Rail Transit Safety Review Program

2020 State Safety Oversight Annual Report

July 1, 2021

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BUREAU OF PUBLIC TRANSPORTATION
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 pennsylvania
DEPARTMENT OF TRANSPORTATION
Acknowledgements

In accordance with Title 49 of the Code of Federal Regulations, Part 674.13(a)(7), attached is the Calendar Year 2020 Report of State Safety Oversight Activities for Rail Fixed Guideway Public Transportation Systems in Pennsylvania. The Annual Safety and Security Report for the Rail Transit Safety Review Program (RTSRP) was developed by the Pennsylvania Department of Transportation (PennDOT) – Bureau of Rail, Freight, Ports, and Waterways, State Safety Oversight Division.

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RTSRP State Safety Oversight Program

The Federal Transit Administration (FTA) delegates oversight of rail fixed guideway public transportation systems that operate with federal financial assistance authorized under 49 United States Code Chapter 53 to the states. This structure requires states to designate a state safety oversight agency (SSOA) to fulfill the requirements for state safety oversight (SSO), codified in 49 Code of Federal Regulation (CFR) Part 674, referred to as Part 674 hereafter.

In the Commonwealth of Pennsylvania, the Pennsylvania Department of Transportation (PennDOT) has served as the safety and security oversight entity of rail transit agencies (RTAs) since 1991 – well before the federal mandate was enacted. The PennDOT Rail Transit Safety Review Program (RTSRP) was created in response to a National Transportation Safety Board investigation and the Governor’s recommendation following a deadly Southeastern Pennsylvania Transportation Authority (SEPTA) accident in 1990.

In 2016, the FTA issued Part 674, standardizing SSOAs across the states and requiring financial, legal, operational, and administrative independence from the transit agencies they oversee. Part 674 also enhanced investigative and enforcement authorities and required annual reporting to the Commonwealth of Pennsylvania Office of the Governor. The FTA required certification for this final rule by April 15, 2019; the RTSRP became certified on April 24, 2018, fulfilling the requirements of Part 674.

The RTSRP oversees the Cambria County Transit Authority (CamTran) in Johnstown, Port Authority of Allegheny County (PAAC) in Pittsburgh, and SEPTA in Philadelphia. The SSO program is governed through its Procedures and Standards issued by PennDOT’s RTSRP, which is revised annually with input from each of the RTAs. The RTSRP partners with covered agencies to conduct proactive safety and security oversight. In addition, the RTSRP utilizes opportunities with each of the RTSRP-covered transit agencies to share best practices and provide technical assistance and ongoing support in monitoring hazardous conditions and investigating safety events. The RTSRP continues to chair a monthly cross-agency meeting to discuss SSOA activities and initiatives, as well as to encourage sharing rail transit safety and security information and best practices throughout the Commonwealth.

As the SSOA overseeing rail transit in Pennsylvania for the past 29 years, the RTSRP continues to fulfill FTA-required program elements under Moving Ahead for Progress in the 21st Century, which encompasses 49 CFR Parts 672, 673, and 674, as well as advance supplemental safety and security practices and standards in response to the unique aspects of Pennsylvania’s RTAs. The RTSRP assumes oversight responsibility for a range of procedural developments, evaluation activities, and safety and security programs, and is working with covered agencies on the implementation of safety management systems (SMS) to proactively identify and mitigate hazards, improving the safety and security of their operations.
2020 RTSRP Summary

The RTSRP Procedures and Standards applies to the CamTran Inclined Plane; PAAC Blue Line, Red Line, Silver Line, and Monongahela Inclined Plane, and SEPTA Broad Street Line, Market-Frankford Line, Media-Sharon Hill Line, Norristown High Speed Line, and Subway-Surface Line. As part of its jurisdiction, the RTSRP also oversees dedicated busways and stations and maintenance facilities related to rail transit and busway operations.

Throughout 2020, the RTSRP and CamTran, PAAC, and SEPTA worked collaboratively to continuously improve safety and security. The RTSRP met with agency representatives through formal monthly, quarterly, and annual meetings. The RTSRP also regularly attended meetings hosted by the RTAs to address and monitor safety and security concerns.

RTSRP oversight efforts included reviewing and approving agency safety and security plans; fulfilling Part 672 recertification requirements; implementing safety and security certification processes for several capital projects; investigating events; introducing a risk-based inspection program; working with agency personnel to implement corrective actions; and engaging in discussions about security and emergency preparedness.

Due to unprecedented circumstances resulting from the coronavirus disease 2019 (COVID-19), the RTSRP significantly adjusted its oversight activities. The RTSRP restricted onsite activity and introduced a COVID-19 Safety Plan governing SSO activities during the pandemic. Although COVID-19 introduced new challenges to the oversight program, the RTSRP maintained a strong partnership with covered RTAs and continued ongoing monitoring of compliance with safety requirements under Parts 672, 673, and 674. Of the utmost importance, the RTSRP continued to work with covered RTAs to finalize their public transportation agency safety plans (PTASPs) and implement SMS. The RTSRP also initiated virtual three-year audits to evaluate agency compliance with safety and security plans without introducing undue risk and exposure to the virus. Throughout the pandemic, the RTSRP started introducing the use of innovative oversight concepts such as video reviews to further enhance oversight.

<table>
<thead>
<tr>
<th>RTSRP Level of Effort</th>
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<tbody>
<tr>
<td><strong>Hours</strong></td>
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<td><strong>Hours</strong></td>
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FTA Coordination

The RTSRP coordinated with the FTA through monthly calls to share programmatic updates on oversight activities and solicit guidance on regulations and best practices, including risk-based inspections, auditing to PTASPs, and the roles and responsibilities of the Accountable Executive and the Chief Safety Officer at covered RTAs.

RTSRP and RTA representatives attended the virtual FTA Joint SSO and Rail Transit Agency Workshop in October of 2020 to gain information on SSO best practices, impacts of COVID-19 on the transit industry, and lessons learned from SMS implementation.

In November of 2020, the FTA issued a request to SSOAs nationwide to collect information on how RTA’s use inward- and outward-facing cameras to monitor rail transit vehicle
operating areas. The RTSRP worked with CamTran, PAAC, and SEPTA to develop and submit a response to the FTA.

The RTSRP also submitted the annual report to the FTA using the State Safety Oversight Reporting platform, which compiles safety data on SSO activities and records the SSO Program Manager’s certification of compliance with applicable regulations.

The partnership between the RTSRP and covered RTAs, along with the FTA coordination, continues to focus on achieving the highest levels of safety and security practicable, benefitting RTA patrons and employees, as well as the public. The following sections of this report provide highlights and trends related to RTSRP activities, including oversight of PTASP and SMS implementation; safety certification oversight; safety training; reportable events and hazardous condition investigations; safety and security reviews such as triennial audits conducted and reviewed; security initiatives; and COVID-19 updates.

### Oversight Activities

#### Public Transportation Agency Safety Plan (PTASP)

Throughout 2020, the RTSRP continued to work with covered RTAs to ensure the successful development of Part 673 compliant PTASPs. The RTSRP developed a comprehensive PTASP approval checklist to consistently evaluate RTA PTASPs and released a detailed schedule with specific milestones for submission of draft and final PTASPs. The RTSRP discussed PTASP development during monthly, quarterly, and ad hoc meetings with each agency to review the status of their PTASPs. The RTSRP also provided guidance and feedback through draft checklist reviews on the PTASP submittals, and worked with the RTAs and the FTA to address concerns and questions. The RTSRP approved all three agency PTASPs prior to the FTA’s December 31, 2020 deadline enacted by the first Notice of Enforcement Discretion.

#### Safety Management Systems

The RTSRP monthly RTA meetings have a standing agenda item to review the status of SMS implementation at each covered RTA. Additionally, each agency met quarterly with the RTSRP throughout 2020; during these meetings, RTAs provided updates on the status of SMS implementation and the RTSRP offered guidance and posed questions. The RTSRP also began tailoring its audits of the RTAs to include their PTASP and SMS. In 2020, the agencies continued to make strides towards implementation of their SMS by initiating SMS training, promoting employee reporting systems, and continuing to work toward completion of the Transportation
Safety Institute (TSI) Transportation Safety and Security Program (TSSP) and Public Transportation Safety Certification Training Program (PTSCTP).

The RTSRP expects that the Pennsylvania RTAs will satisfy the requirements promulgated by the RTSRP on behalf of the FTA. In accordance with Parts 673 and 674, the RTSRP understands that each agency’s SMS will be appropriately scaled to its operations, and as such, the RTSRP will be flexible in the review and assessment of each program.

**Safety Certification Oversight**

Each covered RTA is required to have a safety and security certification (SSC) program to ensure that hazards, threats, and vulnerabilities are adequately addressed prior to the initiation of passenger operations for new starts and major projects to extend, rehabilitate, or modify or replace existing systems, vehicles, or equipment. The RTSRP is responsible for overseeing safety certification at covered agencies and ensuring that SSC plans and documents submitted by an agency are aligned with the agency’s program requirements. Safety certification oversight for projects that fall under the criteria specified within the Procedures and Standards has been an initiative of the RTSRP for the last several years, and includes CamTran’s Inclined Plane rehabilitation, PAAC’s upgrade to its automatic trip stop system, and SEPTA’s City Hall Station redesign and the implementation of communications-based train control on the Media-Sharon Hill Line. Although none of these projects meet the federal criteria for SSC, the RTSRP recognized the importance of ensuring safety and security for the capital projects and mandated the formalized process.

Oversight activities included attending design and hazard analysis meetings and reviewing safety certification documentation such as safety and security certification plans; certifiable elements lists; reliability, availability, and maintainability plans; hazard logs; hazard analyses; and failure mode, effects, and criticality analyses. The RTSRP also tracks progress through status updates at quarterly meetings.
Safety Training

The RTSRP has long incorporated safety training in its familiarization and training program for staff. Since the release of Part 672, the RTSRP expanded on its training program and formalized many of the activities through the development of an RTSRP Qualifications and Training Program, building upon the FTA required Technical Training Plan for each RTSRP member. The RTSRP training program requires training for both RTAs and SSOAs, including both federally mandated and RTSRP-specific training.

Members of the RTSRP must complete the PTSCTP and the TSSP training programs through the TSI within three years of their designation, and must recertify every two years. In 2020, TSI cancelled a number of courses that would have allowed multiple members of the RTSRP to satisfy the TSSP and PTSCTP certification. As a result, multiple team members will be working towards obtaining their TSSP and PTSCTP in 2021. One member of the RTSRP was able to complete their certification for both programs in 2020.

The RTSRP-specific requirements for training related to the program and safety and security oversight, to supplement the FTA-required training and familiarize RTSRP personnel with program-wide principles, are detailed in Figure 1.

The RTSRP has worked with the RTAs to integrate the requirements for initial and refresher safety training for designated safety critical personnel into existing training programs at the RTAs.

As an example of this effort, the RTSRP provided SSO familiarization training to several members of PAAC’s safety department, as well as their safety consultant, which satisfied PTSCTP refresher training requirements. RTA-led training that the RTSRP completed in 2020 includes SEPTA’s roadway worker protection training and PAAC’s signal maintainer training. The RTSRP also participated in a TSI pilot course for overseeing the safety management process for SSOAs.

In 2021, the RTSRP will continue efforts to attend and complete relevant safety, security, operations, and maintenance training at RTAs.
Events

RTSRP Investigation Process

In accordance with RTSRP Procedures and Standards and Part 674, the RTSRP is responsible for the investigation of safety events, as well as the review of hazard analysis and mitigation activities. Figure 2 depicts the reportable event notification decision tree created by the RTSRP in 2020 to aid in their event notifications. With few exceptions, the RTSRP delegates investigation authority to covered RTAs, which conduct investigations for adoption by the RTSRP; similarly, the RTSRP requires agencies to identify, report, and analyze hazards in the course of transit operations.

Based on RTA event notifications, investigations, and hazard analyses, the RTSRP monitors a wide range of investigative activities, beginning with the event itself and culminating with the determination of a probable cause and the development of corrective action plans (CAPs) to mitigate the possibility of recurrence. The RTSRP and covered agencies work collaboratively throughout all stages of the investigation process. Typically, the RTSRP receives an initial event notification from an RTA safety representative, at which point the lead RTSRP Event Investigation Coordinator will begin working alongside the agency investigator to conduct the investigation. The RTSRP’s process for adopting and closing an investigation includes reviewing the corresponding investigation report and ensuring that information is thorough and accurate. Investigations must include a probable cause and identify CAPs, as appropriate. The RTSRP provides a status report to all of the RTAs weekly, which outline, new, adopted and ongoing investigations.
Figure 2: RTSRP Reportable Event Decision Tree

RAIL TRANSIT SAFETY REVIEW PROGRAM (RTSRP)

Reportable Event Notification Decision Tree

- Fatality: Was it related to transit operations, maintenance or the result of a collision with a transit vehicle?
  - Result of criminal homicide, not involving a collision with a rail transit vehicle?
    - Not Reportable
  - Yes

- Derailment
- Evacuation: Was the evacuation (including self-evacuations) due to life safety?
- Serious Injury: Was it related to transit operations, maintenance or the result of a collision with a transit vehicle?
- Collision: Was the collision with another rail transit vehicle, or an individual?
- Service Disruption or Modification: Was the collision in an intersection or grade crossing, with an object and resulted in substantial damage, serious injury or fatality?
- Runaway Vehicle: Was the vehicle a train, regardless of presence of operator?
- Red-Signal Violation: Was the vehicle a train, regardless of presence of operator?
- Near Miss: Any event that did not result in injury or damage but had the potential to do so, including work zone incursions and face-ups.

Notifications must contain:
- Reporter’s name and transit agency
- Event type;
- Time of event;
- Date of event;
- Event location;
- Vehicle line/route;
- Vehicle direction of travel;
- Vehicle number/lead car #;
- Information about other vehicles involved; and
- Number of injuries or fatalities.
2020 Reportable Events
In accordance with RTSRP and FTA requirements, RTAs must report accidents to the RTSRP within two hours of their occurrence, and incidents within 24 hours of their occurrence. In 2020, the RTSRP reviewed and adopted 184 event investigation reports from PAAC and SEPTA; no events at CamTran met criteria for reporting as an accident or incident. In 2020, the RTSRP reviewed 8% fewer investigation reports relative to 2019. This reduction in investigations is due in part to the reclassification of grade crossing collisions from accidents to occurrences in the May 2020 program standard revision. PAAC reported 87% of events within the prescribed reporting window, and SEPTA reported 92.1% of events within the prescribed reporting window. Figures 3 and 4 depict the reportable event breakdown at PAAC and SEPTA, respectively.

Red signal violations were the most common reportable event at SEPTA, while unexpected service shutdowns were the most common reportable event at PAAC. The most common types of accidents/incidents at both SEPTA and PAAC paralleled 2019 data and historical trends.

![Figure 3: 2020 PAAC Reportable Events](image1)

![Figure 4: 2020 SEPTA Reportable Events](image2)
Table 1 details the assigned probable cause for each event investigation. Operating rules violations or human error accounted for 75 of 181, or 41%, of all reportable accidents and incidents in 2020.

In 2020, the RTSRP also continued to track National Transportation Safety Board investigations of a Norristown High Speed Line vehicle collision that occurred at SEPTA in August of 2017 and the Broad Street Line roadway worker fatality that occurred at SEPTA in July of 2019.

### Table 1: Probable Causes of Accidents and Incidents Investigated by the RTSRP in 2020

<table>
<thead>
<tr>
<th>Probable Cause</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating rule violation or human error</td>
<td>75</td>
</tr>
<tr>
<td>Actions of motorist</td>
<td>31</td>
</tr>
<tr>
<td>Imprudent action of patron</td>
<td>24</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
</tr>
<tr>
<td>Equipment failure</td>
<td>16</td>
</tr>
<tr>
<td>Trespassers</td>
<td>6</td>
</tr>
<tr>
<td>Poor Maintenance</td>
<td>5</td>
</tr>
<tr>
<td>Pedestrian actions</td>
<td>3</td>
</tr>
<tr>
<td>Suicides</td>
<td>3</td>
</tr>
<tr>
<td>Slips and Falls</td>
<td>1</td>
</tr>
</tbody>
</table>

### 2020 Occurrence Reporting

In 2020, the RTSRP monitored occurrences at covered RTAs based on the reporting thresholds outlined in the RTSRP Procedures and Standards. Though many of the occurrences do not meet the threshold for FTA accident/incident reporting, occurrences are reportable to the RTSRP in a monthly report. This rigorous reporting standard allows for trend analyses that support the proactive mitigation of more serious safety events. The RTSRP also monitored ongoing safety assurance processes at RTAs such as SEPTA’s Market-Frankford Line M4 vehicle side sill and bolster repairs and PAAC’s Mt. Lebanon Tunnel Track inspections.

Table 2 represents the agencies’ reported occurrences to the RTSRP in 2020. The majority of occurrences reported in 2020 (73%) were related to trespassing. Reported hazards rose approximately 70% from 2019 to 2020. This was largely due to increased reporting of trespassing by SEPTA, which increased by 84% from 2019 to 2020.
Table 2: Occurrences Reported to the RTSRP in 2020 by RTA

<table>
<thead>
<tr>
<th></th>
<th>SEPTA</th>
<th>PAAC</th>
<th>CamTran</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trespassing: Intentional</td>
<td>712</td>
<td>100</td>
<td>-</td>
<td>812</td>
</tr>
<tr>
<td>Trespassing: Unintentional</td>
<td>157</td>
<td>9</td>
<td>-</td>
<td>166</td>
</tr>
<tr>
<td>Collision: Other</td>
<td>75</td>
<td>7</td>
<td>-</td>
<td>82</td>
</tr>
<tr>
<td>Elevator/Escalator Injury</td>
<td>19</td>
<td>-</td>
<td>-</td>
<td>19</td>
</tr>
<tr>
<td>Unacceptable Hazard</td>
<td>-</td>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Revenue Vehicle Door Event</td>
<td>15</td>
<td>-</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>Collision with a Fixed Object</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Near Miss</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>979</strong></td>
<td><strong>118</strong></td>
<td><strong>6</strong></td>
<td><strong>1103</strong></td>
</tr>
</tbody>
</table>

Safety and Security Reviews

RTSRP Risk Based Inspection Program

In 2020, the RTSRP launched a risk-based assessment (RBA) program to direct oversight activities. The program is designed to be an ongoing process using data-driven decision making, in addition to analysis of individual events, to assess the safety and security of RTA maintenance and operations practices. Through the RBA program, the RTSRP proactively identifies potential hazards that require further oversight or investigation, uses event trends to highlight risk, and

![Figure 5: Examples of KPI Source Data](image-url)
monitors rules compliance and ongoing maintenance, operations, and safety activities.

A critical component of the RTSRP RBA program is the identification and reporting of key performance indicators (KPIs). In this context, RTSRP KPIs are defined as quantifiable measures used to evaluate success in meeting objectives for performance. KPIs are tracked for each RTA and reported monthly. Figure 5 depicts examples of KPI source data that are used in the RBA program.

**Triennial Audits**

The RTSRP performs triennial safety and security audits at each of its covered RTAs on an ongoing basis over a three-year cycle. 2020 marked the second year of the current triennial cycle. Triennial audits include a comprehensive document and record review, interviews, and field observations when feasible and warranted. Due to the COVID-19 pandemic, many of the audits held in 2020 were performed virtually, with the disclaimer that field observations may be conducted at a later date, as necessary. RTSRP audits are informed by Pennsylvania requirements, federal regulations, and industry best practices, and focus on compliance with the RTA’s procedures and plans. The triennial audit process is outlined in Figure 6.

After covered RTAs finalized their PTASPs, the RTSRP began to shift to an SMS-based audit approach. The process by which audits are conducted remains consistent with prior years; however, specific topics are being audited under SMS, rather than a review of the 23 elements previously utilized. Accordingly, the RTSRP developed SMS-centric triennial audit checklists using the PTASP review checklist as a foundation. Utilizing the SMS checklists will allow the RTSRP to perform Part 674 compliant audits and assist the covered RTAs in identifying any gaps related to SMS during PTASP implementation.

![Figure 6: Triennial Audit Process](image-url)
Audits by the RTSRP may review PTASP or Security and Emergency Preparedness Plan (SEPP) implementation broadly, or they may focus on a narrow range of issues of a more technical matter. In 2020, the RTSRP completed audits of 12 elements at CamTran, seven elements at PAAC, and 11 elements at SEPTA.

The RTSRP attends or monitors internal safety and security audits at each covered agency and tracks CAPs that arise from these internal reviews. In 2020, the RTSRP oversaw or reviewed 12 internal audits at CamTran, 35 at PAAC, and six at SEPTA.

Table 3 shows the 2020 audit activity by agency.

<table>
<thead>
<tr>
<th></th>
<th>CamTran</th>
<th>PAAC</th>
<th>SEPTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTSRP Safety Audits</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>RTSRP Security Audits</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Agency Internal Audits</td>
<td>12</td>
<td>35</td>
<td>6</td>
</tr>
</tbody>
</table>

Corrective Action Plans

Covered RTAs are required to develop CAPs for various deficiencies and hazards identified through triennial audits, event investigations, hazard reports, rules compliance monitoring, and inspections. All CAPs must be submitted to the RTSRP for review and approval within 30 calendar days of an identified deficiency. Subsequently, the RTSRP is responsible for reviewing, approving, and verifying implementation. The CAP process is depicted in Figure 7.

At a minimum, the RTSRP reviews the list of CAPs with safety and security personnel and other responsible departments, as appropriate, on a quarterly basis during CAP meetings. During these meetings, RTA and RTSRP personnel review progress towards the closure of open CAPs and identify documentation to review to verify completion. The RTSRP verifies implementation through field reviews, record reviews, photographs, and/or plan, policy, or procedure revisions. The RTSRP also works with covered RTAs to track and oversee findings that have been developed internally or from other sources such as accidents and hazards. Tables 4, 5, and 6 display the number of opened and closed CAPs per year for CamTran, PAAC, and SEPTA, respectively. These CAPs include several RTSRP or internal RTA technical review...
results, as well as larger, more programmatic matters that the RTSRP has identified through its ongoing review process.

<table>
<thead>
<tr>
<th>Table 4: CamTran CAPs by Year as of December 31, 2020</th>
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<tbody>
<tr>
<td><strong>Opened</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Opened</td>
</tr>
<tr>
<td>Completed</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 5: PAAC Open CAPs by Year as of December 31, 2020</th>
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</thead>
<tbody>
<tr>
<td><strong>Opened</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Opened</td>
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<tr>
<td>Completed</td>
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</tbody>
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<table>
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<tr>
<th>Table 6: SEPTA Open CAPs by Year as of December 31, 2020</th>
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<tbody>
<tr>
<td><strong>Opened</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Opened</td>
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<tr>
<td>Completed</td>
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</tbody>
</table>

The RTSRP tracks all CAPs for each RTSRP-covered transit agency through an electronic SMS database. This database allows the RTSRP to track CAP information and updates in a streamlined manner, as well as manage all forms of electronic verification materials, perform analyses, and disseminate automatic alerts surrounding upcoming closure. From the SMS database, the RTSRP and the RTAs can also review KPIs of CAPs to assess areas where attention may need to be focused. The sources of open CAPs as of December 31, 2020 are depicted in Table 7, and the hazard rating of the open CAPs are shown in Table 8.

![Figure 7: CAP Process](image-url)
Security and Emergency Preparedness Efforts

Although the FTA relinquished its security oversight with the release of Part 674, the RTSRP has opted to maintain security oversight of its covered agencies, while working with the Transportation Security Administration (TSA) to ensure that its requirements do not conflict with those of the TSA. Furthermore, emergency preparedness remains an SSO responsibility as part of each agency’s safety management policy. Security and emergency preparedness efforts include auditing the SEPP; observing or participating in emergency drills and exercises; reviewing RTA threat and vulnerability assessments (TVAs); and monitoring and overseeing any security and emergency preparedness concerns at covered RTAs.

SEPTA Malware

Cyber security continues to be a concern of the RTSRP as it relates to the safety and security of the RTAs and the transit industry. Cyber-attacks against critical infrastructure in the United States have increased over the years and in 2020 SEPTA was a victim of a malware attack that disrupted a number of technology systems they rely on. Although the attack was substantial, SEPTA was able to mitigate the damage and maintain operations. The RTSRP coordinated with SEPTA to monitor the investigation, including supporting a call with SEPTA senior leadership to discuss the attack and recovery efforts. In addition to this conversation, the RTSRP recommended that SEPTA conduct a thorough after-action response.
review to learn from the event and what potential countermeasures can be introduced to mitigate or eliminate the risk. The RTSRP also contacted the FTA Office of Safety and Oversight, as well as the TSA to discuss any guidance or best practices. The RTSRP continues to work with SEPTA and the other covered RTAs to coordinate opportunities to improve resiliency against cyber-attacks.

CamTran Threat and Vulnerability Assessment
Each covered RTA is required to maintain a TVA in order to identify security risks and develop recommendations for practical mitigations. An RTA’s TVA must recognize its unique operating environment and understand that due to the inherent public nature of transit operations, the agency is constantly exposed to security threats.

Covered RTAs are required by the Program Standard to update their TVAs every three years, but each covered RTA provides annual updates to the RTSRP. In 2020, the RTSRP participated in CamTran’s annual TVA review and provided significant input into their process and assessment. The RTSRP held working sessions with the Chief Safety Officer/Facilities Director (CSO/FD) at CamTran to understand the determination of threat levels and their categorization. The RTSRP also worked with the CSO/FD to update their threat evaluation method to MIL-STD-882E, in accordance with the safety risk assessment methodology in the agency’s PTASP. This resulted in CamTran reclassifying identified hazards in the assessment. The RTSRP also reinforced the requirement to develop CAPs for any unacceptable hazards. Finally, the RTSRP suggested several quick-hit mitigation suggestions to address lower-level security concerns at CamTran.

COVID-19
The COVID-19 pandemic required the RTSRP and covered RTAs to implement emergency operations planning to significantly adjust oversight and implementation of transit services. RTSRP field work was suspended for 30 days beginning on March 12, 2020. Governor Tom Wolf ordered closure of all non-life-sustaining businesses effective March 19, 2020 and on March 31, 2020 Governor Wolf and the Secretary of Health, Dr. Rachel Levine, extended stay-at-home orders to cover 33 counties in Pennsylvania. RTSRP representatives from the PennDOT headquarters and the Philadelphia and satellite field offices began working remotely, with the stipulation that if a major event were to occur at one of the covered transit agencies, the RTSRP would
evaluate circumstances surrounding the event, and respond, as appropriate. The RTSRP maintained communication with covered RTAs and continually monitored their responses to the pandemic. Additionally, the RTSRP monitored the outbreak as well as federal, state, and local guidelines and continually adjusted project activities as needed. The RTSRP drafted a safety plan, in line with PennDOT’s consultant safety plan guide, to describe how the RTSRP would continue to carry out its safety and security oversight responsibilities safely and without putting undue burden on the agencies.

At the onset of the pandemic, both PAAC and SEPTA reduced service hours, while CamTran postponed the seasonal opening of the Inclined Plane until June. The agencies took similar approaches to mitigating the risk of employee and patron exposure to the virus, including enforcing mask and social distancing policies; requiring mandatory temperature screenings; instituting capacity limits on vehicles; implementing remote working policies as feasible; enhancing their cleaning and disinfecting practices; and initiating contact-tracing programs.

The RTSRP received regular updates on agency responses to the pandemic during the monthly RTA meetings and quarterly meetings. In addition, CamTran developed a timeline of actions and mitigations which was shared with the RTSRP on a regular basis; PAAC released regular educational and update presentations to its employees and the RTSRP; and SEPTA documented its actions taken to share with the RTSRP and the FTA.

Despite the pandemic, the RTSRP readily adapted to the circumstances and continued to carry out its oversight responsibilities by holding virtual meetings and conducting virtual audits. As the state began reopening, limited field operations resumed at PAAC but remained halted at CamTran and SEPTA through the end of the year. The RTSRP will continue to adjust its levels of onsite activity at each of the agencies as feasible and necessary.
Looking Forward

In 2021, the RTSRP will continue to work closely with its covered RTAs regarding safety and security initiatives. Focus areas will include SMS implementation, the development of a safety standard governing hours of service, creating a strategic plan for the program, working with the agencies to improve their TVAs, and reviewing agencies’ capital programs. Furthermore, the RTSRP will continue to refine its RBA program, which will enable the RTSRP to proactively identify issues and hazards to help refine focus areas to improve overall rail transit safety and security throughout Pennsylvania.
Pennsylvania Rail Transit Safety Review Program

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