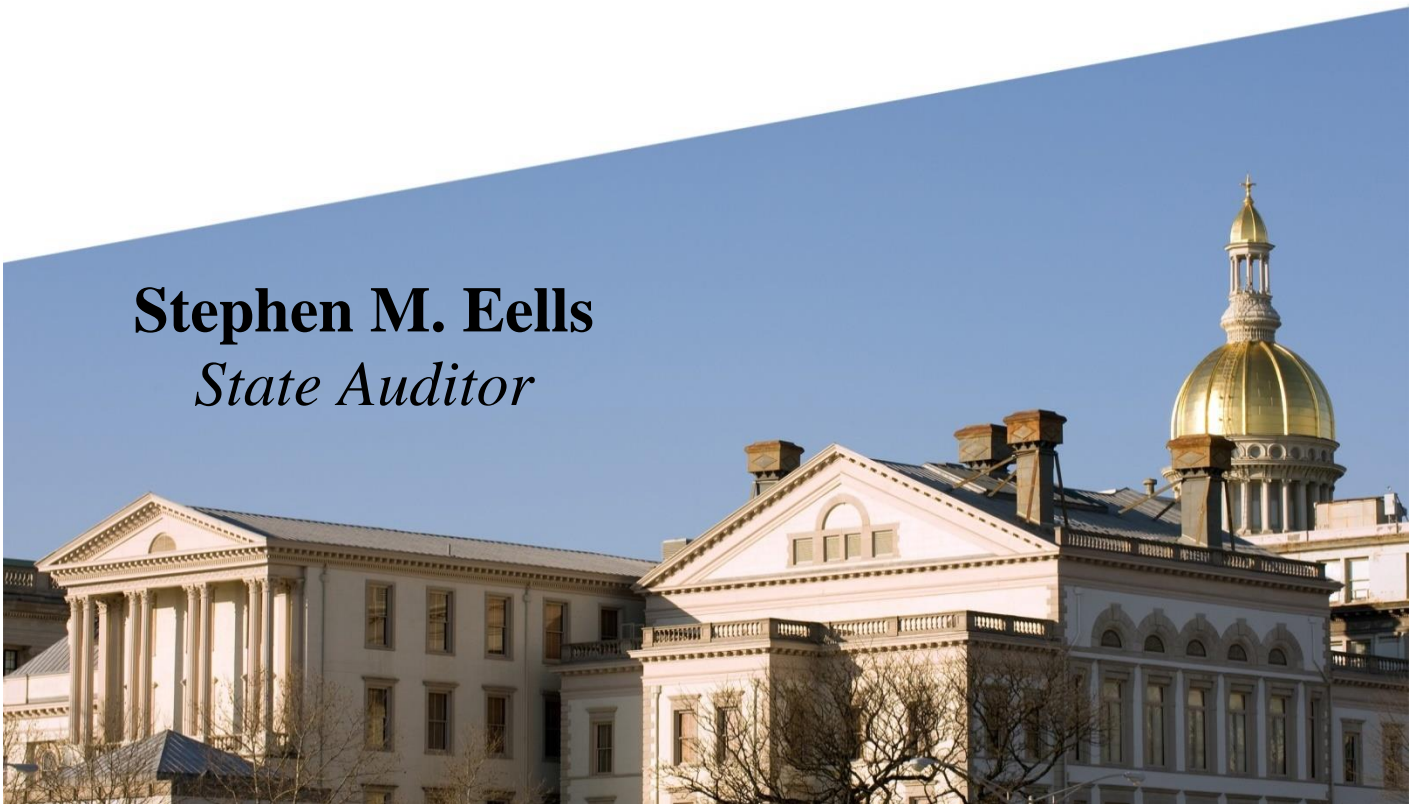


New Jersey Legislature
★ *Office of* LEGISLATIVE SERVICES ★
OFFICE OF THE STATE AUDITOR

New Jersey Transit Corporation
Rail Operations

July 1, 2016 to October 31, 2019

Stephen M. Eells
State Auditor



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Enclosed is our report on the audit of the New Jersey Transit Corporation, Rail Operations for the period of July 1, 2016 to October 31, 2019. If you would like a personal briefing, please call me at (609) 847-3470.

A handwritten signature in blue ink, appearing to read "Stephen M. Eells".

Stephen M. Eells
State Auditor
January 29, 2020

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Scope

We have completed an audit of the New Jersey Transit Corporation (NJT), Rail Operations for the period July 1, 2016 through October 31, 2019. Our audit was limited to reviewing NJT's utilization of capital funds, compliance with federally mandated rail safety technological initiatives, and Federal Railroad Administration required inspections of tracks, switches, and bridges. Our audit also included a review of NJT's on-time performance for its rail operations and an evaluation of its bridge maintenance plan.

NJT's mission is to provide safe, reliable, convenient, and cost-effective transit service with a skilled team of employees, dedicated to its customer needs, and committed to excellence. NJT receives state appropriations for operations and capital expenditures through the New Jersey Department of Transportation. Fiscal year 2017 state appropriations were \$140.9 million for all operations (rail, bus, and light rail) and \$582.5 million for capital expenditures.

Objectives

The objectives of our audit were to review NJT's utilization of capital funds, compliance with federally mandated rail safety technological initiatives, and Federal Railroad Administration required inspections of tracks, switches, and bridges. Our audit also included an evaluation of NJT's on-time performance for its rail operations and a review of its bridge maintenance plan.

This audit was conducted pursuant to the State Auditor's responsibilities as set forth in Article VII, Section I, Paragraph 6 of the State Constitution, Title 52 of the New Jersey Statutes and N.J.S.A.27:25-5.24.

Methodology

Our audit was conducted in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In preparation for our testing, we studied federal and state legislation, the administrative code, and policies of NJT. Provisions we considered significant were documented and compliance with those requirements was verified by interview, observation, and through our testing of financial transactions. We also reviewed financial trends and interviewed NJT personnel to obtain an understanding of the programs and the internal controls.

A nonstatistical sampling approach was used. Our samples of financial transactions were designed to provide conclusions on our audit objectives as well as internal controls and compliance. Sample populations were sorted and transactions were judgmentally selected for testing.

Conclusions

We found weaknesses related to the timeliness of NJT's efforts to implement federally required rail safety technological initiatives as well as the monitoring of vendors contracted by NJT to design and install those safety initiatives. Our review of capital funds transfers found capital funds are being utilized for allowable maintenance that extends the useful life of the equipment over five years, however we also observed reclassification of appropriations to capital projects other than their intended purpose. We also found NJT has an adequate process in place to ensure required Federal Railroad Administration inspections are addressed timely. We further noted NJT has not adequately documented the prioritization for the repair or replacement of some bridges with main components determined to be in poor or bad condition. In addition, we made an observation regarding NJT's on-time performance for its rail operations.

Positive Train Control System

New Jersey Transit is behind schedule on its federally required safety system installation and has not collected approximately \$9.1 million in contractually allowable liquidated damages as of September 2019.

Per the federal Rail Safety Improvement Act (RSIA) of 2008, all railroads were required to implement Positive Train Control (PTC) by December 31, 2015. PTC uses technology to prevent train-to-train collisions, overspeed derailments, incursions into established work zone limits, and the movement of a train through a main line switch left in the wrong position.

Project Budgeted Costs

In order to comply with the RSIA, New Jersey Transit (NJT) awarded two contracts (consultant and contractor). In August 2010, NJT awarded the first contract totaling \$3.2 million for program management support (consultant) services. Under the terms of this contract, the consultant was to provide an organizational structure that would address each task in the project required to complete the design, furnishing, construction, testing, and commissioning of the PTC system. The consultant was to establish and institute procedures for controlling the budget, the project schedule, product quality, and expedite the successful completion of the project. In August of 2011, NJT awarded a second contract (contractor) for \$151 million for the design, furnishing, construction, testing, and commissioning of the PTC system with anticipated completion of the work by December 15, 2015. Including a budget for other costs (including in-house) of \$70 million, the initial budget for this project totaled \$225 million.

As of September 30, 2019, the consultant contract has received six approved change orders (see Appendix A) thereby increasing the value of the current contract to \$41.4 million of which \$37.7 million has been paid. The consultant contract expired on December 31, 2019. On November 6, 2019, NJT signed a contract with a new consultant to provide program management support services. The new consultant contract began on November 6, 2019 with a projected completion date of December 31, 2021 for a total of \$47.4 million. The contractor has received eight approved change orders (see Appendix B) increasing the current value of the contract to \$210.3 million of which \$149.3 million has been paid. As of September 12, 2019, total budgeted PTC project costs are \$500 million including the initial consultant (\$41.4 million), contractor (\$210.3 million), new consultant (\$47.4 million), and other costs totaling \$200.9 million (including in-house).

Project Implementation

The federal Positive Train Control Enforcement and Implementation Act of 2015 amended the RSIA of 2008 and extended the deadline by three years to December 31, 2018, with the possibility of an “alternative schedule and sequence” with an extended deadline no later than December 31, 2020. On February 22, 2019, the Federal Railroad Administration (FRA) approved NJT’s alternative schedule and sequence for the full implementation of its PTC system by December

31, 2020. The revised schedule reduced the number of trains to be equipped with PTC hardware from 440 to 282 by December 31, 2018. Going forward, NJT plans to equip all 440 trains with PTC hardware by December 31, 2020.

As of September 30, 2019, NJT reported to the FRA that PTC hardware had been installed on 413 of 440 trains. However, due to reported software issues, the system is not yet functional. NJT is continuing with field-testing of the PTC system. NJT is currently behind its implementation schedule and has not started testing the PTC system with ticketed passengers. This demonstration process was planned to begin in July 2019. Despite a number of deadline extensions for implementation and contract change orders, at this time it is debatable whether NJT will meet the PTC full implementation deadline of December 31, 2020.

Penalties

NJT has assessed liquidated damages on the contractor of \$25,000 per calendar day for the failure to meet certain project milestones by September 2018. As of September 2019, liquidated damages totaled \$9.1 million. However, none had been collected as of October 23, 2019.

Recommendation

We recommend NJT strive to comply with the federally mandated deadlines. NJT should improve its monitoring of its PTC vendors and hold its consultants and contractor accountable for the failure to meet agreed upon project milestones as per the contracts and collect contractually allowable liquidated damages.



Railroad Bridges

New Jersey Transit has not adequately documented the prioritization for the repair or replacement of some bridges determined to be in poor or bad condition.

Federal Bridge Safety Standards require each track owner to adopt a bridge safety management program that shall include an accurate inventory of railroad bridges and a bridge inspection program. Each bridge inspection shall be done at least once in each calendar year with not more than 540 days between any successive inspections. Inspection reports shall be reviewed to evaluate for any present or potential safety hazards or if any repairs or modifications to the bridge should be scheduled to maintain structural integrity. New Jersey Transit (NJT) inspects and maintains all railroad bridges it owns.

Undergrade Bridges

An undergrade railroad bridge is any single opening under a track five feet or more, measured along the center of the track, and any open deck structure, regardless of the length of the opening.

As of October 8, 2019, NJT maintained an inventory and regularly inspected 576 in-service undergrade bridges.

NJT implemented a Bridge Inspection and Maintenance Action operating procedure, which requires annual bridge inspections with certain types of bridges, such as open floor steel bridges, to be inspected semi-annually. The condition of two main bridge components, superstructure and substructure, are assessed as good, fair, poor, or bad for each bridge on the inspection report. Poor conditions include advanced section loss, deterioration, or spalling (i.e. water entering brick, concrete, or natural stone forcing the surface to peel, pop out, or flake off) of one or more primary structural elements. Bad conditions would require advanced deterioration of primary structural elements. Until corrective action is completed, it may be necessary to impose speed restrictions. According to NJT management, the overall condition of the bridge is determined by the lower of both of these ratings. Inspection reports serve as a basis for planning bridge maintenance and repairs. After a detailed evaluation and assessment, bridges under the maintenance jurisdiction of NJT are placed on a repair or replacement plan with a priority designation.

We reviewed inspection reports for the 576 undergrade bridges reported in NJT's inventory for calendar years 2017, 2018, and those available for 2019 as of August 29, 2019. A total of 156 of 576 inspected undergrade bridges had at least one of its main components assessed as poor or bad in the most recent inspection report as summarized in the following chart.

Undergrade Bridges Assessed as Poor or Bad

Repair/Replacement Status	Poor Condition	Bad Condition	Total
Bridge repair completed	1	-	1
Bridge repair project in design phase	4	2	6
Bridge included on 2019 repair/replacement plan	99	6	105
Bridge not included on repair/replacement plan	44	-	44
Total	148	8	156

A total of 44 undergrade bridges, with 38 of the 44 having at least one main component assessed as poor since 2017, have not been given any priority designation for inclusion on the repair or replacement plan.

Overhead Bridges

The New Jersey Railroad Overhead Bridge Act of 1988 defines a railroad overhead bridge as “any bridge carrying a highway or private road over and across a railroad, subway, or street, traction, or electric railway, or over and across the-right-of-way of such a railroad, subway, or railway.” The Act assigns NJT the responsibility for the maintenance, rehabilitation, and replacement of overhead bridges over and across a right-of-way owned by the NJT.

The same Bridge Inspection and Maintenance Action procedure that applies to undergrade railroad bridges applies to overhead bridges. NJT requires an annual inspection of all overhead

bridges. We reviewed the inspection reports for the 103 overhead bridges in NJT's inventory for the calendar years 2017, 2018, and those available for 2019 as of August 29, 2019.

A total of 18 of 103 inspected overhead bridges had the condition of at least one of the main components assessed as poor or bad as summarized in the following chart.

Overhead Bridges Assessed as Poor or Bad

Repair/Replacement Status	Poor Condition	Bad Condition	Total
Bridge closed for replacement	-	1	1
Bridge on 2019 repair/replacement plan	8	1	9
Bridge on 10 year replacement plan	5	-	5
Bridge not on repair/replacement plan	2	1	3
Total	15	3	18

A total of three bridges have not been included on the repair plan. These three had at least one main component assessed as either poor or bad condition at least as far back as 2017.

By not including them on the repair plan, NJT management has not taken steps to adequately document the prioritization for all 47 bridges with at least one main component assessed as poor or bad. Addressing bridges in poor or bad condition may prevent more costly structural damage.

Recommendation

New Jersey Transit should take steps to document the prioritization for the repair or replacement of all bridges with main components determined to be in poor or bad condition.



Observations

On-Time Performance

Manpower and equipment shortages contributed to New Jersey Transit Rail Operations not achieving its on-time performance goals with even poorer performance during the critical peak hours.

New Jersey Transit (NJT) Rail Operations owns and operates 12 rail lines that are categorized as the Newark division, the Hoboken division, and Atlantic City. They comprise approximately 544 track miles serving New York City, New Jersey, and Philadelphia. NJT is responsible for a vital mass-transit system that provides service to millions of passengers while supporting New Jersey's economy and reducing road traffic congestion. During calendar years 2016 through 2018, NJT scheduled an average of 216,000 passenger trains per year which provided transportation services

to approximately 87 million rail riders and annually collected approximately \$574 million in rail revenue.

NJT Rail Operation sets its annual overall on-time performance goal for passenger rail operations at 94.7 percent of all scheduled trains. During calendar years 2010 to 2016, NJT reasonably achieved its target performance goal; however, it failed to achieve that goal during calendar year 2017 through May 2019. The overall annual average on-time performance for these 29 months was 91 percent. A train is considered delayed when it arrives at its final destination six minutes or more after its scheduled arrival time. Further analysis of the data for the period disclosed that on-time performance during critical peak hours was even lower (87 percent). NJT defines peak hours as weekday mornings between 6:30 AM and 9:30 AM and evenings between 4 PM and 7 PM.

NJT uses its Train Reporting System to track on-time performance. This system requires manual input of causes for train delays. The supervisor of train operations enters the cause of delays based on input from the train crew or other railroads. We reviewed these causes and determined delays due to weather, police activity, or other railroads were beyond NJT management's control and were not preventable; however, delays due to equipment and manpower shortages are under management's control and may have been preventable.

Our review of the delays noted that 38 percent of the delays during calendar year 2017 through May 2019 were due to circumstances that may have been preventable. The following chart shows the on-time performance for the period by train count and whether the delay was preventable.

Calendar Year (CY) 2017 through May 31, 2019 On-Time Performance

	CY 2017, 2018, and 2019 as of 5/31/19	Percent of Delayed Trains for the Period
Total Trains Scheduled	513,630	
On-Time Trains	466,002	
Delayed Trains	47,628	
On-Time Performance for Period	91.72%	
Delays Not Preventable by NJT	29,219	61.4%
Delays Potentially Preventable by NJT	18,102	38.0%
Unknown (Miscellaneous)	307	0.6%
Total Number of Delayed Trains	47,628	

We further analyzed the delays that may have been preventable and found they were due to various causes as shown by the chart below. Delays related to the federally required implementation of Positive Train Control were excluded from this analysis.

Delays Potentially Preventable by NJT - CY 2017 through 5/31/19

Cause of Delay	Delayed Trains	Percent of Delayed Trains
Human Error	1,879	10.4%
Manpower Shortage	3,584	19.8%
Rail Infrastructure	3,870	21.4%
Rail Mechanical	7,164	39.6%
Rail Transportation	240	1.3%
Shortage of Equipment	1,365	7.5%
Total Delayed Trains	18,102	

Use of Capital Project Appropriations

New Jersey Transit reclassified capital project appropriations and utilized them for projects other than their intended purpose.

New Jersey Transit receives capital funding for specific projects through the New Jersey Department of Transportation (DOT), Special Transportation Fund. Although we noted capital funds are being utilized for allowable maintenance extending the useful life of equipment in excess of five years, we noted funds were reclassified and utilized for different capital projects. In one instance, \$45 million was reclassified from the Locomotive Overhaul project to bus related projects, and in another instance, \$22.4 million was reclassified from the Portal Bridge project to River Line related projects and the Hudson Tunnel Project. The DOT is aware of NJT's reclassification of capital project appropriations. We further noted the projects the funds were transferred from are active projects in fiscal year 2018.



APPENDIX A

Consultant Contract and Change Orders Summary			
Initial Contract	August, 2010	Initial contract for program management support services to establish and institute procedures for controlling the budget, the schedule, product quality, and expedite the successful completion of the project.	\$ 3,241,123
Change Order	Effective Date	Change Order Brief Summary	Contract Added Value
1	June, 2014	Awarded two additional phases, the wayside, on-board, office implementation phase, and the completion and project close-out phase of the PTC project with an updated project completion date of 9/1/2018.	\$ 4,209,377
2	December, 2014	Extension of support services for the Site Acceptance, Testing, and Demonstration Phase of the PTC project. Scope of services for this extension included project management and administration, systems engineering support, signals engineering support, project integration and communications engineering support, vehicle equipment engineering support, quality management support, and documentation support.	\$ 458,523
3	October, 2016	Extension of support services for various phases of the PTC project modifying completion date for each phase and contract extension of completion which modified the total time of completion to 12/31/2019.	\$ 18,412,527
4	June, 2017	Deleting completion dates for individual phases of the PTC project as modified by change order 3, maintaining the completion date of all services as 12/31/2019.	\$ -
5	August, 2018	Expansion of resources with multiple additional shifts, additional locations, resulting from NJT's extended PTC system implementation deadline.	\$ 12,771,251
6	August, 2019	Expansion of resources with multiple additional shifts, additional locations, resulting from NJT's extended PTC system implementation deadline.	\$ 2,299,513
Total Contract Value as of August 2019			\$ 41,392,314

APPENDIX B

Main Contract and Change Orders Summary			
Initial Contract	August, 2011	Initial contract for design, furnishing, construction, testing, and commissioning of PTC system	\$ 151,317,328
Change Order	Effective Date	Change Order Summary	Added Value
1	May, 2014	Incorporation of option 2 into the contract, requiring Metro North Railroad vehicles (30) be modified to meet all requirements with ASES II PTC.	\$ 2,762,202
2	June, 2014	Incorporation of option 5 into the contract, for the procurement of the design, furnishing, and installation of ASES II equipment including I-ETMS (Interoperable Electronic Train Management System-freight operations technology) support for Metro North Southern Tier Right-Of-Way.	\$ 1,543,436
3	October, 2015	Revised contractual milestone payment schedule, resolution and settlement of categories of multiple pending changes, and other agreed upon changes to the contract.	\$ 150,032
4	February, 2017	"Reset" of the project, including revised contractual milestones (project phases) and revised work completion dates for such milestones, revised delays and liquidated damages language including revised work completion dates, and assigning of additional resources for project acceleration for completion of work by mandated deadline (12/31/2018). This change order also includes settlement of categories of multiple pending changes to the contract, and extension of time costs.	\$ 42,500,000
5	January, 2018	Temporary return of 20 vehicles to NJT (to address NJT operational needs).	\$ -
6	August, 2018	Identified the project is behind schedule for timely completion of the major milestones completion dates. This change order clarified the major milestones, specified interim milestones and deliverables for phase III (system-wide deployment) work and completion dates for the interim milestones and deliverables, and reduced the number of vehicles that must be retrofitted. This change order released the contractor from liquidated damages that were being assessed in accordance with change order 4. This change order also added clarification of the contract's liquidated damages provision including liquidated damages for certain interim milestones, revised/increased daily liquidated damages amounts going forward, and addressed certain pending Notices of Proposed Changes (NPCs) and Contractor Initiated Changes (CICs) (adding costs to the contract).	\$ 3,500,000
7	August, 2018	Established an allowance for the design and implementation of I-ETMS. This Change order was reached after disagreement between NJ Transit and the Contractor, where NJ Transit's position was that I-ETMS work was required under the original terms of the contract, and the contractor's position was that I-ETMS work is an unexercised contract allowance requiring a contract change order to authorize the work.	\$ 3,300,000
8	August, 2019	Modified the scope of work for 75 NJ Transit vehicles and authorized the purchase of PTC Kits for the 75 vehicles.	\$ 5,200,000
Total Contract Value as of August 2019			<u>\$ 210,272,998</u>

Philip D. Murphy, Governor
Sheila Y. Oliver, Lieutenant Governor
Diane Gutierrez-Scaccetti, Commissioner
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January 23, 2020

Mr. David J. Kaschak
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**RE: Response to January 9, 2020 Confidential Draft State Auditor Report:
NJ TRANSIT Rail Operations – July 1, 2016 to October 31, 2019**

Dear Mr. Kaschak:

On January 9, 2020, NJ TRANSIT received a confidential draft copy of the Office of the State Auditor's report dated that same day and titled, "New Jersey Transit Corporation, Rail Operations" for the period July 1, 2016 to October 31, 2019 (the Report). The Report addresses four (4) areas of NJ TRANSIT Rail Operations. Please accept NJ TRANSIT's below comments to each area of the Report.

I. Positive Train Control (PTC)

The Rail Safety Improvement Act of 2008, as amended by the Positive Train Control Enforcement and Implementation Act of 2015 (PTCEI Act), required railroads to implement PTC by December 31, 2018. But if a railroad met all statutory criteria required for a deadline extension, the PTCEI Act authorizes the Federal Railroad Administration (FRA) to approve a railroad's request for an extension to complete PTC system implementation by no later than December 31, 2020. On February 22, 2019, the FRA granted NJ TRANSIT's request for such an extension.

The Report found that NJ TRANSIT is behind its implementation schedule for the Positive Train Control (PTC) project. Specifically, the Report states that NJ TRANSIT was scheduled to begin demonstration testing with ticketed passengers in July 2019 but did not do so. This demonstration testing is referred to as Revenue Service Demonstration (RSD) testing and is required by the FRA before a PTC system can be certified. The Report mentions the FRA's February 2019 approval of NJT's alternative "sequence and schedule." The Report, however, mentions only the FRA-approved alternative schedule for hardware installation in trains. By not explaining the alternative RSD testing schedule, the Report creates an incorrect impression that NJ TRANSIT missed a July 2019 RSD

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testing milestone. The FRA-approved Alternative Schedule and the detailed schedule for the project developed by NJ TRANSIT with project stakeholders did not include a specific July 2019 RSD testing milestone.

NJ TRANSIT submitted an alternative schedule for PTC implementation to the FRA in NJ TRANSIT's Positive Train Control Implementation Plan (PTCIP), revision 8.1, which the FRA approved in February 2019. The alternative schedule for PTC implementation is set forth in Figure 7.1 of NJ TRANSIT's PTCIP (rev. 8.1), which contains a high-level schedule for training and testing and commissioning of NJ TRANSIT's PTC system in half-year blocks.

NJ TRANSIT's currently approved alternative schedule shows that NJ TRANSIT was scheduled to begin RSD on a demonstration track section on the Morristown Line, on the full Morristown Line, and on the Montclair-Boonton Line in the second half of 2019 (with RSD beginning on NJ TRANSIT's other rail lines in 2020). A more detailed schedule for the PTC project, which contains many more activities and more specific dates, was developed with project stakeholders to match the high-level alternative schedule approved by the FRA. Consistent with the alternative schedule approved by the FRA, this more detailed Project schedule shows NJ TRANSIT applying to the FRA to enter RSD in September 2019 and entering RSD on the demonstration track on the Morristown Line in November 2019 and the full Morristown and Montclair Boonton Lines before the end of 2019.

NJ TRANSIT acknowledges that its PTC Contractor has experienced delays in providing functional on-board software that can be used for RSD testing of the PTC system, and that it will not be entered into RSD on any lines in 2019. As a result, NJ TRANSIT will be submitting to the FRA a request to amend its PTCIP (rev. 8.1) to include a revised alternative schedule for PTC implementation that accounts for the software delay and shows that NJ TRANSIT will enter RSD in the first half of 2020. This revised alternative schedule will still show that NJ TRANSIT's PTC system will be certified by December 31, 2020 in accordance with federal law.

The Report recommends that NJ TRANSIT:

1. strive to comply with the federally mandated deadlines;
2. improve its monitoring of its PTC vendors;
3. hold its consultants and PTC Contractor accountable for the failure to meet agreed upon project milestones; and
4. collect liquidated damages from NJ TRANSIT's PTC Contractor.

NJ TRANSIT responds to these specific recommendations as follows.

First, the PTC project is of the highest priority and importance at NJ TRANSIT and will continue to be until it is completed and the FRA certifies NJ TRANSIT's PTC system.

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NJ TRANSIT has devoted significant internal and third-party resources to support its PTC Contractor's efforts and in furtherance of complying with the FRA's requirements and deadline for PTC implementation. Such efforts include, without limitation, obtaining an alternative schedule for PTC implementation, the additional expenditures noted in the Report's findings, self-performing certain work that was within the PTC Contractor's scope of work, coordinating with sister railroads on PTC issues, holding regular status update and technical meetings with FRA personnel, and continually working to develop solutions to mitigate the PTC Contractor's delays in ways that are mindful of safety, impact on NJ TRANSIT's customers, and the need to comply with the FRA's December 31, 2020 deadline. NJ TRANSIT will continue to focus its efforts on implementing PTC by December 31, 2020.

Second, NJ TRANSIT extensively monitors its PTC Contractor and its subcontractors with NJ TRANSIT personnel and third-party consultants. For example, NJ TRANSIT representatives have been embedded at the PTC Contractor's off-site vehicle retrofit facilities, accompanied the PTC Contractor on wayside activities, visited the plant of the PTC system's designer (a subcontractor to NJ TRANSIT's PTC Contractor), and are present on-board NJ TRANSIT's vehicles for the ongoing field testing of the PTC system. NJ TRANSIT provides the PTC Contractor office and work space at NJ TRANSIT's Meadows Maintenance Complex in Kearny to conduct additional PTC vehicle testing and vehicle field modifications (with NJ TRANSIT monitoring these activities). In addition, NJ TRANSIT has reviewed and inspected its PTC Contractor in a variety of Project areas. NJ TRANSIT will continue to monitor its PTC Contractor and push the Contractor to provide the deliverables required to comply with project deadlines and the FRA's December 31, 2020 deadline for PTC implementation.

Third, NJ TRANSIT agrees that it is important for NJ TRANSIT to hold its PTC Contractor accountable for project milestones. NJ TRANSIT, however, does not agree with the Report's recommendation that it also hold NJ TRANSIT's third-party consultants accountable for meeting such milestones. Under its contract with NJ TRANSIT, the PTC Contractor is responsible for the design, installation, testing, or commission of the PTC system, and the project milestones, including, for example, the December 31, 2020 deadline. NJ TRANSIT cannot contractually hold third-party consultants accountable for delays or failures by the PTC Contractor to provide deliverables for NJ TRANSIT's PTC system.

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Fourth, NJ TRANSIT acknowledges the Report's finding that NJ TRANSIT has not yet collected liquidated damages from the PTC Contractor. Among other things, Change Order No. 6 established a series of interim milestones associated with certain project deliverables in the second half of 2018 and authorized NJ TRANSIT to assess and collect a maximum of \$25,000 per day if the PTC Contractor did not timely meet one (1) or more of these interim milestones. The specific liquidated damages identified in the Report are associated with three (3) interim milestones by which the PTC Contractor was required to complete retrofitting of a specified number of vehicles as defined by Change Order No.

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6. Pursuant to Change Order No. 6, NJ TRANSIT could initially only assess, but not collect, liquidated damages if the PTC Contractor failed to meet these retrofitted vehicle interim milestones. Change Order No. 6 provided the PTC Contractor with a grace period until February 28, 2019 to retrofit the required number of vehicles, and NJ TRANSIT could collect the assessed liquidated damages only if the PTC Contractor did not retrofit the required number of vehicles by the end of that grace period.

For each of these retrofitted vehicle interim milestones, NJ TRANSIT determined that the PTC Contractor did not meet the interim milestone, and NJ TRANSIT notified the PTC Contractor that it was assessing, but not collecting, liquidated damages in accordance with Change Order No. 6. In each instance, and before the grace period expired, the PTC Contractor exercised its dispute rights under the Contract and submitted notices of appeals to NJ TRANSIT's right to assess and collect those liquidated damages. The hearings on those appeals have been deferred by agreement with the PTC Contractor. Because the PTC Contractor had previously exercised its rights under the Contract to challenge NJ TRANSIT's right to assess and collect these liquidated damages, when the grace period expired, NJ TRANSIT decided to continue to assess, but not yet collect, liquidated damages in the amount of \$25,000 per day for the PTC Contractor's failure to meet the retrofitted vehicle interim milestones, which currently remain incomplete.

Going forward, NJ TRANSIT intends to resolve the issue of the disputed liquidated damages. In addition, NJ TRANSIT continues to evaluate whether to collect such liquidated damages as the facts and circumstances on the project evolve and has notified the PTC Contractor that it reserves the right to collect the assessed liquidated damages in the future. There is currently a sufficient balance on the Contract with the PTC Contractor for NJ TRANSIT to collect the assessed liquidated damages associated with the retrofitted vehicle interim milestones if it is determined that such funds should be collected.

II. Railroad Bridges

At the outset, NJ TRANSIT must state that all NJ TRANSIT-owned bridges are safe for railway and roadway traffic and that its bridge inspection program meets federal standards. Federal regulations, 49 CFR Parts 213 and 237, require NJ TRANSIT to adhere to the FRA's "Bridge Safety Standards". NJ TRANSIT is and has always been in compliance with these regulations. The major components of these standards require the track owner to:

1. develop a bridge management system to keep an accurate count of all bridges in its inventory;
2. inspect each bridge on a yearly basis by qualified personnel; and,
3. determine the load capacity of each bridge.

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The Report states that "New Jersey Transit has not adequately documented the prioritization for the repair or replacement of some bridges determined to be in poor or bad condition." Although the report suggests there is an inadequate amount of documentation, all NJ TRANSIT-owned bridges are prioritized correctly. If any condition is found on a NJ TRANSIT-owned bridge by either NJ TRANSIT bridge inspectors or the many NJ TRANSIT maintenance and operating personnel, the condition is immediately remedied by in-house maintenance and construction personnel. Conditions that require immediate attention do not appear on NJ TRANSIT's priority repair or replacement list because the conditions are resolved as soon as possible.

All NJ TRANSIT-owned bridges which support either railroad or roadway traffic are safe. The statement in the Report, "Addressing bridges in poor or bad condition may prevent more costly structural damage" is not fully accurate. This statement was derived from information provided to the auditors regarding 44 undergrade bridges -- bridges supporting trains -- and three (3) overhead bridges -- bridges supporting roadways that cross over railroad tracks. Each of these 47 bridges received a condition rating of poor or bad condition for one of the two (2) main components of the bridge -- superstructure and substructure -- and were not on NJ TRANSIT's priority repair or replacement list.

The visual inspection of bridges that produces a good, fair, poor, or bad assessment is only one (1) factor by which NJ TRANSIT evaluates a bridge's defects for inclusion on the priority list. NJ TRANSIT's Structures Department incorporates information from the inspection report, which would include an assessment of poor or bad, with all available information regarding the bridge including load capacity, type of structure, additional inspection, or maintenance history of structure, etc. to determine if the identified defect warrants the inclusion of the bridge on the priority list.

This priority list is updated on a yearly basis in early spring after all the previous year's inspections have been completed. If the defects causing the bridge condition to receive a poor rating do not significantly affect the load carrying capacity of the bridge or do not cause a condition that would affect the operations of the railroad, the bridge may not be included on the priority list. For example, the substructure of a bridge constructed of either masonry stones or concrete may exhibit a localized deteriorated area that looks bad and consequently reduces the structure's condition to poor condition. But because this condition is localized and the substructure is constructed with massive amounts of stone masonry or concrete, the defect represents a very small percentage of the overall size and does not affect the load carrying capacity or the railroads' operational capacity. Consequently, NJ TRANSIT may not include such a bridge on its priority list. Simply put, a bridge having a condition rating of poor on one (1) of its components may have no impact on the bridge's ability to safely carry rail, automobile, or pedestrian traffic.

The Report referenced three (3) overhead bridges that were not on NJ TRANSIT's priority list for repairs or replacement. NJ TRANSIT advises that two (2) of the three (3)

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bridges recently underwent major rehabilitation and that information was unavailable to the State Auditors at the time they were performing their fieldwork.

III. On-Time Performance

For all scheduled trains, NJ TRANSIT's on-time performance goal is 94.7%. The Report reviewed on-time performance during a nine-year and five-month time period and found that NJ TRANSIT achieved this goal for seven (7) consecutive calendar years -- 2010 - 2016.

For the two-year and five-month period of January 2017 through May 2019, the Report found that NJ TRANSIT's on-time performance was 91%. Of the nine percent (9%) of trains that did not meet the on-time performance goal, 62% percent of the delays were caused by reasons beyond NJ TRANSIT management's control such as Amtrak trains, police activity, or weather-related events. In other words, about two-thirds to all train delays in this period were not related to NJ TRANSIT's management of Rail Operations.

The Report suggests that from January 1, 2017 through May 31, 2019 that 38% of the nine percent (9%) of train delays "may have been preventable." But by focusing on only the delayed trains, the Report fails to note that of all the trains NJ TRANSIT scheduled during this more than two-year period, only three percent (3%) were delayed for factors potentially within the dominion and control of NJ TRANSIT management. The Report separates "preventable" circumstances into six categories. More than 88% stem from four (4) categories:

1. Manpower Shortage (19.8%);
2. Rail Mechanical (39.6%);
3. Shortage of Equipment (7.5%); and,
4. Rail Infrastructure (21.4%).

Each of these factors was aggravated over the past two (2) years by a lack of strategic planning and underfunding by prior NJ TRANSIT management. The current NJ TRANSIT management team has taken steps to remedy the previous administration's actions by placing an emphasis on hiring and training more engineers and conductors to alleviate the labor force shortage and investing in modernizing the rail fleet.

Since 2018, NJ TRANSIT has hired 169 locomotive engineer-trainees and 144 conductors to fill the depleted ranks of employees who have retired or left for other employment opportunities. Also since 2018, four locomotive engineer training classes have graduated and by Summer 2020 NJ TRANSIT expects to have a sufficient number of engineers to reliably operate the current rail schedule and accommodate PTC testing. In addition, over the two-year period of 2019-2020, NJ TRANSIT expects to graduate

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seven locomotive engineer training classes – the same number of classes that graduated in the previous five years combined.

Much of the NJ TRANSIT's rail equipment -- locomotives and coaches -- is more than 40 years old and requires more frequent service to maintain safe conditions for the riding public. Maintaining older rail stock may have contributed to the decrease in on-time performance. To address the aging rolling stock, in December 2018, the NJ TRANSIT Board of Directors authorized a \$670 million purchase of 113 Multilevel III passenger rail cars which will reduce mean distance between failure and provide improved customer amenities. And in December 2017, the NJ TRANSIT Board of Directors authorized a \$184.5 million purchase of 17 dual-powered locomotives to replace some of the oldest locomotives in the fleet, some of which were manufactured in the late 1960's. The new locomotives not only will improve reliability, but they also can operate across the entire NJ TRANSIT rail system in either electric or diesel mode providing greater equipment versatility and operating efficiency.

Further, many of the delays attributed to Rail Infrastructure involve maintenance of hundreds of miles of track and thousands of switches and signals that are used by millions of riders of each year. Safely maintaining the rights of way and infrastructure is a time-consuming undertaking that is subject to a variety of external factors that are not wholly under the control of NJ TRANSIT management. For example, changes in temperature that are not considered "weather related events" may cause mechanical switches to stick or signals to malfunction. NJ TRANSIT crews work tirelessly to remedy issues that manifest on any given day, in addition to their regular inspection and maintenance duties. NJ TRANSIT management is exploring opportunities to improve and modernize the rail infrastructure (e.g. addressing electrical components and upgrading switch heater components) thereby helping to reduce delays.

IV. Use of Capital Project Appropriations

The Report correctly found that NJ TRANSIT's use of New Jersey State capital funds is appropriate. The Report, however, makes an unrelated comment regarding NJ TRANSIT's reclassification of capital funds for projects other than their intended purpose. For example, the Report mentioned that NJ TRANSIT reclassified \$22.4 million that had been appropriated for the Portal Bridge project and reallocated it to River Line related projects.

The Report neither disputed NJ TRANSIT's authority to reclassify appropriations nor found that NJ TRANSIT acted improperly in any way. Rather, the Report notes that the New Jersey Department of Transportation found the reclassification to be appropriate. In this case, although State Transportation Trust Funds were originally allocated for the Portal Bridge Early Action Project and the Diesel Electric Locomotive Overhauls project, NJ TRANSIT later secured federal funding for these projects, which obviated the need for

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New Jersey State funding. The State funding was moved to allow other capital initiatives to advance.

By giving no context to the reclassification, the Report mistakenly suggests that NJ TRANSIT should not engage in such reclassifications although such reclassifications are effective management of capital funds. Indeed, this flexibility allows NJ TRANSIT to respond to changes in federal funding and to maximize the use of State funding in support of its capital projects.

Thank you for your consideration of NJ TRANSIT's comments. If you have any questions, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "K. S. Corbett", with a stylized flourish at the end.

Kevin S. Corbett
President & Chief Executive Officer

Auditor's Follow-up Response

The Office of the State Auditor is required by generally accepted government auditing standards (GAGAS) to provide additional explanation when an agency's response could potentially cloud an issue, mislead the reader, or inappropriately minimize the importance of the auditor's findings.

Auditor's Follow-up Response #1

The auditors obtained the July 2019 Revenue Service Demonstration testing milestone from New Jersey Transit's Positive Train Control Implementation Plan (Version 8.1). On page 67 of the plan, it states, "The current schedule shows lines being turned "on" for Revenue Service Demonstration (RSD) beginning in July 2019..."

Auditor's Follow-up Response #2

The auditor's report never references any third-party consultants. Our interpretation of New Jersey Transit's response is they are referring to the consultants providing program management support services when using the term third-party consultants. Our recommendation was not intended to imply New Jersey Transit should collect liquidated damages from its consultants if not contractually allowable.