Introduction
The South Carolina Office of Regulatory Staff (ORS) has been directed by the South Carolina General Assembly (S.C. Code Ann. Section 58-17-140 as amended by 2006 S.C. Acts No. 318) to compile information regarding railroad transportation activities in the State on an annual basis. In 2018, ORS continued to share the responsibility for railroad safety oversight with the Federal Railroad Administration (FRA) in two areas: 1) Track and 2) Operating Practices (OP). The FRA Track Division promotes understanding of and compliance with the federal Track Safety standards and provides technical expertise regarding track safety standards, roadway worker standards, and roadway maintenance machine standards, relevant to 49 CFR 213 and 214 disciplines. The OP Division promotes understanding of and compliance with federal Operating Practices standards and provides technical expertise regarding railroad carrier operating rules, employee qualification guidelines, carrier training and testing programs, railroad occupational safety and health standards, the Hours of Service Act, and accident and personal injury reporting requirements. This document reports the activities of ORS related to its duties and addresses railroad accidents recorded by the FRA for South Carolina for the period ending December 31, 2018.

Partnership with Federal Railroad Administration
Through the Staggers Rail Act of 1980, Congress intended to create a competitive economic environment for railroad transportation by deregulating the rates and charges of railroads. The Rail Safety Act and its amendments authorized states to work with the FRA to enforce federal railroad safety regulations. As a result of this legislation, ORS inspectors work in partnership with the FRA to provide routine compliance inspections. ORS inspects approximately 2,600 miles of track and accompanying railroad operations. In 2018, ORS conducted 269 routine inspections, compiled 167 inspection reports, detected 27 safety violations, and documented 685 safety defects through these inspections.
ORS coordinated closely with the FRA in non-inspection matters throughout the year. As a participating state, ORS inspectors trained in accident investigation and discipline recurrency sponsored by the FRA. Through seminars and webinars sponsored by the FRA, ORS tracked and monitored regulation promulgation, trends in the rail industry, and areas of regulatory emphasis. ORS worked with FRA Track and OP inspectors to coordinate inspections and make referrals of highway-rail grade crossing complaints, when appropriate. ORS hosted the 2018 FRA Region meetings and conferences in Columbia where inspectors and state managers from across the Southeast received additional training on enforcement and industry trends. In November, the ORS state program manager attended the Association of State Rail Safety Managers (ASRSM) annual conference and training that was sponsored by the FRA.

**State Inspector Performance**

In 2018, ORS ranked highly in performance outputs when compared to other state inspectors. Chart 1 illustrates that track inspections and reports exceeded the national average among all state track inspectors. Chart 2 demonstrates that OP inspections and violations exceeded the national average among all state OP inspectors.

**Chart 1: State Program Performance Outputs – Track**

![State Program Performance Outputs--Track](chart.png)
ORS routinely attended industry training, provided 88 technical assists to operators, 229 technical assists to the public, and gave presentations to industry partners and county/state emergency managers.

**Railroad Accidents and Incidents in South Carolina**

The partnership between the FRA and ORS focuses on regulatory oversight activities to promote safety in railroad operations with the goal of reducing rail-related accidents, incidents, and casualties. The FRA conducts formal investigations of select railroad accidents and incidents to determine the cause and identify proper remedial action. If called upon by the FRA, ORS provided support for accident/incident investigation. According to the FRA Office of Safety Analysis, in 2018, there were 124 reportable accidents/incidents recorded in South Carolina.

The FRA Office of Safety Analysis categorizes reportable accidents/incidents into three categories:
1. **Train Accident**
   - An event involving on-track rail equipment that results in monetary damage to the equipment and track.

2. **Highway-Rail Incidents**
   - Any impact between a rail and highway user at a crossing site, regardless of severity. This category includes motor vehicles and other highway/roadway/sidewalk users at both public and private crossings.

3. **Other Incidents**
   - Events other than train accidents or crossing incidents that caused death or nonfatal condition to any person. Most fatalities in this category are due to trespassing.

**Chart 3** provides a detailed breakdown of the 2014 through 2018 reportable railroad accident and incident statistics which includes fatalities that occurred in South Carolina.

**Chart 3: Railroad Accident and Incident Statistics**
Amtrak Accident in Cayce

In the early morning of February 4, 2018, near the city of Cayce, South Carolina, an Amtrak (ATK) southbound passenger train collided with a standing CSX Transportation (CSX) freight train. A local switcher had conducted operations in the area and was sitting in Silica Siding with two locomotives attached to cars near the north end of the track. The crew was in the cab of the lead locomotive, CSX 130. The ATK passenger train (ATK PO9103) was traveling south on the main track when it encountered the switch at the north end of Silica Siding. The switch was lined for the siding rather than the main track. ATK PO9103 entered the siding at track speed, struck a track mechanism, and collided with CSX 130. The crew was able to exit CSX 130 just prior to impact. CSX 130 was heavily damaged but did not derail. ATK PO9103 derailed to the east side of CSX 130 and the ATK conductor and engineer were killed in the collision.

ORS OP and Track inspectors immediately responded to the accident and were on the scene before the FRA and National Transportation Board (NTSB). The ORS Executive Director and Rail Safety Program Manager dispatched immediately to the State Emergency Operations Center where they assisted in coordinating response, conducted media interviews, and provided information to state lawmakers.

ORS inspectors were embedded with the NTSB investigation team to conduct the initial investigation. NTSB issued its final investigation findings on September 30, 2019. NTSB determined the CSX conductor “failed to properly reposition the switch for the main track” and CSX failed to implement training protocols to reduce the risk of misaligned switch accidents. Also, NTSB found that Amtrak failed to conduct a risk assessment before operating on tracks with signal suspensions.

In the aftermath of the incident in Cayce, ORS provided information to the news media regarding the status of the NTSB investigation which included the status of the implementation of Positive Train Control (PTC) by the Class I railroads. ORS implemented an initiative to ensure local 911 operators have access to railroad mileposts information through their local Computer Aided Dispatch (CAD) systems. Access to this
information can provide more accurate information to assist 911 operators in response to future accidents in rural areas. ORS discussed this initiative at the South Carolina National Emergency Numbering Association (NENA) annual conference and demonstrated the benefits of incorporating the Geographic Information System (GIS) information into local CAD systems. As a result of ORS’s presentation, six new 911 centers added the GIS information into their CAD in 2018.

Inter-Agency Cooperation

ORS continued training and preparations for potential incidents, accidents, and disasters. ORS received State Warning Point alerts from the South Carolina Emergency Management Division (SCEMD) related to rail incidents within the State. These alerts assisted ORS to respond quickly to any accident or incident. ORS investigated 90 rail-related incidents in 2018.

To promote rail safety awareness throughout the State, ORS worked with the emergency management community. ORS gave presentations to Local Emergency Preparedness Committees (LEPCs), South Carolina Emergency Managers Association, and County Emergency Managers regarding rail safety, State Warning Point, and other useful tools including the AskRail and Railroad Crossing Locator applications that can be used during a train emergency.

In September and October 2018, Hurricanes Florence and Michael provided another opportunity for ORS, the emergency management community, and the railroads to work together. During this emergency, CSX, Norfolk Southern, Palmetto Railways, Amtrak, various South Carolina short lines, FRA, South Carolina Department of Transportation (SCDOT), and ORS collaborated in efforts to ready facilities and inform the public about the impacts of the storms on railroad operations. ORS assisted the railroad community with coordination of resources to clear road debris quickly after the storms, which enabled the railroads to install generators for switches and signals. Due to the hurricanes, track washouts and flooding occurred. ORS monitored and communicated information to the general public and railway customers about the re-routing of rail traffic, the closure of
tracks, and recovery efforts of the rail industry. ORS assisted several Dillon County farmers whose farmland had been flooded by blocked culverts maintained by the railroads.

**Serving the Public**

ORS provided outreach to those most impacted by the rail industry. ORS co-sponsored Operation Lifesaver to promote the three E's – education, enforcement, and engineering – to keep people safe near railroad tracks and crossings in the State. ORS offered free railroad safety education to school children and community groups across South Carolina, including 5 separate presentations during National Rail Safety Week.

ORS responded to railroad inquiries and complaints. ORS assisted several counties with the submission of their commodity flow/density study requests to the Class I railroads and provided information to the public and the media regarding the certification and credentialing of railroad police.

ORS investigated and resolved sixteen (16) complaints regarding erosion, abandoned lines, hazardous materials, quiet zone violations, blocked crossings and grade crossings. ORS resolved complaints from the general public regarding vegetation and drainage along railroad rights-of-way, train noise, and train horns. ORS investigated 2 quiet zone complaints and found 1 railroad to be in violation of the quiet zone regulation. Many complaints received by ORS in 2018 were related to highway rail-grade crossing issues and involved the safety, condition, or length of time that a train had blocked the crossing. Several of these complaints were filed by counties and schools. Approximately 67% of all railroad complaints received by ORS are related to blocked crossings, which are outside of ORS' regulatory jurisdiction. In 2018, ORS reviewed proposed new penalties for blocked crossings and responded to media inquiries about the current statutory penalties for a blocked crossing.
Conclusion and Recommendations

In 2018, ORS monitored the South Carolina rail transportation system for compliance with federal regulations in the areas of Track and OP. ORS encouraged railroad operators to exceed the requirements of regulations and to remedy defects and violations in a timely manner. Each inspector completed discipline-specific annual training sponsored by the FRA, and the State Program Manager received regulatory updates and guidance from the FRA to ensure the consistent enforcement of rules and regulations.

It is a challenge to maintain safe railways in South Carolina. Blocked railroad crossings hinder emergency response, slow the flow of commerce and traffic, and can create a dangerous situation for pedestrians. Blocked railroad crossings continue to be the most frequent complaint from the general public and local government. S.C. Code Ann. § 58-17-4080 (Supp. 2015) states that any railroad that blocks a crossing for more than five minutes is subject to a fine of no more than twenty dollars. To address this safety issue at the federal level, ASRSM urged Congress to act on the issue of blocked railroad crossings.

The second challenge to railroad safety is pedestrian trespass on railroad tracks. As the population increases, the railroads face increasing incidents of pedestrian trespass on the tracks and rights-of-way. Trespassing has led to an increase in fatalities and injuries on railroad property over the last 5 years. Another major challenge to railroad safety is motorists who disregard crossing arms, cross bucks, signals, and stop signs at grade crossings. Mitigation of these railroad safety challenges will require federal and state legislation to increase penalties for railroad operators whose trains block a crossing and for citizens who trespass or ignore crossing arms and other safety devices at a grade crossing.