hudson ridership by line:
 - Hudson Line ridership increased 2.3%
 - Harlem Line ridership decreased 2.0%
 - New Haven Line ridership decreased 1.1%

2018 vs. 2017 YTD

- Total YTD rail ridership is 0.3% below 2017 and 0.3% below forecast
 - YTD Commutation ridership is 0.3% below 2017
 - YTD Non-Commutation ridership is 0.2% below 2017

Michael Shiffer
Vice President
Planning

**NOVEMBER 2018 RIDERSHIP & REVENUE REPORT
MTA METRO-NORTH RAILROAD**

RIDERSHIP SUMMARY

November Ridership and Revenue (millions)

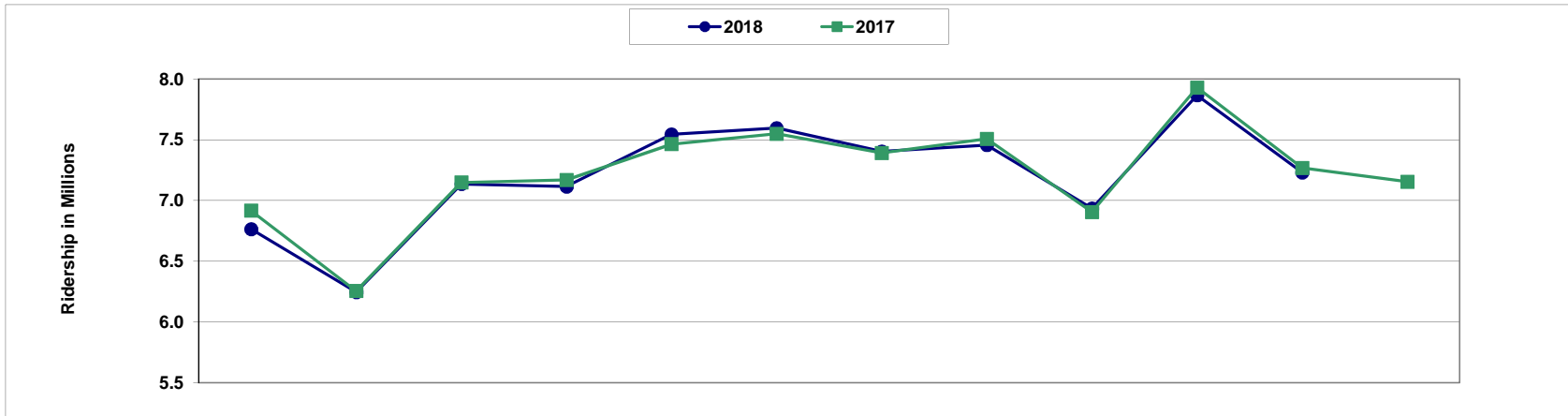
	November 2018	% Change vs. 2017
Total Rail Ridership	7.230	-0.5% ▼
Commutation Ridership	3.985	-0.7% ▼
Non-Commutation Ridership	3.245	-0.3% ▼
Connecting Service Ridership	0.049	-1.4% ▼
Total MNR System Ridership	7.279	-0.5% ▼
Rail Revenue	\$63.7	+0.1% ▲

Year-to-Date to November Ridership and Revenue (millions)

	YTD 2018	% Change vs. 2017	Comparison to Forecast
Total Rail Ridership	79.293	-0.3% ▼	-0.3% ▼
Commutation Ridership	45.295	-0.3% ▼	+0.0% ▲
Non-Commutation Ridership	33.998	-0.2% ▼	-0.8% ▼
Connecting Service Ridership	0.537	-1.5% ▼	+0.0% ▲
Total MNR System Ridership	79.830	-0.3% ▼	-0.3% ▼
Rail Revenue	\$675.6	+0.8% ▲	-1.1% ▼

NOVEMBER RAIL RIDERSHIP (1)

- November's Total Rail Ridership was 0.5% below 2017 and 1.3% below forecast.

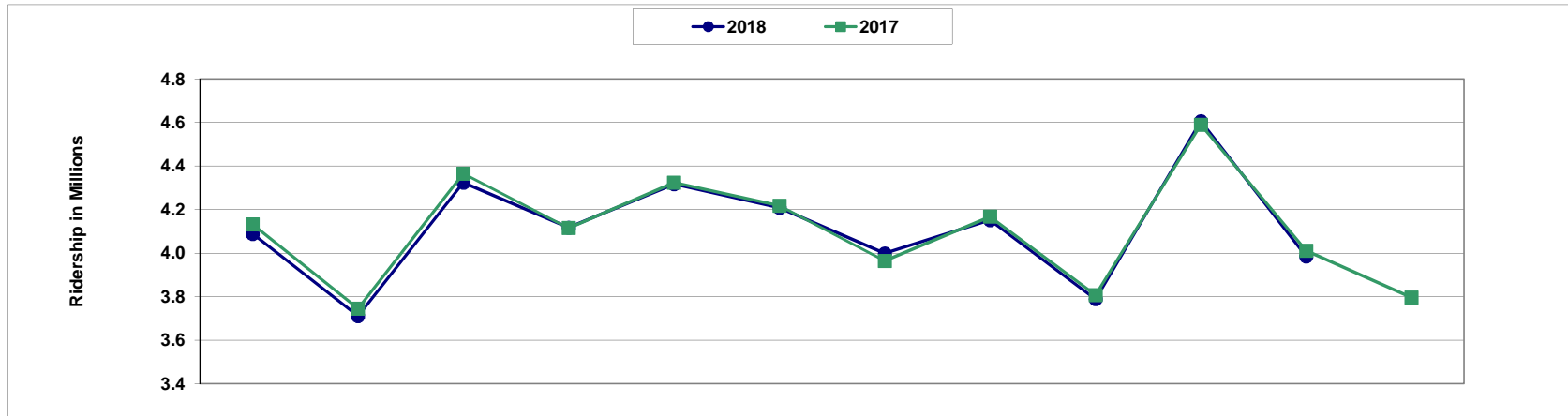


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Y-T-D Total
2018	6.8	6.2	7.1	7.1	7.5	7.6	7.4	7.5	6.9	7.9	7.2		79.3
2017	6.9	6.3	7.1	7.2	7.5	7.5	7.4	7.5	6.9	7.9	7.3	7.2	79.5
PCT CHG.	-2.2%	-0.1%	-0.2%	-0.8%	1.1%	0.6%	0.2%	-0.7%	0.4%	-0.8%	-0.5%		-0.3%

1) Includes East and West of Hudson.

NOVEMBER RAIL COMMUTATION RIDERSHIP (1)

- November's Rail Commutation Ridership was 0.7% below 2017 and 0.4% below forecast.

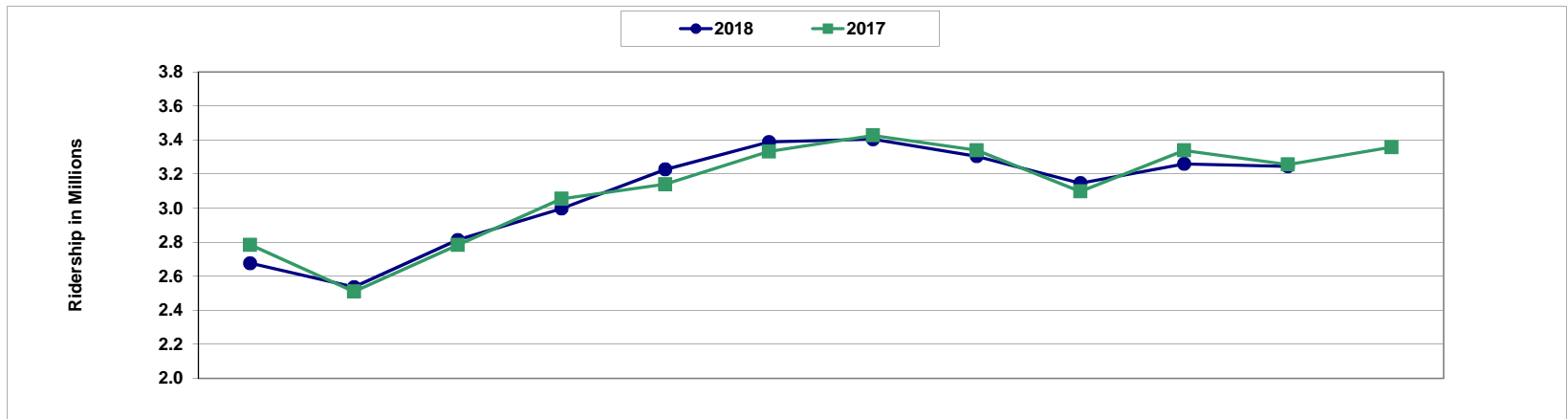


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Y-T-D Total
2018	4.1	3.7	4.3	4.1	4.3	4.2	4.0	4.2	3.8	4.6	4.0		45.3
2017	4.1	3.7	4.4	4.1	4.3	4.2	4.0	4.2	3.8	4.6	4.0	3.8	45.4
PCT CHG.	-1.1%	-0.9%	-0.9%	0.1%	-0.2%	-0.2%	0.9%	-0.4%	-0.5%	0.4%	-0.7%		-0.3%

1) Includes East and West of Hudson.

NOVEMBER RAIL NON-COMMUTATION RIDERSHIP (1)

• November's Rail Non-Commutation Ridership was 0.3% below 2017 and 2.5% below forecast.

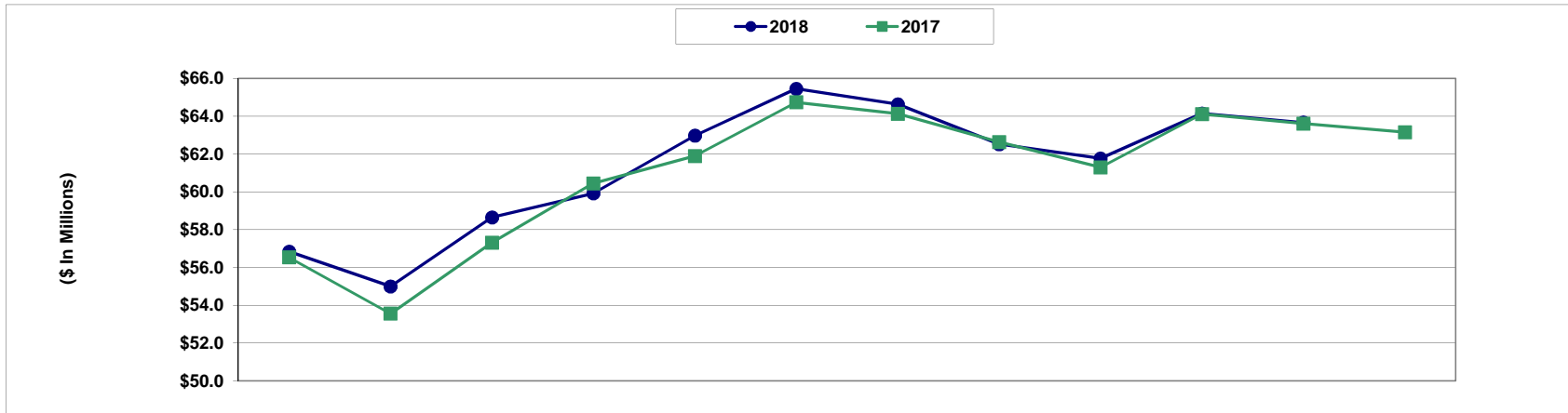


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Y-T-D Total
2018	2.7	2.5	2.8	3.0	3.2	3.4	3.4	3.3	3.1	3.3	3.2		34.0
2017	2.8	2.5	2.8	3.1	3.1	3.3	3.4	3.3	3.1	3.3	3.3	3.4	34.1
PCT CHG.	-3.9%	1.0%	1.0%	-1.9%	2.8%	1.7%	-0.7%	-1.0%	1.6%	-2.4%	-0.3%		-0.2%

1) Includes East and West of Hudson.

NOVEMBER RAIL REVENUE (1)

• November's Total Rail Revenue was 0.1% above 2017 and 2.5% below forecast.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Y-T-D Total
2018	\$56.8	\$55.0	\$58.6	\$59.9	\$63.0	\$65.5	\$64.6	\$62.5	\$61.8	\$64.2	\$63.7		\$675.6
2017	\$56.5	\$53.6	\$57.3	\$60.4	\$61.9	\$64.7	\$64.1	\$62.6	\$61.3	\$64.1	\$63.6	\$63.2	\$670.3
PCT CHG.	0.5%	2.7%	2.3%	-0.9%	1.7%	1.1%	0.8%	-0.2%	0.8%	0.1%	0.1%		0.8%

1) Includes East and West of Hudson.

**MTA METRO-NORTH RAILROAD
RIDERSHIP SUMMARY
NOVEMBER 2018**

TICKET TYPE/SERVICE	NOVEMBER 2018	NOVEMBER 2018	VARIANCE VS. FORECAST		NOVEMBER 2017	CHANGE FROM 2017	
	ACTUAL	FORECAST	AMOUNT	PERCENT	RESTATE (1)	AMOUNT	PERCENT
RAIL COMMUTATION RIDERSHIP							
East of Hudson	3,906,871	3,933,302	(26,431)	-0.7%	3,939,580	(32,709)	-0.8%
West of Hudson	77,833	65,668	12,165	18.5%	71,873	5,960	8.3%
Total Rail Commutation Ridership	3,984,704	3,998,970	(14,266)	-0.4%	4,011,453	(26,749)	-0.7%
RAIL NON-COMMUTATION RIDERSHIP							
East of Hudson	3,176,419	3,268,291	(91,872)	-2.8%	3,194,912	(18,493)	-0.6%
West of Hudson	69,070	58,946	10,124	17.2%	61,048	8,022	13.1%
Total Rail Non-Commutation Ridership	3,245,489	3,327,237	(81,748)	-2.5%	3,255,960	(10,471)	-0.3%
TOTAL RAIL RIDERSHIP							
East of Hudson	7,083,290	7,201,593	(118,303)	-1.6%	7,134,492	(51,202)	-0.7%
West of Hudson (2)	146,903	124,614	22,289	17.9%	132,921	13,982	10.5%
TOTAL RAIL RIDERSHIP	7,230,193	7,326,207	(96,014)	-1.3%	7,267,413	(37,220)	-0.5%
CONNECTING SERVICES RIDERSHIP (3)	48,587	49,455	(868)	-1.8%	49,255	(668)	-1.4%
TOTAL MNR SYSTEM RIDERSHIP	7,278,780	7,375,662	(96,882)	-1.3%	7,316,668	(37,888)	-0.5%

Notes:

- 1) 2017 ridership figures have been restated to eliminate calendar impacts on ridership.
- 2) West of Hudson ridership figures are preliminary. November's ridership estimate includes a correction from last month's understatement.
- 3) Includes Hudson Rail Link, Haverstraw-Ossining Ferry and Newburgh-Beacon Ferry.

MTA METRO-NORTH RAILROAD
RIDERSHIP SUMMARY
2018 YEAR-TO-DATE

TICKET TYPE/SERVICE	2018	2018	VARIANCE VS.		2017	CHANGE FROM 2017	
	YTD	YTD	FORECAST		YTD		
	ACTUAL	FORECAST	AMOUNT	PERCENT	RESTATE (1)	AMOUNT	PERCENT
RAIL COMMUTATION RIDERSHIP							
East of Hudson	44,469,955	44,476,804	(6,849)	0.0%	44,606,193	(136,238)	-0.3%
West of Hudson	825,066	810,766	14,300	1.8%	833,040	(7,974)	-1.0%
Total Rail Commutation Ridership	45,295,021	45,287,570	7,451	0.0%	45,439,233	(144,212)	-0.3%
RAIL NON-COMMUTATION RIDERSHIP							
East of Hudson	33,325,660	33,629,759	(304,099)	-0.9%	33,404,546	(78,886)	-0.2%
West of Hudson	671,984	653,521	18,463	2.8%	660,154	11,830	1.8%
Total Rail Non-Commutation Ridership	33,997,644	34,283,280	(285,636)	-0.8%	34,064,700	(67,056)	-0.2%
TOTAL RAIL RIDERSHIP							
East of Hudson	77,795,615	78,106,563	(310,948)	-0.4%	78,010,739	(215,124)	-0.3%
West of Hudson	1,497,050	1,464,287	32,763	2.2%	1,493,194	3,856	0.3%
TOTAL RAIL RIDERSHIP	79,292,665	79,570,850	(278,185)	-0.3%	79,503,933	(211,268)	-0.3%
CONNECTING SERVICES RIDERSHIP (2)	537,076	536,952	124	0.0%	545,025	(7,949)	-1.5%
TOTAL MNR SYSTEM RIDERSHIP	79,829,741	80,107,802	(278,061)	-0.3%	80,048,958	(219,217)	-0.3%

Notes:

- 1) 2017 ridership figures have been restated to eliminate calendar impacts on ridership.
- 2) Includes Hudson Rail Link, Haverstraw-Ossining Ferry and Newburgh-Beacon Ferry.

**MTA METRO-NORTH RAILROAD
RIDERSHIP BY LINE
NOVEMBER 2018**

LINE	NOVEMBER 2018 ACTUAL	NOVEMBER 2017 RESTATE ⁽¹⁾	CHANGE FROM 2017	
			AMOUNT	PERCENT
EAST OF HUDSON				
Harlem Line	2,283,471	2,329,438	(45,967)	-2.0%
Hudson Line	1,438,493	1,406,098	32,395	2.3%
New Haven Line	3,361,326	3,398,956	(37,630)	-1.1%
Total East of Hudson	7,083,290	7,134,492	(51,202)	-0.7%
WEST OF HUDSON				
Port Jervis Line	89,875	78,105	11,770	15.1%
Pascack Valley Line	57,028	54,816	2,212	4.0%
Total West of Hudson (2)	146,903	132,921	13,982	10.5%
TOTAL RAIL RIDERSHIP	7,230,193	7,267,413	(37,220)	-0.5%
CONNECTING SERVICES PROVIDED BY METRO-NORTH CONTRACTORS				
Hudson Rail Link	33,485	33,288	197	0.6%
Haverstraw-Ossining Ferry (3)	10,483	10,586	(103)	-1.0%
Newburgh-Beacon Ferry	4,619	5,381	(762)	-14.2%
Total Connecting Services	48,587	49,255	(668)	-1.4%
TOTAL MNR SYSTEM	7,278,780	7,316,668	(37,888)	-0.5%

Notes:

- 1) 2017 ridership figures have been restated to eliminate calendar impacts on ridership.
- 2) West of Hudson ridership figures are preliminary. November's ridership estimate includes a correction from last month's understatement.
- 3) Includes Hudson Rail Link, Haverstraw-Ossining Ferry and Newburgh-Beacon Ferry.

MTA METRO-NORTH RAILROAD

RIDERSHIP BY LINE
2018 YEAR-TO-DATE

TICKET TYPE/SERVICE	2018 YTD ACTUAL	2017 YTD RESTATE ⁽¹⁾	CHANGE FROM 2017	
			AMOUNT	PERCENT
EAST OF HUDSON				
Harlem Line	25,170,872	25,570,607	(399,735)	-1.6%
Hudson Line	15,733,489	15,549,624	183,865	1.2%
New Haven Line	36,891,254	36,890,508	746	0.0%
Total East of Hudson	77,795,615	78,010,739	(215,124)	-0.3%
WEST OF HUDSON				
Port Jervis Line	887,155	893,785	(6,630)	-0.7%
Pascack Valley Line	609,895	599,409	10,486	1.7%
Total West of Hudson	1,497,050	1,493,194	3,856	0.3%
TOTAL RAIL RIDERSHIP	79,292,665	79,503,933	(211,268)	-0.3%
CONNECTING SERVICES PROVIDED BY METRO-NORTH CONTRACTORS				
Hudson Rail Link	369,752	365,566	4,186	1.1%
Haverstraw-Ossining Ferry	114,630	119,592	(4,962)	-4.1%
Newburgh-Beacon Ferry	52,694	59,867	(7,173)	-12.0%
Total Connecting Services	537,076	545,025	(7,949)	-1.5%
TOTAL MNR SYSTEM	79,829,741	80,048,958	(219,217)	-0.3%

Notes:

1) 2017 ridership figures have been restated to eliminate calendar impacts on ridership.



Prospect Hill Road Bridge over Harlem Line and Brewster Yard

Prospect Hill Road Bridge Replacement



Metro-North Railroad

December 2018 Highlights: Capital Program Status Report

The purpose of the Capital Program Status Report is to provide a monthly and year-to-date overview of the progress of Metro-North’s Capital Program including a brief discussion of the current month’s project highlights. The report focuses primarily on providing a summary of achievements regarding design and construction awards, project completions and contract closeouts. The point of contact for the report is John Kennard, Vice President, Capital Program Management.

In the month of December, Metro-North awarded project tasks totaling \$54.2 million, including Force Account power for Harmon Shop. Metro-North substantially completed projects totaling \$84.1 million including the Park Avenue Viaduct Direct Fixation Design. Metro-North closed-out projects totaling \$6 million including Mott-Haven to Fordham drainage contract.

Metro-North’s performance against its 2018 Capital Project Goal was:

(\$ in Millions)

	<u>Annual Planned</u>	<u>Planned thru 12/31</u>	<u>Achieved thru 12/31</u>	<u>% thru 12/31</u>
Design Awards*	\$4.5	\$4.5	\$7.9	176%
Construction Awards*	\$535.1	\$535.1	\$502.4	94%
Substantial Completions	\$463.5	\$463.5	\$127.7	28%
Closeouts*	\$14.5	\$14.5	\$20.0	138%

*Does not include support costs

John Kennard
Vice President
Capital Programs

**CAPITAL PROGRAM
HIGHLIGHTS
December 31, 2018**

ROLLING STOCK

M-8 Procurement Option

Metro-North, in partnership with Connecticut Department of Transportation, executed an agreement with the manufacturer in January 2017 to purchase 60 additional M-8 cars for the New Haven Line. An additional 6 cars of an up to 34 car option were ordered in June 2018 under the last option which brings the total of additional cars to 66 – 33 “A” Cars and 33 “B” Cars. The new cars will begin to arrive in the fourth quarter 2019. These cars will be fully interoperable and benefit from parts compatibility, reducing operating and future procurement costs with the 405 M-8 cars already purchased. Review and approval of obsolete components replacement continues to ensure specification and performance compliance and backward compatibility with the existing M-8 fleet. Truck frame manufacturing continues in Kawasaki’s Harima, Japan facility.

GRAND CENTRAL TERMINAL (GCT)

GCT Utilities (fire suppression system upgrade at lower level of train shed and utility tunnels, and replacement of 49th St. existing fire pump)

Lower Level – Continued with installation of heat tracing and fire alarm cables at Tracks 101, 107 and 108 for the 43rd, 44th, 45th and 46th Street crossings.

Upper Level – Continued with installation of heat tracing and fire alarm cables for 50th, 51st and 52nd Street crossings. Continued installation of fire alarm conduit and cable for Tracks 24 and 30.

Street Level – Continued installation of hangers and fire stand pipe for fire department connections, including testing of tightness.

Overall project completion is anticipated in April 2019.

Grand Central Terminal Public Address and Visual Information and Real Time Train Database System (RTTDS) Replacements

The purpose of this project is to replace, update and consolidate the existing Public Address (PA) and Visual Information Systems (VIS) in order to provide improved information to Metro-North customers. The project is divided into three GCT contracts (PA/VIS & RTTDS, Cable Plant, and Big Boards & Gate Boards) which are critical to the implementation of the global Customer Service Initiative Project.

- Final design of RTTDS (Real-Time Train Detection System) and PA/VIS is complete. The General User Interface (GUI) is being refined through iterations of review with Metro-North for functionality and final acceptance.
- Construction of the Customer Service Equipment Room 7C continues. Construction of the GCT cable plant is ongoing. Conduit and cable is being run to the Big Boards and visual information system (VIS) cabinets.
- Prototype Test Unit Gate Boards and Big Boards were tested for functionality at the integrated factory acceptance testing in November 2018. The units performed as expected with the new head end system. Mass production of Gate Boards and Big Boards has commenced.

STATIONS/PARKING/FACILITIES

Harlem-125th Street Improvements

Exterior Lighting Improvements & Art Work on the Viaduct (Small Business Mentoring Program Tier I) – Full installation of the L2 and Cove is complete. All artwork lighting fixtures have been installed. Contractor has demobilized from the site.

CSI Outlying Stations Public Announcement/Visual Information and Surveillance/Access Control Systems

The CSI Project will enhance the customers' experience and improve operations with a system-wide upgrade of the public address, visual information and video surveillance/access control systems at twenty (20) Metro-North stations and facilities throughout New York. This project also includes upgrades to elevator monitoring, providing network connectivity for new and existing equipment and real-time data improvements.

The Design-Builder has completed 100% design drawings for the first group of five stations (Mt. Vernon East, Larchmont, Pelham, Riverdale and North White Plains IT room) and for the second group of stations (Harlem-125th St., Rye, Harrison and New Rochelle). 75% design drawings have been completed for the third group of stations (Mamaroneck, Port Chester, Melrose and Tremont). 75% design development is in progress for the fourth group of stations (Ossining, Morris Heights, Spuyten Duyvil and Tarrytown). Site work including raceway installation continues at Mt. Vernon East, Pelham and Riverdale Stations. Mobilization at Harlem -125th St. Station is underway and contract work at North White Plains IT room continues.

Installation of node houses (48 VDC power plants) at 27 locations is complete. Installation continues at the remaining locations in sequential order upon availability of flagging support. Design development for facility enhancements continue and surveys continue at Harlem-125th St., Rye, Harrison and New Rochelle Stations. Design development continues for: video, access control, elevator & escalator management and security systems.

Station Improvement Initiatives at Harlem-125th Street, Riverdale, Crestwood, White Plains and Port Chester

The purpose of this project is to develop and improve station aesthetics, introduce new technology, and develop sustainability initiatives. A key focus will be to transform and elevate the customer experience at the White Plains Station, Metro-North's third busiest station. White Plains Station improvements will include a renovated and expanded waiting room including new bathrooms, upgraded HVAC, Wi-Fi, charging stations, benches, a new heated side platform, new island platform canopy, and entrance enhancements at Main St., Hamilton Ave., Mott St. Tunnel and the main entrance. The Crestwood, Port Chester and Riverdale Stations will receive a new canopy, waiting plaza, and improvements in station overpasses (Riverdale and Crestwood). Harlem-125th Street will receive station building and platform improvements, as well as, an enhanced lighting installation under the viaduct.

The design portion of the contract is progressing with various packages under review by key stakeholders. Site work is also underway as follows:

- White Plains Station – Phase 2 – On-going demolition of column encasements, canopy ceiling, restrooms, and electrical systems; as well as sidewalk and staircase work at Main St. and Hamilton Ave. This station is scheduled for completion in March 2021.
- Harlem-125th Street Station – Phase 2 – Commenced with demolition of electrical and plumbing///conduits in the restroom. Power washing of the tactile warning strip on the platform continues. This station is on schedule for completion in January 2019.
- Port Chester Station – Phase 2 – Continued with installation of conduit and temporary electrical power under platform, commenced installation of canopy foundations, canopy, and temporary American Disability Act ramp. This station is scheduled for completion in March 2019.

There are various interim milestone completion dates at each station, with overall project completion in December 2020.

POWER

Power, C&S Infrastructure Restoration Phase I & II – Sandy (Design-Build)

- *Phase I* – The purpose of this project is to replace and restore to a state of good repair the power and communication and signal (C&S) equipment and infrastructure that were destroyed, damaged and/or compromised by Super Storm Sandy on over 16 miles of railroad along the Hudson Line from CP 19 (Greystone) to CP 35 (Croton-Harmon). Continued performing non-outage work such as: installation of conduits for sectionalizing switches and fencing at platforms; splicing cables inside manholes; cable pulling; and removing existing equipment. Equipment testing and commissioning are underway.
- *Phase II* – Replace and restore to a state of good repair the power and C&S equipment and infrastructure that were destroyed, damaged and/or compromised by Super Storm Sandy on over 14 miles of railroad along the Hudson Line from CP 5 (Bronx) to CP 19 (Greystone). Work will include replacement of C&S cable, fiber optic cable, equipment and

components, with significant work that is at-grade as well as in and around the track bed adjacent to the Hudson River.

- Continued test pits and surveys for Phase II design finalization. 100% design has been submitted and review by key stakeholders continues.

Overall project completion of Phase I and II is anticipated in the first quarter 2021.

Power Infrastructure Restoration – Substations – Sandy

- *Tarrytown* – Continued installation of rigid conduits for Con Ed fuse boxes; canopy lighting and performing Con Ed pre-energization testing. Finalization of Supervisory Control and Data Acquisition (SCADA) and energization of the substation power control room are underway.
- *Croton-Harmon* – Continued installation of flood barriers at negative reactor and canopy lighting. Energization of the substation power control room is underway.
- *Riverdale* – Completed installation of bathroom tiles and mailbox at the crew quarters building; canopy lighting and wire installation and termination for Con Ed metering. Energization of the substation power control room is underway.

Substantial completion for the three substations is forecasted for April 2019.

Harlem & Hudson Lines Power Improvements

- *Construction of 86th Street Substation and 110th Street Negative Return Reactors*
 - *110th St. (replacement of negative return reactors in the substation under the viaduct):* Operating as of July 2016.
 - *86th St. –* Demolition and removal of equipment on the east and west platforms continue. Negative Equalizer/Battery Rooms completed on the east platform. Columns and girders installed and Con Ed feeder connected on the west platform.

AC and DC Switchgear equipment are currently in storage. Set-up of AC switchgear equipment with the DC switchgear equipment will follow in early 2019. Substantial completion is scheduled for March 2019.

- *The Brewster Substation* – Continued installation of the reinforced concrete base for the manhole; waterproofing the interior walls of the manhole; conduits for the battery room. Supervisory Control and Data Acquisition (SCADA) testing is underway. Substantial completion is anticipated in April 2019.

Substation Replacement Bridge - 23

- *Mount Vernon East* – Signal Substation assembly and testing are complete. Test results have been reviewed by Engineer of Record and Con Ed. Con Ed will visit the site and witness further testing before the Substation can be put on-line.

- *Catenary work between Mount Vernon and New Rochelle* - All work is complete.
- *New Rochelle* – Relay switch control to be furnished by March 2019 for Metro-North's use.

Overall project completion is anticipated in March 2019.

TRACK AND STRUCTURES

Undergrade Bridge Program (2010 – 2014 Program) – East of Hudson

Various Load Rating reports continue to be submitted and reviewed by key stakeholders and are at 98% completion.

Inspection and Load Rating project completion is anticipated in March 2019.

Undergrade Bridge Program (2015 to 2019 Program) – East of Hudson

Patterson Bridge Replacements: The construction contract to replace two undergrade bridges located just north of Patterson, NY was advertised in November 2018, bids are due in January 2019, with contract award to follow. All permitting from outside agencies are in place to construct this project in an environmentally sensitive area.

Overhead Bridge Program (2010 – 2014 Program) – East of Hudson

- Final design documents are nearing completion for the Fulton Avenue Bridge Replacements.
- 14th Avenue Bridge, Mt. Vernon, NY (Design-Build contract) – Continued demolition and excavation works on the north and south abutments. The bridge will be opened for vehicular traffic by June 2019.

Overhead Bridge Program (2015 to 2019 Program) – East of Hudson

- Design-Build of Prospect Hill Road Bridge (Southeast Station) - The contractor achieved substantial completion on November 20, 2018.
- 6th and 10th Avenue Bridge Replacement, Mt. Vernon - Bids were received for the replacement of both 6th and 10th Avenue overhead bridges in October 2018 and are under review. An award is anticipated in January 2019.
- 3rd Avenue Bridge Replacement, Mt. Vernon - Request for Design-build proposals will be solicited in March 2019.

Harlem River Lift Bridge (HRLB) Security Upgrades

Construction submittal is on-going. Installation work of the following continues: on-going standpipe installation on bridge spans pending track outages; vertical fencing fabrication to be installed on 4 bridge members to protect counterweight blocks; on-going staircase installation for communication sheds at Manhattan and Bronx divisions.

Harlem River Lift-Bridge Power Cable Tie

The purpose of this project is to furnish and install a new Bronx-Manhattan power cable tie system to provide back-up power between the two sides of the Harlem River Lift Bridge. The new power cable will be installed in the existing duct bank/manhole system of the existing tunnel that spans across the Harlem River. Construction submittal phase continues. Switchgear and transformer equipment has arrived. Substantial completion is scheduled for January 2020.

2018 Cyclical Track Program

The 2018 Cyclical Track Program consists of the replacement of 38,400 wood ties, 10 miles of continuous welded rail (CWR), and surfacing of 140 miles of track. Since the start of the program, Metro-North forces have installed approximately 16,182 ties, 5.82 miles of rail, surfaced 16.09 miles of track, and performed 823 welds for CWR on the Hudson, Harlem, and the New York State portion of the New Haven Lines.

COMMUNICATIONS AND SIGNAL

Positive Train Control (PTC)

Subsystem designs are being finalized. Software enhancements and corrections continue. Factory Acceptance Testing (FAT) for sub-system level software for On-Board version S3 and Office version 3.3.1 were completed. FAT for integrated system software versions 3.2 and 3.3 were completed. All communication site locations have been approved by the Federal Communications Commission (FCC). Civil Speed Enforcement is available on all lines for use by Amtrak, freight and Metro-North Advanced Civil Speed Enforcement System equipped rolling stock for revenue service. All wayside and on-board PTC equipment installations to support Revenue Service Demonstration (RSD) have been completed. Third party contract work for communications infrastructure installation is nearing completion. Continued Site Acceptance Testing (SAT) on non-pilot segments. Initiated RSD on Pilot line on November 21, 2018. Training of employees continues. Interoperability discussions with Amtrak and Freight carriers continue. The project has met all the FRA requirements for 2018 for PTC compliance and to qualify for a revised schedule.

West of Hudson Signal Improvements

The purpose of this project is to install a new 100 Hz Cab Signal system replacing the existing antiquated system on the Port Jervis Line between Suffern, NY (MP 31.3) and Sparrowbush, NY (MP 89.9), with the work divided into five segments. Metro-North forces are continuing to work on installations in preparation for a series of cut overs. Cut over from CP Harriman to CP Valley was complete in June 2018. Cut over at CP Hudson Junction was complete in November 2018. The next cut over from CP Valley to CP Hudson Junction is scheduled for January 2019.

Hudson Line Communication and Express Cable Installation

The purpose of the project is for the engineering, procurement, installation and the testing of fiber optic and copper cables and related installation materials, enclosures, equipment, conduits and hardware from CP 35 (Harmon) to CP 75 (Poughkeepsie).

Construction submittals phase is underway. Field survey, soil testing, and test pits are all on-going at various locations. Continue installing cable trough between CP 35 (Harmon) to CP 53 (Cold Spring) and continue performing test pits between CP 35 (Harmon) to CP 53 (Cold Spring).

Harlem Line Wayside Communications & Signal System Infrastructure Improvements

The purpose of the project is for the engineering, procurement, installation and the testing of fiber optic and copper cables and related installation materials, enclosures, equipment, conduits and hardware along CP 112 (Woodlawn) to CP 154 (Southeast).

Construction submittals phase is underway. Field survey, soil testing, and test pits are all on-going at various locations. Installation of cable trough is ongoing at segment one from CP 117 (Crestwood) to CP 119 (Scarsdale). Segment one is scheduled to be completed by October 2019.

SHOPS AND YARDS

Harmon Shop Improvements

Phase V, Stage I Design-Build

- *Consist Shop Facility (CSF)* – Completed the pre-functional testing of low voltage control circuitry for the DC bug and stinger system for the application of permanent power, completed pre-functional testing of AC/DC substation, emergency generator, various mechanical systems, freight/passenger elevator and heating systems and awaiting permanent power. Mitigating short listed electrical open items to facilitate the application of permanent power to complete the remaining functional testing.
- *EMU (Electric Multiple Unit) Annex Building* – Mitigating short listed open items to facilitate issuance of the Certificate of Occupancy. Coordinating the phased User Department move into the facility beginning with second floor administrative areas and support shops. Continuing final testing and training on industrial equipment.
- *Yard Utilities and Miscellaneous* – Mitigating priority AC/DC Power open items in preparation for the application of permanent electric power.

Overall, Phase V, Stage I substantial completion is anticipated in February 2019.

Phase V, Stage II Preliminary Design - The scope of this work includes the demolition of the remainder of Building 6 as well as the associated Building 5 storeroom and the construction of the balance of the Phase V Electric Car Shop and Support Shop facilities.

- Commenced with the site survey to facilitate the design development of the Running Repair and Support Shop. Submitted the 90% early electrical construction drawings and the 90% Building #6 demolition drawings for Metro-North stakeholder's review. Design development of construction documents for the new Running Repair and Support Shop continues.

2018 MNR Capital Program Goals

As of December 31, 2018

In Millions

