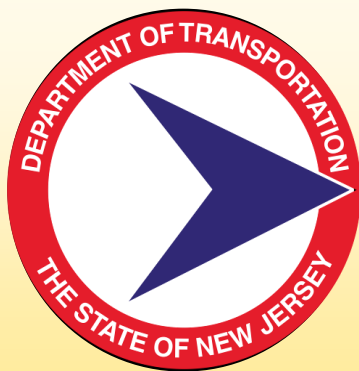
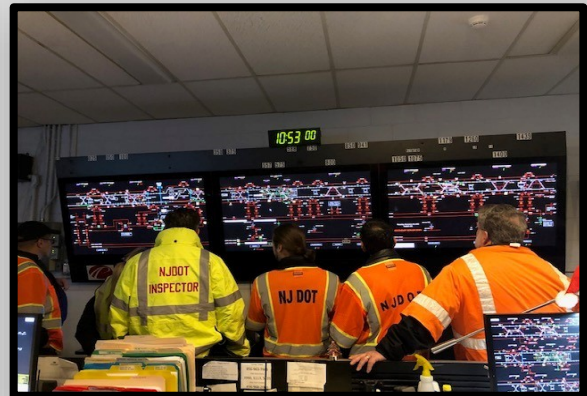


New Jersey State Safety Oversight Agency



Annual Public Rail Transit Safety Report to the Governor and the Legislature for Calendar Year 2019

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This publication is provided by the New Jersey Department of Transportation and is federally funded by the United States Department of Transportation's Federal Transit Administration. The United States Department of Transportation and New Jersey State Department of Transportation assumes no liability for its content or its use thereof.



Executive Summary

The purpose of this report is to provide the reader a concise overview of the efforts in overseeing the safety of rail fixed guideway systems in New Jersey.

Per 49 CFR Part 674.11 State Safety Oversight Program— Within three years of April 15, 2016, every State that has a rail fixed guideway public transportation system must have a State Safety Oversight (SSO) program that has been approved by the Administrator. FTA will audit each State's compliance at least triennially, consistent with 49 U.S.C. 5329(e)(9). At minimum, an SSO program must:

- a) Explicitly acknowledge the State's responsibility for overseeing the safety of the rail fixed guideway public transportation systems within the State;
- b) Demonstrate the State's ability to adopt and enforce Federal and relevant State law for safety in rail fixed guideway public transportation systems;
- c) Establish a State safety oversight agency, by State law, in accordance with the requirements of 49 U.S.C. 5329(e) and this part;
- d) Demonstrate that the State has determined an appropriate staffing level for the State safety oversight agency commensurate with the number, size, and complexity of the rail fixed guideway public transportation systems in the State, and that the State has consulted with the Administrator for that purpose;
- e) Demonstrate that the employees and other personnel of the State safety oversight agency who are responsible for the oversight of rail fixed guideway public transportation systems are qualified to perform their functions, based on appropriate training, including substantial progress toward or completion of the Public Transportation Safety Certification Training Program; and
- f) Demonstrate that by law, the State prohibits any public transportation agency in the State from providing funds to the SSOA.

Per 49 CFR Part 674.13(a)(7) – The State must ensure that at least once a year, the status of safety be reported to the Governors, the FTA, and the board of directors of each rail fixed guideway public transportation system.

Executive Order 65 (1997) places the responsibility with the New Jersey Department of Transportation (NJDOT), while N.J.A.C. 16:53E provides the rules that govern oversight.

In this role the NJ SSOA reviews, develops and implements standard and is actively involved in accident investigations, hazard management, corrective actions and roadway worker protection.

The collection and evaluation of data is essential in improving safety and the NJ SSOA focus on analyzing meaningful and actionable data. The data in this report is being gathered during 2019. Earlier data is also included for trend analysis.

New Jersey State Safety Oversight Program

What is the State Safety Oversight Program?

The purpose of the State Safety Oversight (SSO) program is to oversee the safety of the rail fixed guideway public transportation system. The SSO program is administered by eligible states with rail transit systems in their jurisdiction. Under 49 U.S.C. Section 5329(e), as amended by the Moving Ahead for Progress in the 21st Century Act (MAP-21), FTA is required to certify each state's program to ensure compliance with MAP-21.

Who administers the State Safety Oversight Program?

The Federal Transit Administration (FTA) administers a national transit safety program and program compliance oversight process to advance safe, reliable, and equitable transit service throughout the U.S. FTA's Office of Transit Safety & Oversight (TSO) helps make transit safer through policy development, safety event investigations, data collection, risk analysis, oversight programs and information sharing.

The role and responsibility of the Federal Transit Administration (FTA)

Federal Transit Administration (FTA) monitors each State Safety Oversight Agency (SSOA) via quarterly check-ins and audits completed every three years. The FTA assesses the SSO Program utilizing standard evaluation criteria tied directly to FTA regulations. The FTA confirms that the SSO Programs are both compliant with federal regulation and effective in safety oversight. The FTA evaluates available historical SSO Program audit findings and evaluates other risks and issues at an SSOA and/or rail fixed guideway public transportation systems (RFGPTS) which come to the FTA's attention.

FTA safety-related regulations provide several ways for FTA to provide safety oversight for the SSO Programs and the rail properties:

- The FTA may join/participate or lead an investigation or audit (49 CFR Part 674)
- The FTA may issue a General Directive (49 CFR Part 670) – The Administrator may issue a general directive that is applicable to all recipients or a subset of recipients due to an unsafe condition or practice, or a combination of unsafe conditions and practices, exists such that there is a risk of death or personal injury, or damage to property or equipment or any situation where the public interest requires the avoidance or mitigation of a hazard or risk.
- The FTA may issue a Special Directive (49 CFR Part 670) – The Deputy Administrator may issue a special directive to one or more named recipients due to a recipient engaging in conduct, or there is evidence of a pattern or practice of a recipient's conduct, in violation of the Public Transportation Safety Program or any regulation or directive issued under those laws or an unsafe condition or practice, or a combination of unsafe conditions and practices exists such that there is a substantial risk of death or personal injury, or damage to property or equipment.

The Fixing America's Surface Transportation (FAST) Act grants FTA the authority to temporarily assume direct administration of a State Safety Oversight Program in the event of a nonconforming, inadequate, or incapable SSO Program.

New Jersey State Safety Oversight Program

The role and responsibility of the Federal Transit Administration (FTA) (continued)

Specifically, the statute outlines three situations where FTA may assume the safety oversight of an SSO Program:

- SSO Program “is not being carried out in accordance” with 49 U.S.C. § 5329
- SSO Program “has become inadequate to ensure enforcement of Federal safety regulation”
- SSO Program “is incapable of providing adequate safety oversight consistent with the prevention of substantial risk of death or personal injury”

While monitoring SSO Programs, if the FTA uncovers risks/issues that reach a level of concern where regular check-ins will not remedy the situation, the FTA can escalate identified risks/issues to the FTA Administrator, who will determine if temporary direct administration of an SSO Program is required. If required, FTA performs an assessment to inform the forthcoming assumption decision. The assessment kicks off the FTA’s process, which consists of the following five distinct phases:

- **Assessment:** Gather and validate information on SSO Program identified as potentially at-risk of nonconforming or ineffective
- **Decision:** Determination is made to temporarily administer safety oversight of an SSO Program
- **Planning:** Develop a tailored plan for the FTA to temporarily assume direct administration of safety oversight of an SSO Program
- **Execution:** Conduct direct safety oversight for the SSOA and assist the SSOA to resolve deficiencies
- **Relinquishment:** Recertification SSO Program per 49 USC § 5329(e)(8)(B)(ii).

The State Safety Oversight Program Funding

Beginning with federal fiscal year (FY) 2013, MAP-21 provides a stable Federal funding source to enable States to meet these requirements, including funding to hire and train the staff necessary to execute these new responsibilities. Under MAP-21, a percentage of the Section 5307 Urbanized Area formula funds are made available to eligible States through the FTA SSO Formula Grant Program. This statute allows FTA to issue grants for up to 80 percent of the reasonable costs of a State Safety Oversight program. Every State is expected to use these funds to strengthen their SSOA and to position them to comply with the requirements of MAP-21. NJDOT secured the 20% matching funds necessary for receipt of the grant funds.

FTA reviews activities to ensure that recipients of grants use the funds in a manner consistent with their intended purpose and in compliance with regulatory and statutory requirements. FTA assesses state management practices and program implementation of several formula grants. The reviews are conducted every three years and encompass 17 areas of compliance, including grant administration, procurement, and civil rights.

New Jersey State Safety Oversight Program

The State Safety Oversight Agency (SSOA)

An SSOA is an agency established by a State that meets the requirements and performs the functions specified by 49 U.S.C. Section 5329(e) and the regulations set forth in this part. [49 CFR Part 674.7]

The role and responsibility of the State Safety Oversight Agency (SSOA)

The revised program standard version outlines how the NJ SSOA implements the SSO program to meet the requirements of 49 CFR 672, 49 CFR 673 and 49 CFR 674.

Review and formally approve rail property documents and designations:

- PTASPs
- Assignments of Accountable Executives and Chief Safety Officers
- Annual Safety Reports
- Internal Safety Audit Reports
- Safety Event Investigation Reports
- Corrective Action Plans (CAPs)

Mandate and issue:

- Additional inspections, testing, measurements, and field observations
- Notices of Violation for failure in compliance regarding:
 - .1 CAPs, workload assessment, staffing, administrative documentation, and
 2. Roles and Responsibilities of rail property

New Jersey State Safety Oversight Program

State Safety Oversight Program

The purpose of the NJ SSOA is to act as an extension of the FTA to oversee the safety of three (3) New Jersey Rail Transit Agencies (RTAs) and one (1) bi-state RTA in order to ensure that each system is upholding industry wide safety standards for their riders, employees, equipment, facilities and the right-of-way system. The SSO also upholds and enforces the new federal safety regulations throughout each RTA by use of the federally mandated Public Transportation Safety Plan (PTASP), and further ensures that each RTA incorporates the Safety Management System (SMS) throughout each facet of its system; a top-down system of safety promotion and safety accountability.

The Agency uses both NJDOT and contracted staff to deliver on its responsibilities. The combined efforts of both NJDOT and contracted staff resulted in a total of 13,107 man-hours expended in 2019. The largest portion of the NJ SSOA's total man-hours are spent in the field as we ride the RTS, inspect vehicles, stations and parking lots, perform direct observations of operations, track, signals and other safety critical tasks, with the intent to identify potential safety concerns and prevent them from developing into accidents or incidents.

The agencies responsibilities include:

- Establish, update, maintain, & analyze tracking and logging system for RTA incident reports, accidents, unusual occurrences, and special areas of focus.
- Attend FTA's Triennial Review and participate with FTA's Project Management Oversight Committee (PMOC) during site visits.
- Ride all systems regularly to evaluate RTA program safety, operation and condition of vehicle, tracks, & facilities. Document inspection findings.
- Participate in project safety planning, fire & life safety meetings and pre-revenue safety certification and readiness assessments for existing and new service expansion projects.
- Perform various inspection based on risk monitoring which may include shop, vehicles, vehicle maintenance, right of way and PPE.

In 2019, the SSO focused on making the Electronic Accident Reporting (EAR) system more user friendly for each RTA Safety Department to create Corrective Action Plans (CAPs) and to create Hazard Risk Monitoring (HRM) Reports from event investigations, audits and employee reports. As the oversight agency for the four (4) properties, the SSO conducted numerous facility, construction, and vehicle observations, inspections and audits, as well as conducted a triennial audit on River LINE and Hudson-Bergen Light Rail. The SSO also focused on working with each property to close out many Corrective Action Plans (CAPs), to review and approve many safety related documents provided by the RTAs, and to send SSO employees to FTA trainings based on the 49 CFR 672 and 49 CFR 674 regulations. Lastly, the SSO has implemented the use of the FTA's SSOR which was introduced to the industry in 2019, and works with the National Transit Data- base (NTD) for FTA reportable accidents.

New Jersey State Safety Oversight Program

NJDOT State Safety Oversight Program (continued)

Safety oversight is accomplished through transparent interactions and partnership with each rail property and monitoring that all required activities are being accomplished, based on the federal and state regulations, the program standard, and the rail property PTASP and related minimum standards for safety. Any significant issues with meeting the requirements of the PTASP, Safety Program, and Safety Performance are explored and communicated to the rail properties in an appropriate timeframe. Priorities are set for the oversight to achieve the following:

- Monitor that safety performance at each rail property is satisfactory and progress is being made to meet the safety performance improvement targets.
- Monitor that the rail property safety program and staff responsible for audits and examinations are competent and accomplishing the requirements of the safety program.
- Work to assure that the SSO program development and processes are adequate to be aware of the rail properties' safety performance and safety risks in operations, maintenance, and projects or modifications to the rail systems and infrastructure.

As the SSOA, the Department is required to ensure that the State Safety Oversight Program is appropriately staffed commensurate with the number, size, and complexity of the rail fixed guideway public transportation systems and that employees are qualified to perform such functions through appropriate training, including successful completion of the public transportation safety certification training program. The staffing and training of employees must be approved by the Federal Transit Administration (FTA) and the Department is required to notify the FTA of any changes or modifications in staffing.

The FTA expects the State to staff and otherwise resource their SSO programs (appropriate to the size, number, and complexity of our rail property systems) with personnel skilled in investigation, analysis, auditing, inspections, administration, and, as appropriate, engineering and capital projects management. The program uses both NJDOT and contracted staff to deliver on its responsibilities. The combined efforts of both NJDOT and contracted staff resulted in a total of 13,107 hours expended in 2019. The largest portion of the NJ SSOA's total man-hours are spent in the field performing direct oversight via riding the rail system, inspecting vehicles, stations and parking lots, performing direct observations of operations, track, signals and other safety critical tasks, with the intent to identify potential safety concerns and prevent them from developing into accidents or incidents.

The staffing and training of employees must be approved by the Federal Transit Administration (FTA) and the Department is required to notify the FTA of any changes or modifications in staffing. During certification FTA recommended, based on the number, size and complexity of the RTA system requiring oversight, and NJDOT agreed to maintain a minimum staffing of 7.0 FTEs with an average of 4.0 FTE staffed by NJDOT employees and 3.0 FTE staffed by consultant support to demonstrate NJDOT's level of commitment to the delivery of the program.

New Jersey State Safety Oversight Program

State Safety Oversight Program Standard (SSOPS)

An SSOA must adopt and distribute a written SSO program standard, consistent with the National Public Transportation Safety Plan and the rules for the Public Transportation Agency Safety Plans. This SSO program standard must identify the processes and procedures that govern the activities of the SSOA. Also, the SSO program standard must identify the processes and procedures a rail property must have in place to comply with the standard. The NJDOT SSO Program Standard is available on the website for transparency with the rail properties.

Revisions to the SSOPS began in 2019, and are ongoing. The revisions will outline how the NJ SSOA will implement the SSO program to meet the requirements of 49 CFR 672, 49 CFR 673 and 49 CFR 674 including:

1. Review and formally approve RTA documents and designations:
 - PTASPs
 - Assignments of Accountable Executives and Chief Safety Officers
 - Annual Safety Reports
 - Internal Safety Audit Reports
 - Accident Investigation Reports
2. Mandate and issue:
 - Additional inspections, testing, measurements and field observations
 - Notices of Violation
3. Develop a monitoring program to provide ongoing verification of RTA:
 - Adherence to SMS Components
 - PTASP implementation
 - Safety policies
 - Accident/incident notification and investigation
 - Hazard Management Procedures
 - Rail Vehicle Inspection and Maintenance Activities
 - Condition of Critical Infrastructure and Facilities
 - Correction of Identified Deficiencies
4. Attend and participate in meetings and reviews:
 - RTA Monthly Safety Committee Meetings
 - Operations and Maintenance Meetings
 - Follow-up of Critical Issues
 - Safety Certification Adherence Reviews
 - Internal Safety Audits performed by RTAs
 - RTA Emergency Preparedness Drills and Exercises
 - Capital Project Reviews
 - Rehabilitation Activities
5. Review and monitor compliance and implementation of RTA programs:
 - Roadway Worker Protection
 - Hours of Service
 - Drug and Alcohol

Moving Ahead for Progress in the 21st Century

Moving Ahead for Progress in the 21st Century (MAP-21) was signed into law by the Federal Government in 2012 as part of the SSO program. It required each SSOA to develop a certified program, which NJDOT completed in February 2019. The updated program includes the following:

- Develop, update & maintain implementation plans and procedures for new safety duties related to MAP-21.
- Ongoing study and review of all program statutory guidance.
- Evaluate new legislation and regulatory changes in FTA requirements, research laws, draft comments on new legislation, develop reports and procedures, and provide technical support, advice and guidance to RTAs.
- Attend FTA-mandated State Safety Oversight (SSO) professional certification training for Safety Management System (SMS), accident investigation; agency safety plan development, rail transit operations, rail transit maintenance and industry best operating safety practices.
- Review & revise program policies and procedures as required to reflect training guidance.

Assist with Request for Proposal (RFP) preparation, contractor selection, contract development and preparing scope of work statements for technical contractors to support the work of the SSO program.

- Represent SSO, as the State's rail safety technical expert in meetings and correspondence with:
 1. State & Federal Officials, Policy-makers and other units
 2. Local Agencies
 3. State Agency Division and Department internal meetings
 4. Private Sector Firms & Citizens
- Attend or conduct monthly State Safety Oversight staff and other administrative meetings.
- Provide ongoing updates to FTA documenting a comprehensive man hour breakdown in the work plan analysis.

Rail Fixed Guideway Public Transportation Systems

Rail Transit System (RTS) Descriptions - The NJ SSOA is responsible for overseeing the safety of four rail systems that operate under the jurisdiction of the State of New Jersey. One system, PATCO, also operates in Philadelphia, PA.

Owner / RTA	RTS	FTA Mode	Operated by	System Length
NJ Transit	River LINE	Light Rail (hybrid)	Bombardier LLC	34 miles
NJ Transit	Hudson-Bergen Light Rail (HBLR)	Light Rail	21 st Century Rail Corporation	17 miles
NJ Transit	Newark Light Rail (NLR)	Light Rail	NJ Transit	6.9 miles
Delaware River Port Authority	Port Authority Transit Corporation (PATCO)	Heavy Rail	Port Authority Transit Corporation	14.5 miles



Rail Fixed Guideway Public Transportation Systems

River LINE



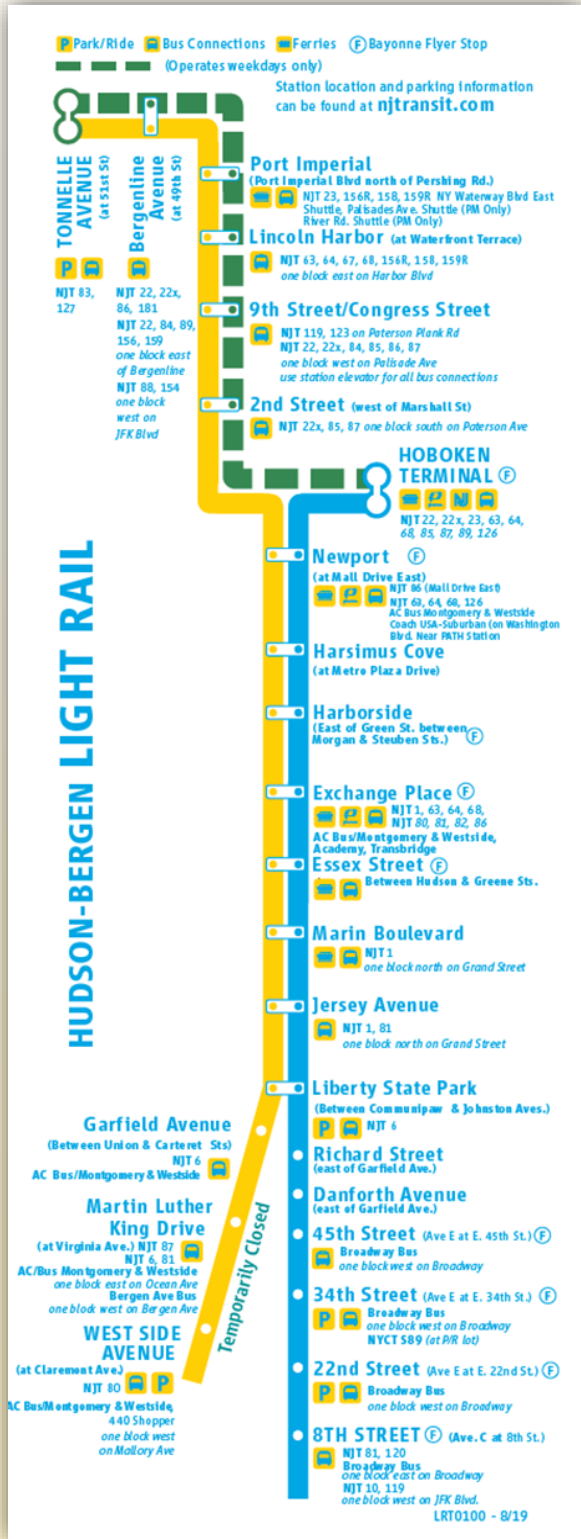
Overview

The River LINE is owned by New Jersey Transit and operated by Bombardier LLC. River LINE operates 20 married pairs of articulated Swiss-built Stadler GTW 2/6 DMU (diesel multiple units) powered by a German designed Turbo-powered diesel engine. The light rail transit system operates for a distance of approximately 34 miles between the cities of Trenton and Camden, New Jersey. The River LINE provides service to major New Jersey locations including the Waterfront Entertainment Center, Rutgers University, Walter Rand Transportation Center in Camden, towns in Burlington County and the Trenton Transportation Center. River LINE operates as a Light Rail Transit in the city of Camden, in street running mode. The alignment has 73 grade crossings, 21 station stops, and 23 rail bridges. It travels through small towns and sensitive wetlands areas. Outside the City of Camden, River LINE operates on comingled track with Conrail operating over the track at night. Train safety is provided by Wayside Signals with Positive Inductive Train Stop for absolute stop signals. Train movements are under modern NORAC rules using Central Traffic Controls (CTC) from an operations office in Camden. The River LINE provides service to approximately 5,500 people daily.



Rail Fixed Guideway Public Transportation Systems

Hudson-Bergen Light Rail



Overview

The Hudson-Bergen Light Rail Transit System (HBLR) is owned by New Jersey Transit and operated by Twenty First Century Rail Corporation which is a partnership of AECOM and Kinkisharyo International. The system operates for approximately 17 route miles of double-track between Bayonne, New Jersey and North Bergen, New Jersey. HBLR operates 52 recently refurbished and extended electrically powered train cars, operating in married pairs. The trains are powered by a DC catenary system. The HBLR line provides service to approximately 52,000 people daily while running 20 hours a day, seven days a week. The high-speed rail service provides 24 station stops and two employee flag stops. The line starts above ground at the southern terminus in Bayonne NJ and operates primarily on grade separated right-of-way with approximately two miles of street running in mixed traffic. The at grade crossings are equipped with transit signal priority to automatically change the traffic signal to favor the light rail transit system. Train movements are governed by a multi-aspect color signal system. The rail line progresses north through a double track 4,096 foot long tunnel to the northern terminus at North Bergen, NJ.

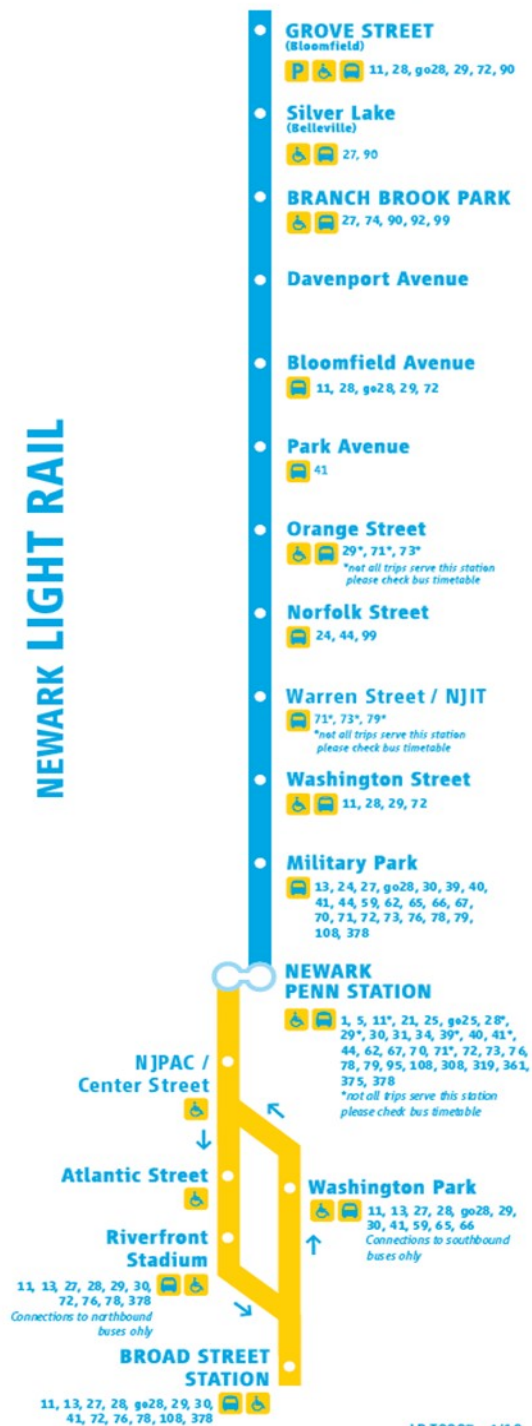


Rail Fixed Guideway Public Transportation Systems

Newark Light Rail

 Park/Ride
  Accessible Station
  Bus Connections
 Station location and parking information can be found at njtransit.com

NEWARK LIGHT RAIL



Overview

The Newark Light Rail (NLR) System is owned and operated by New Jersey Transit. It is a 6.9 mile light rail line that operates as a rapid transit link between terminal stations at Penn Station in Newark, NJ and Grove Street Station in Bloomfield, NJ, with an extension connection from Penn Station to Broad Street Station. The double-tracked light rail line is in an underground tunnel for 1.7 miles and either at grade or a grade separated depressed cut for 3.8 miles and approximately one mile of street running territory. The light rail transit system's are virtually identical to those used on HBLR, without the running gear. The NLR system is powered by a DC variable tension catenary electrical system. The system serves approximately 16,000 passengers daily and operates 21 hours a day, seven days a week.



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Rail Fixed Guideway Public Transportation Systems

Port Authority Transit Corporation (PATCO)

Overview

PATCO is owned and operated by the Delaware River Port Authority, a heavy rail line that travels between New Jersey and Pennsylvania. The line consists of a double track operation that extends approximately 14.5 miles of double track grade separated system from Lindenwold, New Jersey to the City of Philadelphia. There are 13 active rail stations that service an estimated 34,000 daily passengers. Passengers are transported on 60 married pairs of recently refurbished railcars. (120 cars in total) PATCO uses the Benjamin Franklin Bridge to provide train service between New Jersey and Pennsylvania. 2.3 miles of track in downtown Philadelphia, Pennsylvania and Camden, New Jersey are underground subway and the remaining 12.2 miles are aboveground. PATCO operates 24 hours a day service throughout the year. System safety is provided by Pulse Code Cab Signal System and Wayside Signals at interlockings. Train cars operate under an Automatic Train Control, from a Central Train Control Tower located in Camden. Train movement is powered by a 750 VDC third rail electric power system.



New Jersey State Safety Oversight Program Staffing

NJDOT State Safety Oversight Program Staffing

The staffing listed below comprise the positions, by title, that make up the NJDOT SSO Program. The combination of the following staff positions make up 4 full-time staff FTE's.

- Office of Fixed Guideway Manager
- SSO Program Manager
- SSO Program Contract/Grant Administrator
- SSO Program Technician (2)

NJDOT State Safety Oversight Program Support Staffing

The staffing listed below comprise the positions, by title, that make up the NJDOT SSO Support Staffing Program. The combination of the following staff positions make up 3 full -time staff FTE's.

- SSO Program Administrative Analyst/Coordinator
- SSO Program Systems Data Analyst/Compliance Auditor
- SSO Program Administrative Support
- SSO Program Hazardous Management/Inspector
- SSO Program Rail System Compliance Auditor/Inspector (2)
- SSO Program OSHA Expert/Compliance Auditor
- SSO Program Rail System/Signal Inspector
- SSO Program Rail System Inspector
- SSO Program Consultant Contract

New Jersey State Safety Oversight Program Grant Management

Grants Management - Federal grants made available to the SSOA are applied for and managed by SSOA staff. During 2019, the funding from the following funding to support administrative, training and consultant activities.

2019 FTA Grant funds supporting the SSO Program are \$904,187.



Transitioning to New Federal Regulations

In 2016, FTA began promulgating new regulations governing State Safety Oversight (49 CFR 674), Public Transportation Agency Safety Plan (49 CFR 673) and Safety Certification Training (49 CFR 672). FTA established a multi-year approach to ease the transition to the new regulations. The following were underway throughout 2019:

Public Transportation Agency Safety Plan (PTASP) All RTAs are required to have a fully approved plan to facilitate the use of a Safety Management System by July 20, 2020.

Safety Management Systems (SMS) SMS is a formal top-down, organization-wide approach to managing safety risk and assuring the effectiveness of risk mitigation.

The four SMS components are:

- **Safety Management Policy** defines management commitment to meet established safety objectives and safety performance targets. This includes approval at the board level.
- **Safety Risk Management** promotes the identification of hazards before they escalate into accidents or incidents by evaluating safety risk and implementing necessary mitigations.
- **Safety Assurance** is a never-ending process that monitors the safety performance of an organization and ensures that RTAs implement appropriate and effective mitigation.
- **Safety Promotion** encourages and instructs safety through effective communication and training. It ensures that employees at all levels get the training they need to do their job safely.

There are five questions that SMS seeks to answer:

1. What are our most serious safety concerns?
2. How do we know this?
3. What are we doing about it?
4. Is what we are doing working?
5. How do we know what we are doing is working?

System Safety Program Plan (SSPP) All four RTAs met the requirement to complete the annual review and if necessary, revise their SSPPs in 2019. The SSPPs will remain in use until the PTASPs are approved by the Boards of Directors of NJT and DRPA and subsequently approved by NJ SSOA.

Roadmap For Transitioning - In 2019, significant progress was made towards full implementation of the new regulations in 2020. NJ SSOA began revisions to the State Safety Oversight Program Standard (SSOPS). RTAs examined their existing SSPPs to see how they would transition to PTASPs and identified Chief Safety Officers and Accountable Executives for their organizations. Safety Professionals at both levels continued to take required FTA safety courses towards meeting safety certification training requirements.

Transitioning to New Federal Regulations

Hazard Management / Reportable Events

The NJ SSOA is required to develop, monitor and track accidents, incidents and occurrences on the RTAs. This includes:

- Once an accident or incident occurs, the NJ SSOA provides oversight to the RTAs as they log and analyze accident and incident data, offering recommendations to eliminate or mitigate potential risk;
- Develop formal hazard management procedure to begin collecting and analyzing data with the RTA. Monitor identified hazards, receive and review reports, review and track hazard corrective action plans to completion;
- Develop monthly monitoring and tracking program for hazards, incidents and unusual occurrences. Begin briefing the RTA CEO and Board of Directors;
- Update SSO program accident investigation procedures.
- Organize, lead and conduct investigations of accidents, incidents and hazards at the RTA. Coordinate activities and reports of field personnel;
- Review and approve the RTA's accident and incident investigation reports.

In addition to the FTA Reportable Threshold requirements, the RTAs must report all accidents/events/occurrences that fall below the FTA Reportable Threshold to the NJ SSOA within 2-hours notification, provide an investigation summary with 24 hours, and a full investigation report within 30 days. Events include safety violations and some physical conditions that could disrupt operations such as:

I. Accidents:

- Only one person requiring immediate medical attention away from the scene;
- A "street-running" collision with an automobile;
- A derailment in the yard.

II. Incident:

- A "Stop Signal" violation;
- A "Work Zone" violation.

III. Occurrences:

- Events involving injury, damage to property or the environment, collisions or derailments, vandalism to vehicles, failed switches and signals, power loss, door trouble, elevator entrapments, child/parent separations;
- Close calls and near misses;
- Violations of safety standards.

Through 2019, the FTA SSOR system captured hazards as entered by the NJ SSOA and helped the RTAs fulfill their obligation for maintaining a hazard management system. In addition, the NJ SSOA created a new release to its EAR data entry system which included a Data entry screen for capturing Hazards and submitting them to the NJ SSOA where they could be tracked and managed through the existing ACID data management system. EAR data entry screens require the RTAs enter all the hazard data required by FTA. This facilitates full compliance with the requirements of SMS. It also rationalizes the data consistently across all RTAs and allowing for broader analysis of trends and mitigations. By the end of 2019, all the RTAs were trained and fully capable of utilizing the new EAR / ACID based Hazard Management System.

Transitioning to New Federal Regulations

Corrective Action Plans (CAPs)

As part of its responsibilities under the SSO program, the NJ SSOA oversees the RTA's Corrective Action Plans (CAP). CAPs are generated from such things as audits, investigations, hazards, and employee reports.

The RTAs develop and submit a CAP to the NJ SSOA who then must:

- Review and formally approval the CAP
- Monitor and track RTA's implementation of the CAP
- Follow-up with meetings and correspondence (as required)
- Physically verify implementation (when applicable)
- Prepare Close-out Form with verified documentation

CAPs may be generated as a result of the Triennial Audit or Internal Audit, in order to address any of the following:

- Referenced / Supporting Procedure Update
- Resource / Organizational Action
- Rules Update
- SSPP Implementation Action
- SSPP Update

One or more of the following CAPs may be generated as part of any Accident / incident investigation:

- Training / Retraining
- Changing / Adding Procedures
- Awareness Information (bulletins / orders)
- Activities (Operational Stand Downs / Lessons Learned)
- Adding / Enhancing Capabilities
- Discipline
- Dismissal

The purpose of the Corrective Action Plan is to describe what actions the RTA will take to minimize, control, correct or eliminate an identified risk or hazard; including the responsible individual who will see the plan through, and the schedule for taking those actions. The RTA must provide periodic CAP updates to the SSO until the issue has been resolved, or until the risk has been lowered to an acceptable level, holding the safety issue in the forefront of the RTA's efforts and preventing neglect.

Our CAP focus in 2019 was to determine which CAPs could be closed out, particularly the long-standing CAPs which required an extended time period to be addressed. This was accomplished by increasing our CAP discussions with each RTA, by requesting CAP updates, requiring RTAs to discuss particular CAPs during their monthly safety meetings, and conducting onsite inspections and observations to gather documentation that verified implementation for the CAP closeout forms.

Rail Transit Agency Inspections

The NJ SSOA is required to conduct audits verifying compliance and provide status reports on the safety of the RTAs such as:

- Triennial Audit of RTAs implementation of their System Safety Program Plan (SSPP).
- Annual Report to the FTA summarizing oversight activities.
- Pre-revenue reviews of RTAs new line extensions, system, modifications and new route alignments. Follow up with meetings and correspondence.

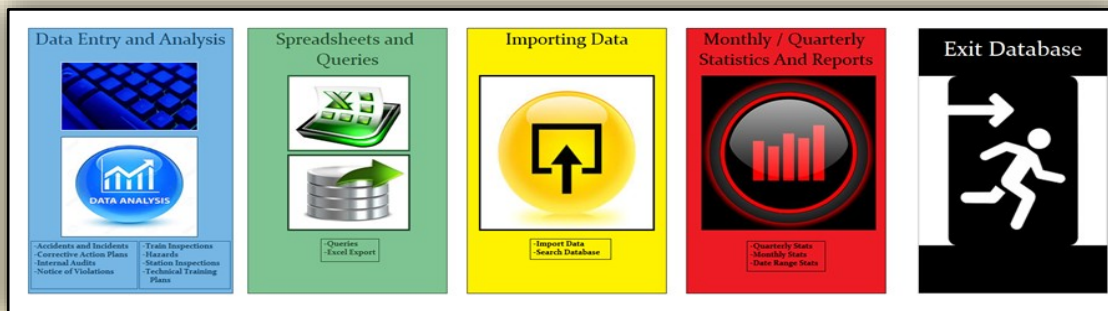
State Safety Oversight Reporting

Electronic Reporting - The NJDOT created two databases to collect and store data from the RTAs. The RTAs upload data into an Electronic Accident Reporting (EAR) database. Once the data is uploaded, the NJ SSOA downloads this information into the Accident / Incident Database (ACID). The proper evaluation of reports for both accuracy of the information and validating conclusions aids in reinforcing the oversight process. Portions of numerous reports are shared with the FTA and utilizing a systematic verification process increases the data's creditability. Quality assurance, electronic checklists and second reviews help to maintain the value of the data.

Reports that were reviewed in 2019 were:

- System Safety Program Plans (SSPPs)
- Drafts of the Public Transit Agency Safety Plans (PTASPs)
- Roadway Worker Protection Plans
- Security Plans
- Internal Audits
- Corrective Action Plans
- Accident Reports
- Unusual Occurrences
- Inspections
- Direct Observations
- Safety Certifications

In 2019 these two databases have continued to increase the accuracy and efficiency of reportable events and the flow of communications between the SSOA and the RTAs.



Dashboard Screen of the NJ SSOA "ACID" Data collection program.



Data Entry Selection screen from the NJ SSOA "ACID" Data collection system.

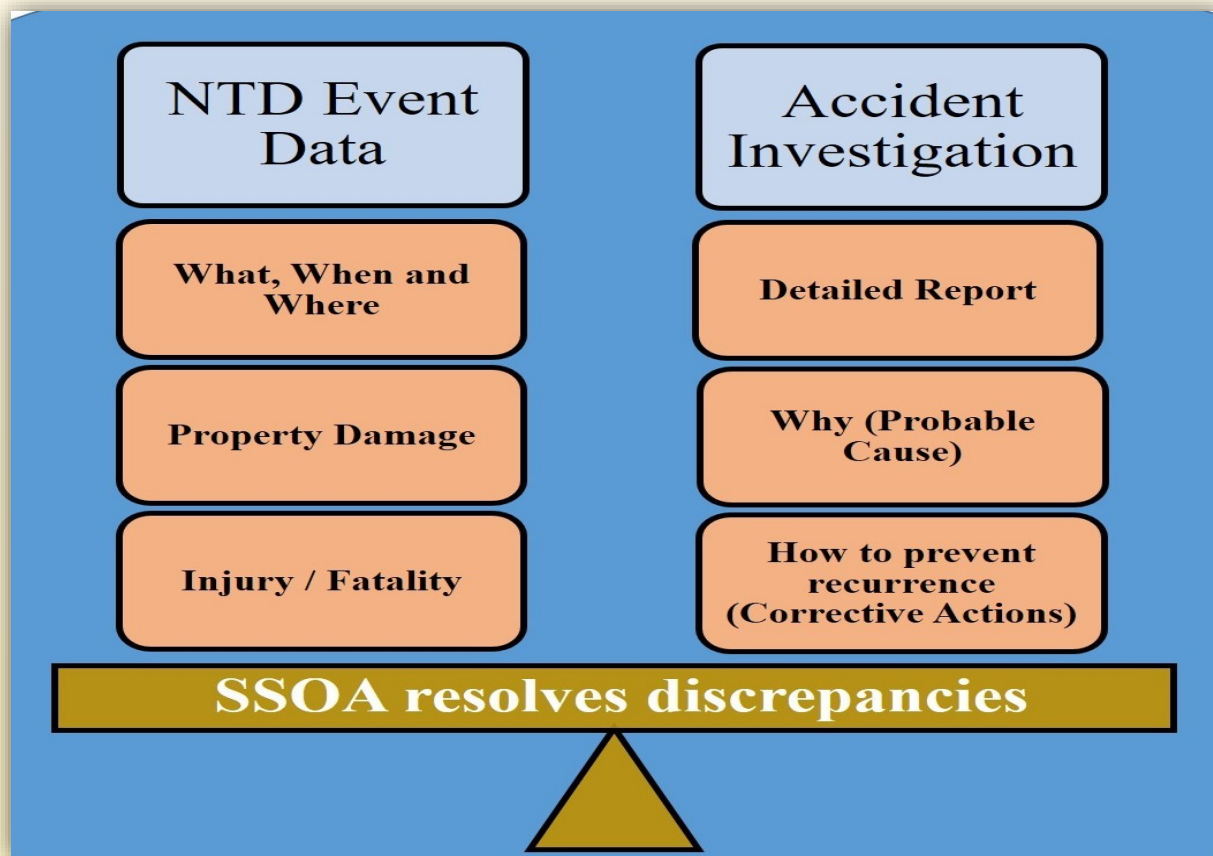
State Safety Oversight Reporting

FTA SSOR Reporting System

State Safety Oversight Agencies (SSOAs) have been required to submit safety oversight data to the FTA since 1997 using a variety of methods. In July 2019, the FTA released a pilot of the State Safety Oversight Reporting (SSOR) System that would be used for the 2019 Annual Report to the FTA in March 2020. SSOR fulfills the following requirements:

- 49 CFR Part 674.39 states data “must be submitted electronically through a reporting system specified by FTA.”
- 49 CFR Part 674.33(a) includes “The criteria and thresholds for accident notification and reporting are defined in a reporting manual developed for the electronic reporting system specified by FTA as required in 674.39(b), and in appendix A.”

In addition to data collection and submission of transit safety data to the FTA, this web-based system provides: Data Analytics, Communications (between FTA and SSOA), and Event Discrepancy Tracker. RTAs are responsible for entering required data into the web-based National Transit Database (NTD) for S&S 40 Major Events. The SSOR system combs through NTD submissions to locate all records meeting FTA’s threshold for Accident reporting which will then be reviewed by the SSOA. It is the responsibility of the SSOA to resolve any discrepancies between NTD data reported by the RTA and investigation reports submitted directly to the SSOA prior to the Annual Report to FTA deadline of March 15th.



Rail Transit Agency (RTA) Triennial Audits

49 CFR 674.31 requires SSOAs to complete comprehensive Safety Audits of each RTA under its oversight, once every three years. These week-long audits at each RTA examine SSPP implementation to determine if it is in accordance with NJ SSOA Standards and FTA Regulations. In 2019, NJ SSOA completed Audits at River LINE and HBLR. There was a focus on detailed examination of RTA processes and procedures and how they were maintained.

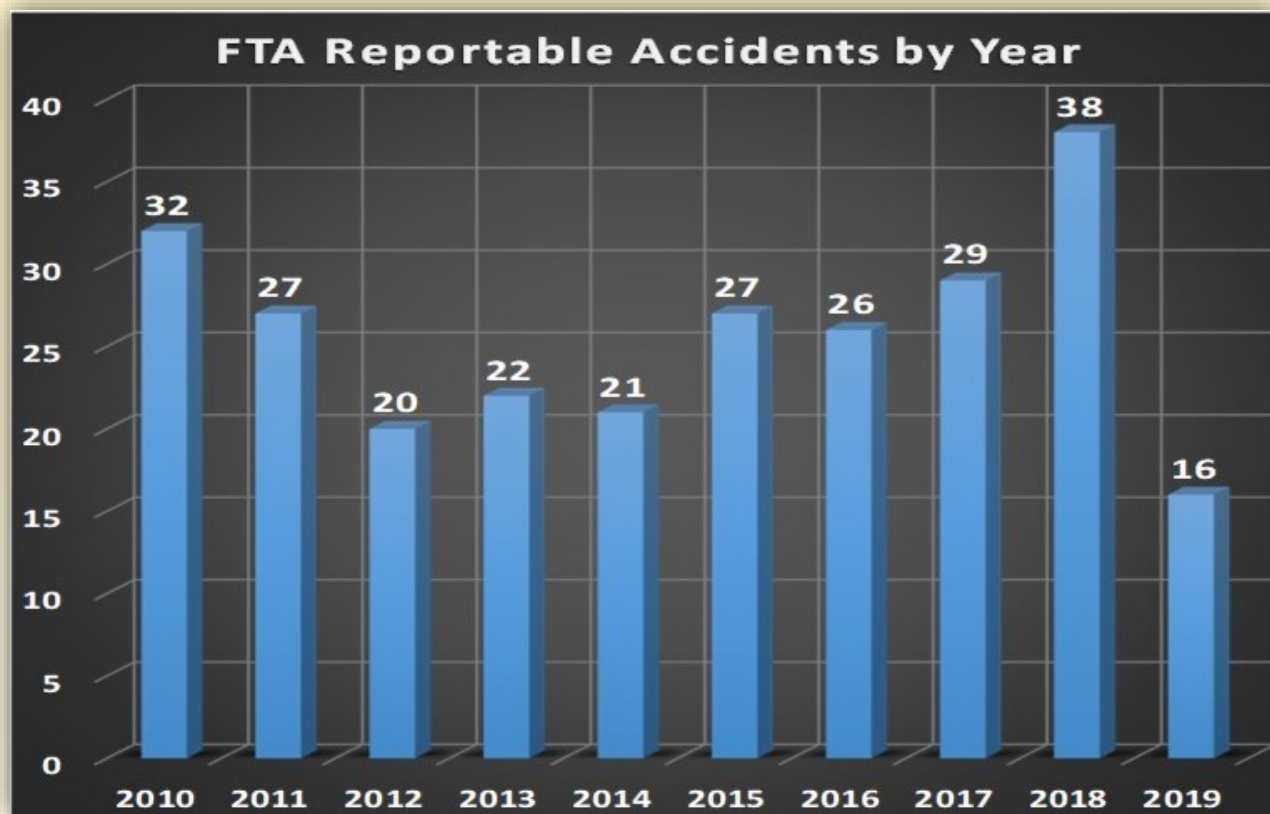
Audit Report Schedule

RTS	2019	2020
River LINE	Final Report issued in April	
HBLR	Final Report issued in December	
NLR		October
PATCO		November



Annual Safety Statistics

Annual Safety Statistics - The following three graphs depict statistics for the number and types of FTA Reportable Accidents reported by RTA's for the calendar years 2010 through 2019.



According to the National Transit Database (NTD), Rail Grade Crossing (RGX) is defined as an intersection of a roadway and a rail right-of-way that cross each other at the same level at grade. For street-running operations, each street intersection is considered a grade crossing (excludes driveways and parking lot entrances).

The FTA establishes reportable thresholds for accidents that must be reported to the FTA and the NJ SSOA within 2-hours and followed up with a submission of a full investigation report within 30 days. The NJ SSOA received Certification to 49 CFR 674 on February, 28, 2019. When reviewing FTA reportable accident data for year over year trends, it is important to remember that the higher thresholds for reporting under 49 CFR 674 will likely result in fewer FTA reportable accidents. (1)

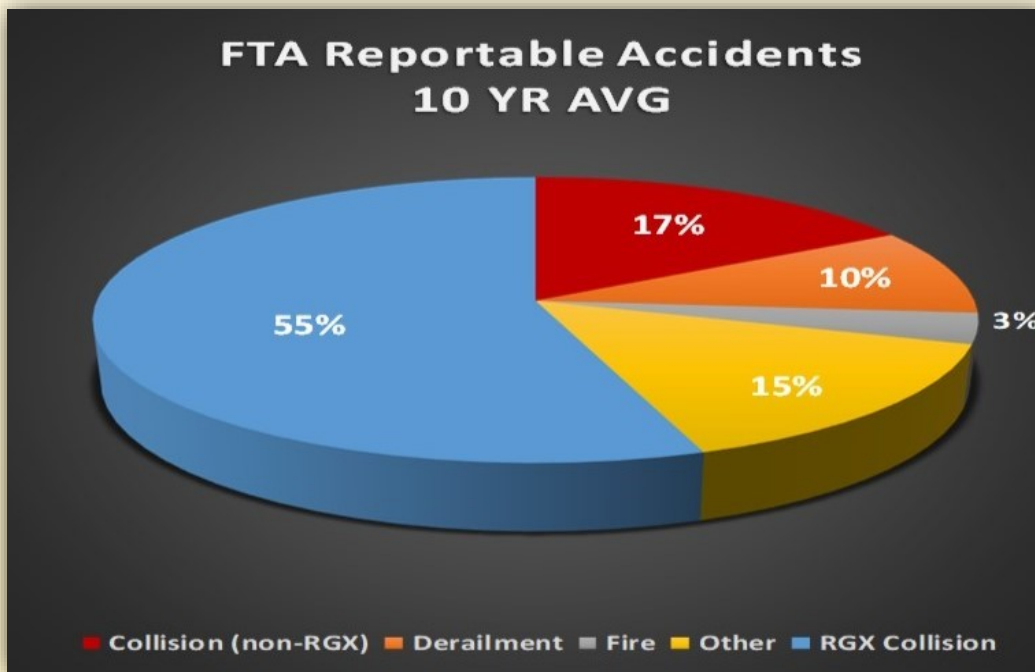
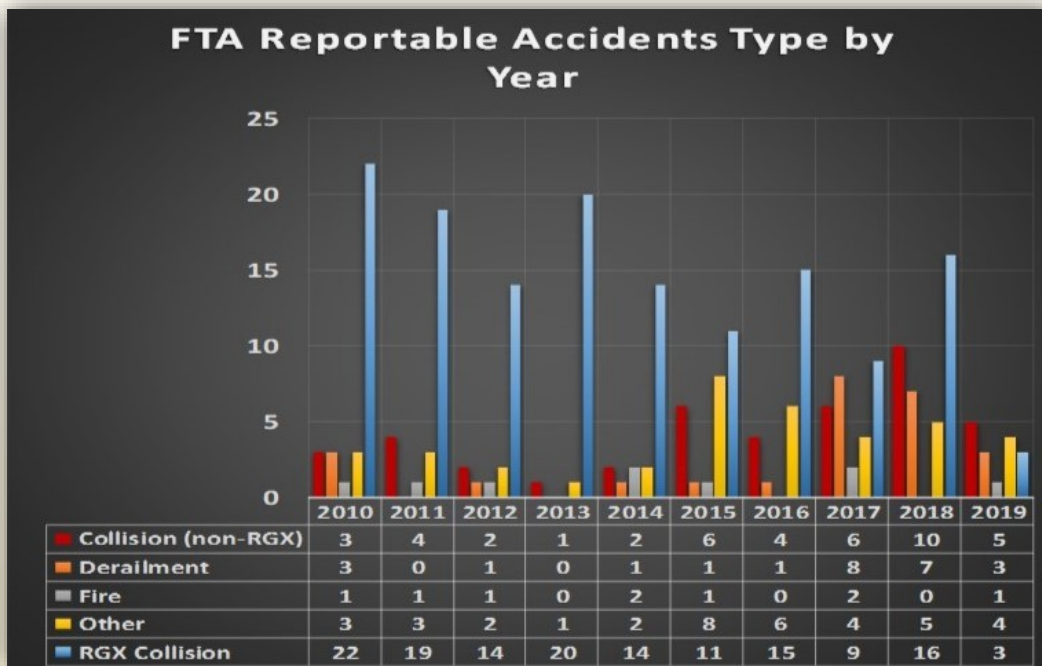
Collisions: RGX v Non-RGX

Because heavy rail operates on its exclusive right-of-way, the FTA analyzes their collisions separately from those of Light Rail. The FTA categorizes collision type by what the rail vehicle comes in contact with: "automobile, person, object, or train." The two charts on the next page take a closer look at collisions by this distinction and show a side-by-side comparison to the NJ SSOA reportable collisions that are within the FTA's threshold.



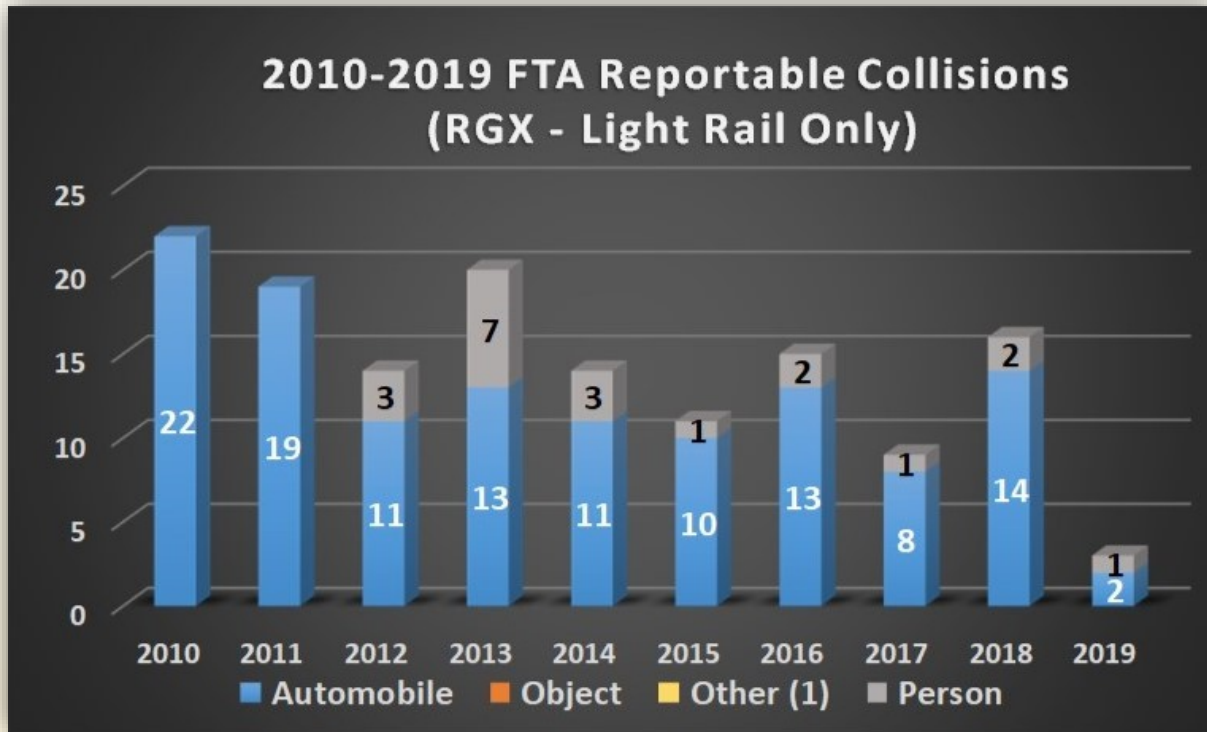
Annual Safety Statistics

Analysis of all FTA reportable accident types over a ten year period shows that 55% of the events reported were RGX Collisions. Based on the latest available data provided in “*FTA’s Rail Safety Data Report 2007-2015, September 2018,*” a similar breakdown on the national level illustrates where RGX collisions are the most prevalent event type. When reviewing FTA reportable accident data for year over year trends, it is important to remember that the higher thresholds for reporting under 49 CFR 674 most likely resulted in fewer FTA reportable accidents.

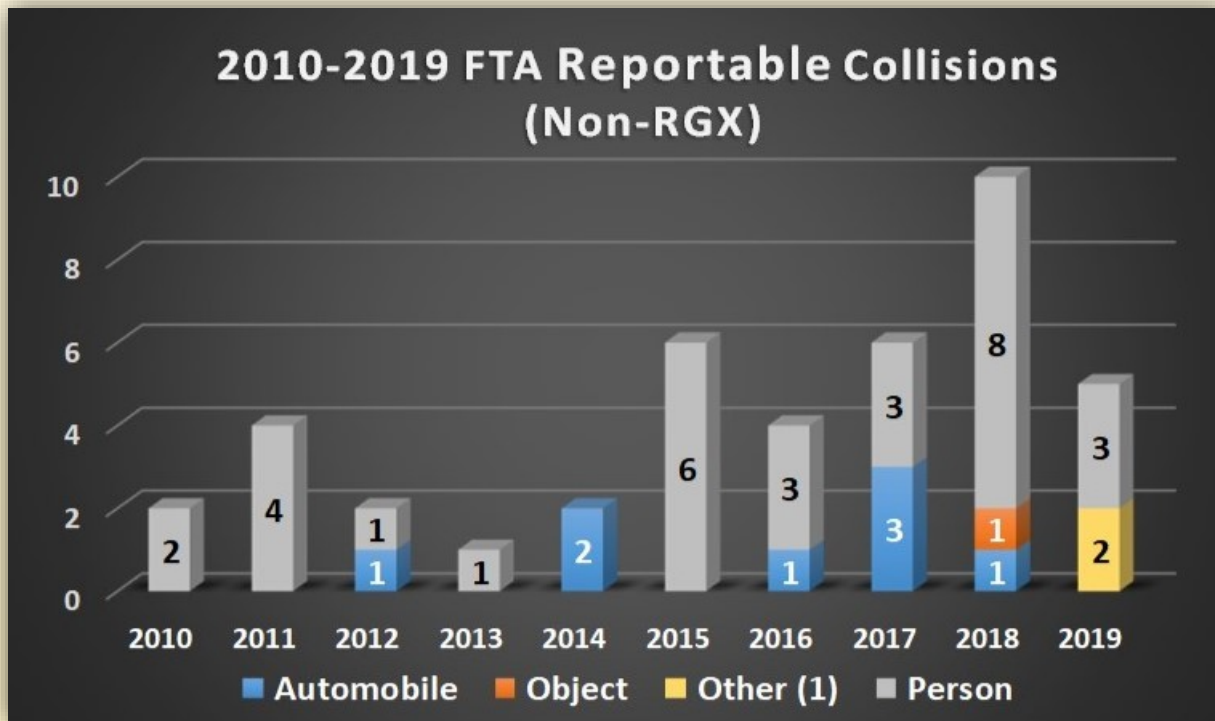


Annual Safety Statistics

RGX Collisions – Light Rail Only (NJ Transit: HBLR, NLR and River LINE) (1) See Page 25



Non-RGX Collisions – Heavy Rail (PATCO) and all Light (1) See Page 25



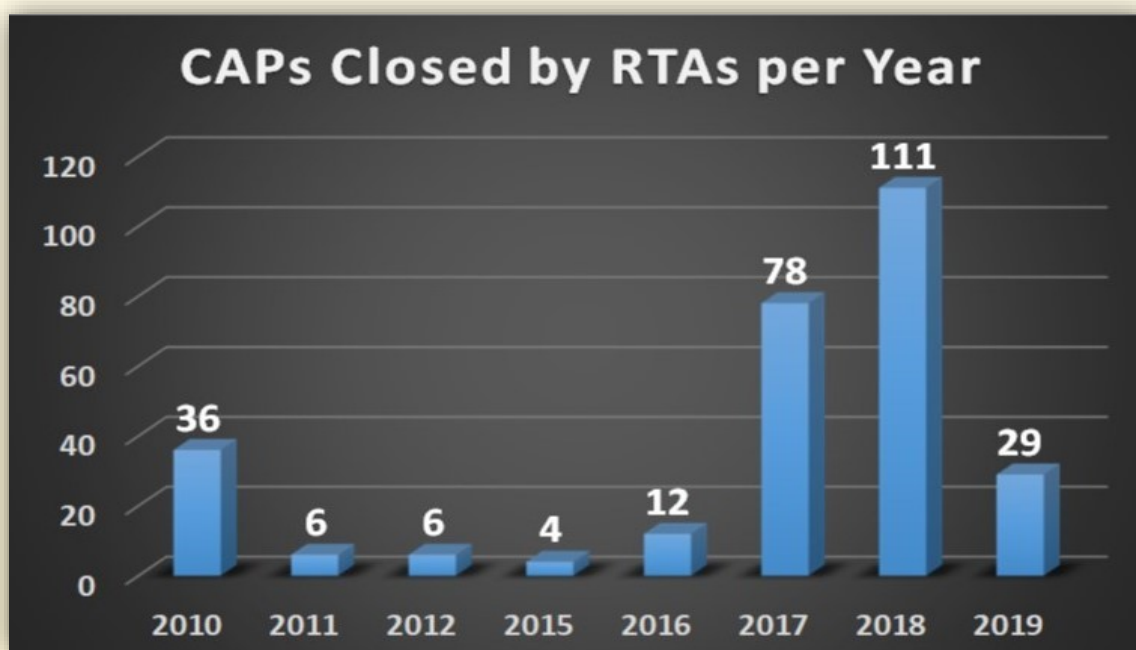
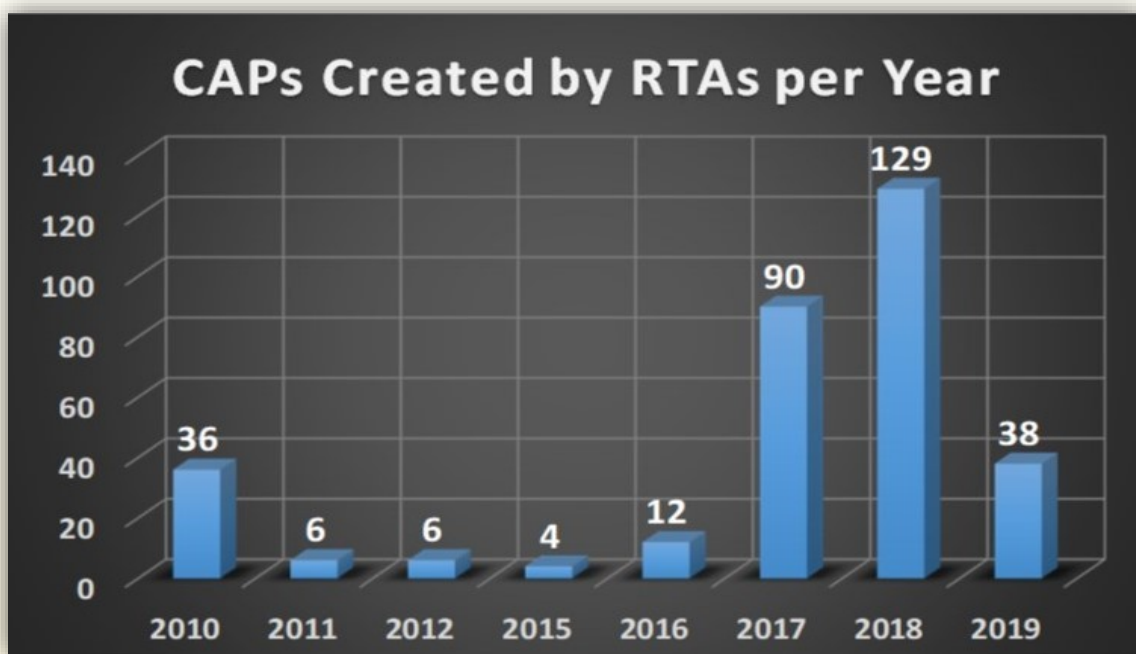
Annual Safety Statistics

By tracking and analyzing Safety Rules Violation incidents, the NJ SSOA and RTA's work together in determining if different or additional mitigations are needed to reduce their occurrence. This information is included in the Annual Report to the FTA as part of Hazard Management. This chart below depicts the total number of rule violations reported by all RTA's in each category for calendar years 2010 through 2019.



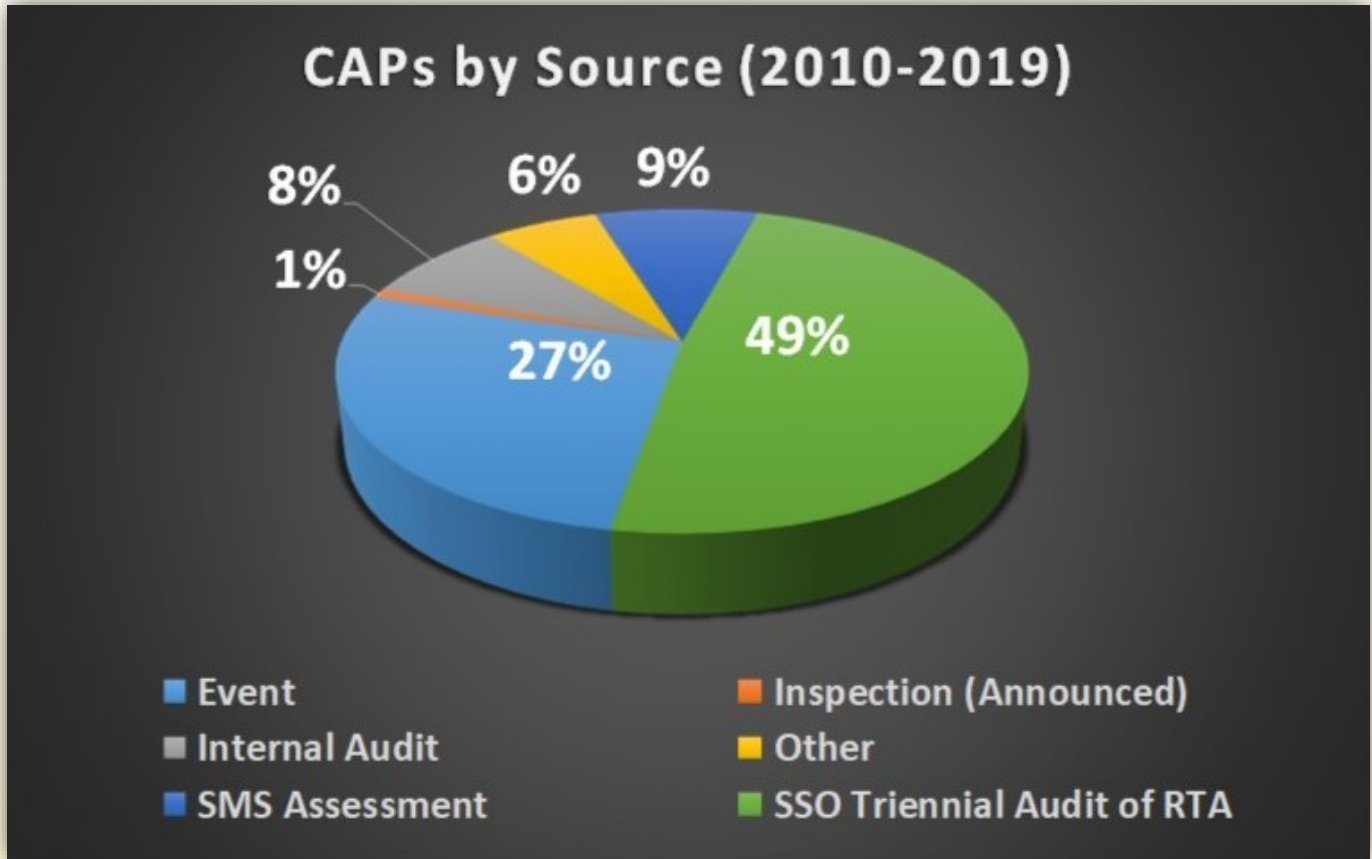
Annual Safety Statistics

The following charts depict the total number of CAPs reported and closed by all RTAs for the calendar years 2010 through 2019. The increase of CAPs created in 2017 and 2018 was a result of the 4 SSO triennial audits which were finalized for all RTAs in those calendar years. As part of the transition to regulations under 49 CFR Part 674 and SMS, the NJ SSOA implemented ACID and EAR databases for RTAs to utilize in collecting, tracking and managing CAPs and Safety Hazards. The two databases are also used for trend analyses for developing corrective actions in order to reduce the number of Safety Hazards and CAPs in the future.



Annual Safety Statistics

The following chart depicts the percentage of CAPs created by RTAs by source for calendar years 2010 through 2019.



Annual Major System Improvements

The following major improvement projects were either started, continued or completed in 2019 at each of the four RTAs.

	Location	Project	Value (\$Million)	2019 Status
1	HBLR	Vehicle Extension	15	Completed
2	HBLR	Hoboken Wye Bypass	89	Planning
3	HBLR	Paterson Avenue Grade Crossing Elimination	136	Planning
4	HBLR	Route 440 Extension	248	Initiated
5	HBLR	Northern Branch Corridor	1180	Planning
6	NLR	Capacity Enhancement Program	33	Planning
7	NLR	Vehicle Extension	37.5	Completed
8	NLR	Station Modernization & Access Program	130	Planning
9	NLR	Newark Penn Station (Backup Operations Control) Rehabilitation		Planning
10	River LINE	Onboard Security Cameras	0.7	Initiated
11	River LINE	Right-of-Way Flooding Mitigation Study	1	Planning
12	River LINE	River LINE Fleet Overhaul	85	Planning
13	PATCO	Station Enhancements	6	Ongoing
14	PATCO	Franklin Square Station Reopening	30	Design
15	PATCO	Elevator Installations	31	Ongoing
16	PATCO	Lindenwold Yard Rehabilitation	45	Ongoing
17	PATCO	Transit Car Overhaul	194	Ongoing
18	PATCO	Solar Energy Generation	-	Design
19	PATCO	Philadelphia Flooring Upgrades	1.1	Completed
20	PATCO	Woodcrest Lot Rehabilitation	5.2	Completed



Annual Roadway Worker Protection

In response to the FTA Safety Advisory 14-1, Right of Way Worker Protection, issued in December 2013, the NJ SSOA has made Roadway Worker Protection a priority at all of the RTA operations where we provide safety oversight. The role of NJDOT SSOA in overseeing Roadway Worker Protection activities at RTAs is to assure the development of and adherence to rules, procedures and practices that ensure sufficient protections exist for workers in the rights-of-way in RTAs under NJDOT oversight

Several steps have been taken at each of the four rail transit locations based on review of procedures, operating conditions and the existing safety record of the operating entity. The SSOA evaluated the existing roadway worker protection operating rules and crew safety implementation of those rules. We reviewed the past safety record for accidents, incidents, occurrences and close calls for roadway workers, contractors, and supervisory personnel. The rules and safety record were compared to industry standards and evaluated for any trends. This review process was performed in order to achieve the minimum allowable safety standards for roadway workers on active tracks. The SSOA provided input to each rail transit operation on how improvements to safety could be implemented with respect to roadway crew safe and efficient operations by improvements to operating rules, safety standards, and special instructions to train operators, track workers, and train dispatch personnel. Special attention was given to lone worker safety. The SSOA recommended improvements to classroom training and right-of-way field safety practices. As an example, PATCO has revised its lone worker rules requirements and is in the process of updating its Roadway Worker Safety Classroom curriculum. PATCO is also revising its right-of-way entry form to enhance roadway worker crew safety.

These safety considerations are ongoing and will continue to be a priority of the NJ SSOA.



Annual Rail Transit System Emergency Drills

Emergency Drills - Annually, each RTA conducts emergency drills in coordination with local emergency responders. Emergency Drills are recommended by FTA, TSA and APTA. NJ Transit's drills are coordinated by the NJ Transit Police Department (NJTPD) and PATCO's are coordinated by the Delaware River Port Authority Police Department (DRPA PD). The NJ SSOA attends these drills to observe and assess the emergency response.

PATCO

On October 27, 2019, PATCO, in coordination with DRPA Police and Department of Homeland Security, hosted their Annual Exercise. The exercise was held at Ashland Station in Voorhees, NJ. The scenario involved flammable / explosive materials, and tested numerous PATCO, DRPA and local first responders on how well they could coordinate, make critical decisions, and integrate local, county and state assets in order to protect the public's health and safety while saving lives.



Exercise Participants:

- PATCO
- DRPA PD
- DRPA DHS
- Voorhees Fire Dept.
- Voorhees Police Dept.



Annual Rail Transit System Emergency Drills

Newark Light Rail (NLR)

The NLR exercise was conducted on September 28, 2019 and involved scenarios with armed terrorist suspects on an LRV at the Grove St. Facility. NJTPD played out several scenarios over a four hour period which involved peaceful surrenders or altercations with firearms, knives or explosives. The purpose of this exercise was to test and validate tactics, techniques and procedures that were developed among NJT, NLR and NJT Police.

Exercise Participants:

- NLR
- NJT Public Info
- NJT Safety
- NJTPD Office of Emergency Management
- Bloomfield Police Dept.
- Belleville Police Dept.
- FBI Joint Terrorism Task Force

River LINE

The River LINE exercise was conducted in June 1, 2019 which involved a Light Rail Vehicle (LRV) at RT 73 Station. The exercise involved an operator who was overcome by smoke and the fire department had to rescue 30 live victims from a smoke-filled train. The Pennsauken Fire Department did a great job of rescuing the victims and as result of their safety training, they secured (chocked) the wheels of the LRV so it would remain in place.

Exercise Participants:

- River LINE (Bombardier)
- NJTPD Patrol
- NJTPD Office Emergency Management (OEM)
- NJT Public Info.
- NJT Safety
- Pennsauken Fire Dept.
- Pennsauken EMS
- Cinnaminson Fire Dept.



Annual Rail Transit System Emergency Drills

Hudson-Bergen Light Rail (HBLR)

The HBLR exercise was conducted on March 30, 2019 which involved multiple active shooter and terrorism scenarios on a LRV at the at the 8th Street Station in Bayonne. The purpose of this exercise was to test and validate tactics, techniques and procedures that were developed among NJT, HBLR and NJTPD.

Exercise Participants:

- HBLR (21st Century Rail Corp.)
- NJTPD Patrol
- NJTPD K-9
- NJT Public Info
- NJT Safety
- FEMA



Key Future Activities

The NJDOT SSOA upcoming activities include the following:

- Public Transportation Agency Safety Plans (PTASP) - due by regulation on 7/20/2020
- Conduct PATCO & NLR Triennial Audits - 2020
- NJDOT SSO Program Standard Update - 4th Quarter 2021
- FTA Audit of the NJDOT SSO Program - 1st Quarter 2021
- Conduct HBLR & River LINE Triennial Audits - 2022

Acknowledgement

The NJDOT would like to acknowledge the following for their contributions to the New Jersey State Safety Oversight Program (NJ SSOP).

Kimbrali Davis, Manager

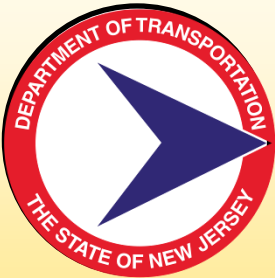
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