Welcome Back!

Another cycle of quarterly Rail Transit Safety Newsletters has begun! FTA warmly welcomes back readers from state safety oversight (SSO) agencies and rail transit agencies who follow safety and security issues and FTA’s SSO program.

It has been a busy year. The U.S. Department of Transportation proposed new legislation on behalf of FTA to strengthen rail transit safety standards and oversight. The Secretary of Transportation also authorized the establishment of the Transit Rail Advisory Committee for Safety (TRACS) that consists of approximately 25 voting members and provides recommendations to the Secretary of Transportation through the Federal Transit Administrator regarding transit safety and other issues. Information on TRACS meetings and activities is available at: http://FTA.dot.gov/11039_12442.htm.

With these new initiatives underway, FTA continues its SSO program, its Drug and Alcohol Safety Program, its training and technical assistance programs with the Transportation Safety Institute (TSI) and National Transit Institute (NTI), and its track inspection and worker safety program. This Newsletter features updates on effective practices in these programs designed to enhance SSO and rail transit agency safety performance.
FTA’s SSO Program Team

Changes to enhance communication

During the 6th Annual State Safety Oversight (SSO) Program Managers Meeting, SSO agency representatives requested clearer communication with FTA’s Office of Safety and Security. To address this request and better manage the growing volume of outreach and coordination activities required to support states in the implementation of 49 CFR Part 659 requirements, FTA has assigned a primary point-of-contact for each state.

This FTA staff member is the initial representative the state should contact for all issues related to Part 659 implementation and SSO audits, waivers from the Federal Railroad Administration (FRA), employee complaints and safety inquiries, technical assistance requests, and other program concerns.

Levern McElveen, FTA’s Safety Team Leader and SSO Program Manager, will serve as the primary contact for the following SSO agencies:

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Levern can be reached at (202) 366-1651 or by email at Levern.McElveen@dot.gov.

Ryan Frigo, FTA’s Safety and Security Specialist, will serve as the primary contact for the following SSO agencies:

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Ryan can be reached at Ryan.Frigo@dot.gov and by telephone at (202) 366-1725.

Safety and Security Specialist Maria Wright joins the SSO team as the contracting officer’s technical representative (COTR) responsible for FTA’s SSO contractors and business processes and in managing key program deliverables, such as, newsletters, handbooks, and annual meetings.

Maria can be reached at Maria1.Wright@dot.gov and by phone at (202) 366-5922.

For a listing of all of FTA’s Office of Safety and Security representatives and contact information, please visit:


SSO community members are encouraged to contact FTA with questions, comments and/or suggestions.
Welcome HRT’s Tide!

New Light-Rail System in Norfolk, VA

On Friday August 19, 2011, Hampton Roads Transit (HRT) opened its Tide light rail system, in Norfolk, Virginia. This is Virginia’s first light rail system and the 48th rail transit system to join FTA’s state safety oversight (SSO) program. Virginia’s Department of Rail and Public Transportation (VDRPT) provides safety and security oversight for the 7.4-mile system and is the 28th SSO agency to join FTA’s program.

During HRT’s opening weekend, more than 75,000 passengers rode the new alignment, shattering ridership expectations for the new light rail system.

The Tide’s largely at-grade alignment contains 11 stations and connects Downtown Norfolk to Eastern Virginia Medical School. The Tide’s $318 Million system was first awarded Federal Funding in 2007.

The Tide uses nine (9) low-floor boarding Siemens S70 light rail vehicles. The light rail trains operate at 10-minute intervals during peak periods and 15-minute intervals during off-peak periods.

After working closely with HRT to support safety analysis and improvements during design and construction, VDRPT also partnered with FTA’s Region 3 Office and FTA’s Office of Safety and Security to ensure HRT’s readiness for revenue operations. During July, VDRPT worked with FTA to conduct a Pre-Revenue Service Review (PRSR) at HRT. Throughout the first half of August, VDRPT and FTA partnered with HRT to ensure that all PRSR findings were satisfactorily resolved. Meeting its internal deadline, HRT successfully issued its Safety and Security Certification Verification Final Report (SSCVF) to VDRPT prior to the initiation of passenger service.

Congratulations to HRT and VDRPT for successfully and safely opening the Tide’s light rail system!
Top 10 Safety Priorities

In 2011, FTA re-issued its list of Top 10 Priority Safety Action Items. This Top Ten list – depicted on the right – includes the issues that FTA finds to be the most important for the SSO agencies and rail transit industry. The Top 10 Priority Items are based on the results of detailed analysis performed on data obtained from the National Transit Database (NTD) and FTA’s State Safety Oversight (SSO) Program. They also reflect recommendations from the National Transportation Safety Board (NTSB) and lessons learned from accident investigations and training programs.

Priority Number 1 focuses on working with executive leadership in state and local governments and rail transit agencies to increase commitment to safety. FTA has long emphasized the importance of management commitment to building and sustaining an effective safety program. Executive leadership sets the tone and direction for the entire organization. As a result, more than any written plan or policy, the actions taken each day by executive management visibly signal to each and every department in the organization (and to each employee) the agency’s “true” core values. FTA is supporting this priority through direct outreach with Chief Executive Officers at the rail transit agencies and in the states and by partnering with TRACS to explore Safety Management Systems (SMS) and how this approach can be implemented in public transportation.

Priority Number 1: Increase Management Commitment to Safety in the States and Rail Transit Agencies

Priority Number 2: Build Professional Capacity to Enhance Knowledge, Skills, and Technical Capabilities in the SSO Program

Priority Number 3: Increase Quality of Safety Communication and Hazard Management

Priority Number 4: Improve Safety of Transit Workers, including ROW Safety and Fatigue Management

Priority Number 5: Improve Compliance with Operating and Maintenance Rules

Priority Number 6: Improve Maintenance Oversight

Priority Number 7: Ensure Performance of Internal Safety Audits

Priority Number 8: Reduce Collisions with Pedestrians, Motorists, and Trespassers

Priority Number 9: Reduce Passenger Injuries in Transit Stations (including injuries to Passengers with Disabilities)

Priority Number 10: Improve Integrity, Collection and Analysis of Safety Data

Rail Transit Ridership
Unlinked Passenger Trips

<table>
<thead>
<tr>
<th>Mode</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tr>
<td>Heavy Rail</td>
<td>3,317,993,740</td>
<td>3,466,893,602</td>
<td>3,577,663,082</td>
<td>3,470,003,647</td>
<td>3,570,207,054</td>
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<tr>
<td>Light Rail</td>
<td>376,871,478</td>
<td>396,012,303</td>
<td>465,414,295</td>
<td>460,735,600</td>
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<tr>
<td>Other Rail</td>
<td>17,505,935</td>
<td>17,264,298</td>
<td>17,830,376</td>
<td>17,897,531</td>
<td>17,081,904</td>
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<tr>
<td>Total</td>
<td>3,712,371,153</td>
<td>3,880,170,203</td>
<td>4,060,907,753</td>
<td>3,948,636,778</td>
<td>4,045,184,265</td>
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The table to the left depicts the annual unlinked passenger trips provided by the rail transit industry, by mode, between Calendar Years 2006 and 2010.
Priority Number 2 targets the need for improved technical skills at every level in the SSO program. FTA is working closely with the SSO agencies and the rail transit agencies on safety and security training curriculums aimed at particular job positions—funded wholly or in part by FTA and developed through the Transportation Safety Institute (TSI), the National Transit Institute (NTI), and the Transportation Technology Center, Inc. (TTCI). FTA also supports the states and rail transit agencies in identifying training needs and in building training partnerships.

FTA will address Priority Number 3 on safety communication and hazard management, in part, through a technical assistance package and training program targeted at the SSO agencies. FTA also looks forward to partnering with TRACS members on addressing non-punitive employee safety reporting programs, as well as continuing to focus on hazard management as a main priority in FTA’s SSO audit program.

Priorities Number 4, 5 and 6 focus on rail transit employees -- their wellness and medical qualification; their safety on the right-of-way; and their level of rules adherence and quality of supervision. To address these priorities, FTA is working the American Public Transportation Association (APTA) and the Transit Cooperative Research Program (TCRP) to develop new standards, recommended practices and guidance for the rail transit industry. FTA also is providing hands-on track inspection and worker safety refresher training at rail transit agencies around the nation.

For Priority Number 7, FTA has developed a new training course to support improvements in the quality of internal safety audits. FTA also focuses on this area extensively during SSO audits.

Priorities Number 8 and 9 address needed safety improvements in the planning, design, engineering, construction and testing of rail grade crossings, rail transit traffic control devices and systems, rail transit stations, and rail transit facilities. To support these priorities, FTA partners with FHWA and FRA on the Manual for Uniform Traffic Control Devices, Part 8 Traffic Control for Railroad and Light Rail Transit Grade Crossings, http://mutcd.fhwa.dot.gov/pdfs/2009/part8.pdf.

Through its Project Management Oversight (PMO) program, FTA also performs oversight regarding the management of safety and security certification programs for major capital projects. In 2007, FTA specified its requirements in Circular 5800.1 Safety and Security Management in Major Capital Projects. FTA also provides training and handbooks, and, in partnership with APTA, standards and recommended practices to improve the design and operation of rail transit systems.

Priority 10 was established to improve the quality of data collected from the rail transit industry and the SSO agencies. FTA is working to address recommendations in this area from the Government Accountability Office and the NTSB.

The Coming Year…

In year’s past, the SSO agencies and rail transit agencies have made significant progress in addressing previous FTA safety priorities. However, much more is still required. FTA is encouraged by the support received from the states and rail transit agencies, APTA and TCRP, FRA and the Department of Homeland Security, and other organizations, such as Operation LifeSaver. FTA looks forward to working with its partners over the coming year to make even greater strides in improving the safety of the nation’s rail transit industry.
Fatigue Management

Sleep Apnea

Sleep apnea is a major contributor to daytime drowsiness—a condition responsible for serious accidents in the public and commercial transportation industries. In 2009, the National Transportation Safety Board (NTSB) issued a recommendation to the Nation’s rail transit agencies to develop and implement programs to ensure that rail transit operators at high risk for obstructive sleep apnea and other sleep disorders are identified, treated, and evaluated (http://www.ntsb.gov/doclib/recletters/2009/R09-10_14.pdf). The NTSB also recommended that FTA develop and disseminate guidance on how these programs should be designed and implemented.

FTA is partnering with the Transportation Research Board (TRB) and the American Public Transportation Association (APTA) to conduct research and develop recommended practice for the public transportation industry. At the urging of the NTSB, FTA is also reviewing the recommendations developed by the Medical Review Board at the Federal Motor Carrier Safety Administration (FMCSA) for managing this medical condition in operators of commercial motor vehicles.

What is Sleep Apnea?

Sleep apnea is a sleep disorder characterized by brief interruptions of breathing during sleep. Each of the interruptions in breathing forces the individual with sleep apnea either to wake up to restore breathing or to arouse from a deeper level of sleep to a lighter level of sleep. These disturbances in sleep occur many times an hour throughout the night, affecting the quality and adequacy of sleep.

If left undiagnosed and untreated, this particular sleep disorder can lead to episodes of “micro-sleep” where the affected individual may fall quickly asleep, without even being aware of it, for periods of seconds to minutes at a time, throughout the day.

Research has also shown that untreated sleep apnea may lead to decreased cognitive function, psychomotor impairment, and decrements in driving skills.

There are three types of sleep apnea:

- Obstructive sleep apnea (or OSA) is the most common form, caused by a blockage of the airway, usually when the soft tissue in the rear of the throat collapses and closes during sleep.
- Central sleep apnea, where the airway is not blocked but the brain fails to signal the muscles to breathe.
- Mixed apnea, as the name implies, is a combination of the two.

The most common symptoms of sleep apnea are loud snoring and excessive daytime sleepiness. Other symptoms include: morning headaches, difficulty concentrating, depression, irritability, sexual dysfunction, and learning and memory difficulties. Untreated sleep apnea can be life threatening; consequences may include high blood pressure and cardiovascular complications.

Research has also shown that individuals with sleep apnea are at a higher risk for accidents and injuries, due to fatigue and diminished motor skills and mental acuity.

Continued on Page 6
Measuring Sleep Apnea

When breathing is normal during sleep, an individual's breath airflow is at 100% to 70%. During apnea, breathing stops or is markedly reduced (0% to 25% of breath airflow) for a period of 10 seconds or more. Each of the interruptions in breathing also affects sleep. Apnea is almost always accompanied by hypopnea, a decrease in breathing equivalent to 69% to 26% of breath airflow. Like apneas, hypopneas are associated with a 4% or greater drop in the saturation of oxygen in the blood and usually occur during sleep. Also like apneas, hypopneas usually disrupt the level of sleep.

The apnea-hypopnea index (AHI) is commonly used to describe breathing disorders during sleep. AHI is an index of severity that combines apneas and hypopneas. AHI is calculated by dividing the number of apneas and hypopneas by the number of hours of sleep correspondingly.

The severity of the sleep apnea is measured on a continuum with the AHI:

- Mild (5-15 episodes per hour),
- Moderate (15-30 episodes per hour), and
- Severe (more than 30 episodes per hour).

The higher the AHI, the more likely the individual is to have excessive sleepiness.

Risk Factors for Sleep Apnea

There are several risk factors for sleep apnea, including: family history, size and structure of the neck, jaw, chin and upper airway, and being overweight.

Research has shown that nearly 50 percent of individuals considered obese (with a Body Mass Index or BMI over 30) suffer from some form of sleep apnea. Smoking and alcohol use also contribute as risk factors. Sleep apnea is more likely to occur in men than in women and in people over 40.

Diagnosing Sleep Apnea

To diagnose sleep apnea, doctors typically begin with medical questionnaires, such as the Epworth Questionnaire and the Berlin Questionnaire. These questionnaires assess the level of daytime sleepiness as well as addressing snoring and overall medical history. Specific questionnaire results, combined with the presence of requisite physical indicators, such as a BMI greater than 30, determine whether a sleep study is needed to formally diagnose a sleep disorder.

Sleep studies traditionally require an overnight stay at a sleep center and the use of polysomnography (PSG) equipment to record multiple physiologic parameters related to sleep and wakefulness, such as sleep state, eye movement, muscle activity, heart rate, respiratory effort, airflow, and blood oxygen levels. Under certain circumstances, sleep studies can also be conducted at the individual’s home.

Treatments for Sleep Apnea

The most appropriate treatment depends on an individual’s medical history and the severity of the disorder.

Treatment regimens typically include machine-assisted breathing during sleep (nasal continuous positive airway pressure (CPAP) machine), lifestyle changes such as avoiding alcohol and losing weight, oral appliances, surgery and ongoing monitoring.
**FMCSA Medical Expert Panel Recommendations**

Research from both the public and private sectors shows a strong correlation between sleep apnea and accidents. The American Sleep Apnea Association (ASAA) estimates that 25 million Americans suffer from sleep apnea. Of these 200,000 each year are involved in Motor Vehicle Accidents because of sleepiness problems. Earlier studies have found that commercial drivers with obstructive sleep apnea or OSA are twice as likely to be involved in accidents as drivers without OSA. (Please see: [http://www.fmcsa.dot.gov/safety-security/sleep-apnea/sleep-apnea.aspx](http://www.fmcsa.dot.gov/safety-security/sleep-apnea/sleep-apnea.aspx).)

At the current time, FMCSA does not require testing and treatment for sleep apnea as part of the medical qualification process for holding a commercial driver’s license. FTA also does not address this issue in existing guidance to rail transit agencies.

At the urging of the NTSB, FMCSA is now reviewing its rules and requirements regarding sleep apnea. At a public meeting on January 28, 2008, the FMCSA Medical Expert Panel reported their findings and recommendations concerning how to manage sleep apnea in the medical qualification of commercial drivers.

FMCSA’s Medical Review Board concurred that the recommendations of the Medical Expert Panel would improve driver safety.

FMCSA’s Medical Expert Panel determined that a diagnosis of sleep apnea should not necessarily bar a driver from certification, but that certification should be conditioned on the severity of the apnea and its impact on a driver’s alertness, and on whether the driver is getting the treatment he needs.

The Expert Panel identified specific criteria for denying medical certification for drivers, including having been involved in a crash associated with falling asleep at the wheel and failing to comply with prescribed sleep apnea treatment.

Of relevance to public transportation, the Panel made recommendations regarding overweight drivers. The Panel determined that a BMI of 30 or greater should be grounds for rejecting a driver’s application pending the outcome of a sleep study. FMCSA has estimated that between 25 and 30 percent of commercial drivers might fall into this category and require sleep studies and possible treatment. This number may be even higher in public transportation.

The Expert Panel also recommended that a conclusive diagnosis of OSA must preclude an individual from obtaining an unconditional certification to drive a commercial motor vehicle for the purposes of interstate commerce. The Panel determined that annual certifications could be possible if an individual with a diagnosis of OSA meets the following criteria:

- Has untreated OSA with an AHI < 20, and has no daytime sleepiness, or
- Has OSA that is being effectively treated.

While FMCSA has not yet initiated a rulemaking adopting these findings, the NTSB continues to recommend their implementation by commercial and public transportation providers.

New Guidebook Release:

Transit Safety Management and Performance Measurement

As part of FTA’s technical guidance for the transit industry, the Office of Safety and Security sponsored the Oklahoma State University (OSU) School of Civil and Environmental Engineering in preparing, “Transit Safety Management and Performance Measurement Guidebook” released in May 2011. This guidebook was prepared with the objective of providing resource information for the development and implementation of Safety Management Systems (SMS) and Safety Performance Measurement Systems (SPMS).

SMS offer the most promising means of preventing public transportation accidents by integrating safety into all aspects of a transit system's activities, from planning to design to construction to operations to maintenance.

Safety management is based on the fact that there will always be hazards and risks in public transportation. Therefore, systematic and proactive management is needed to identify and control these risks before they lead to mishaps.

The guidebook describes performance measurement as a key component of safety management. Measurement brings clarity to vague concepts, helps transit agencies identify gaps in safety performance, and forces management and governing boards to take action to improve performance.

The guidebook explains the iterative ten-step process of building and sustaining a successful SPMS including:

1. Getting started - conducting a readiness assessment;
2. Agreeing on outcomes & activities to monitor;
3. Selecting key metrics;
4. Identifying data needs;
5. Pilot testing and collecting baseline data on metrics;
6. Setting targets;
7. Monitoring performance and evaluating results;
8. Reporting findings;
9. Integrating findings into agency decision-making; and
10. Sustaining the performance measurement system.

The SPMS suggests that performance measures should be developed in consultation with key stakeholders. Performance information should be transparent, made available to all stakeholders, and be subject to independent verification. The focus should be on opportunities for improvement rather than allocating blame. Acceptance by these stakeholders is critical to the long term viability and success of the performance measurement program.

The figure below illustrates the guidebooks 5-step process for modern safety performance management. It begins with setting clear goals and objectives for system safety and formulating a safety policy. Next is establishing programs for identifying and reporting hazards, and managing risks in the day-to-day activities. The third step is

Continued on Page 9
developing and implementing effective strategies to eliminate hazards and control risks to an acceptable level. Performance measurement and evaluation, step 4, involves constructing performance metrics to measure progress, setting targets that reflect the safety objectives, collecting reliable performance data, identifying performance gaps and trends, evaluating program effectiveness, and communicating performance results to the stakeholders. Finally, step 5 deals with integrating performance results into the decision-making process, allocating the needed resources for closing the gaps in safety performance, and investing in proactive activities.

The guidebook suggests that because SMS spreads responsibility for safe operations throughout all levels and segments of the organization, the number of people watching for safety increases, making it less likely for a hazard to go undetected and possibly lead to an accident.

The figure below shows each “slice” represented as a different segment or layer of the organization.

In this figure, a hypothetical transit agency is represented by four segments: facilities, operations, maintenance, and management. Each slice has holes that symbolize individual weaknesses in that layer of the system and the potential for a safety hazard to go unnoticed because the layer does not deal with that type of hazard, or due to human error. However, when these layers are unified by an SMS, it becomes less likely that a hazard makes it through all the layers without being identified and mitigated.

The first volume of the guidebook is divided into following five (5) chapters:

Chapter 1: Introduction - provides the foundation and background that led FTA to develop this resource document for transit agencies.

Chapter 2: Basic Concepts - discusses the concepts and management for safety and risk as well as factors in accidents and safety culture.

Chapter 3: Safety Management Systems (SMS)—defines safety management, the drivers of SMS and provides ten steps to establish SMS.

Chapter 4: Safety Performance Measurement Systems (SPMS)- summarizes the types of performance measures, best practices and ten steps to sustaining an SPMS.

Chapter 5: Summary Findings and
Fundamentals of Safety and Security in Major Capital Projects

In these tough economic times, transit projects are often viewed as a reliable investment for future infrastructure and as valuable sources of employment. In February 2011, U.S. Transportation Secretary Ray LaHood announced the funding recommendations for 10 new capital transit construction projects as part of President Obama's FY2012 budget request. The Obama Administration's budget proposal included a record $3.2 billion in funding for 28 transit projects. In addition to these proposed federally funded transit projects, dozens of other major capital projects supported by local funding are already in various stages of design and construction.

With this recent increase in the number of rail transit projects nationwide, it is important to take steps to ensure that safety and security remain priorities for these projects. Processes such as Safety and Security Certification and Safety and Security Management Planning, summarized below, provide methods to address safety and security during the development of new rail transit projects.

The Safety and Security Certification Management process begins with documenting the certification process in a Safety and Security Certification Plan (SSCP). The SSCP, developed during the preliminary engineering phase, describes the agency's process for managing certification activities, including; identifying roles and responsibilities, hazard
management, design criteria, design and construction conformance and final verification. FTA’s “Handbook for Transit Safety and Security Certification” is a useful resource for developing and reviewing the SSPP.

A Safety and Security Certification Review Committee (SSCRC) is commonly formed to review and approve SSC activities. FTA encourages the SSO agency to actively participate in the SSCRC. Most agencies will “self certify” the project’s safety readiness for operations. The final certification includes a statement signed by the agency’s Executive Manager that accompanies the certification’s verification report and is transmitted to the SSO agency. Although 49 CFR 659 does not require the SSO agency’s “approval” of the RTA’s safety and security certification, the RTA’s SSPP is required to describe the safety certification process. The SSPP is approved by the SSO agency as well as review of the safety certification element as part of the SSO agency’s 3-year review.

For major federally funded projects as defined by 49 CFR Part 633.5 (excess of $100-million or at discretion of Administrator), a separate Safety and Security Management Plan (SSMP) is required. The SSMP describes how the agency will address safety and security in the major capital project from initial project planning through initiation into revenue service. FTA approves the SSMP prior to the project’s Final Design phase or issuing the Full Funding Grant Agreement (FFGA). The SSMP identifies the Safety and Security interfaces, organization, activities by project phase, construction and the coordination with external agencies. The SSCP is often reference as part of the SSMP’s verification section. FTA’s Circular 5800.1 provides guidance for developing and reviewing the SSMP.

FRA Track Inspection

Potential Updates to Part 213

The Federal Railroad Administration (FRA) regulations pertaining to track safety are found at 49 CFR Part 213, commonly referred to as the Track Safety Standards (TSS). Approximately half of U.S. rail transit systems adopt Part 213 in whole or in part to direct their track standards and inspection programs. Other rail transit systems use standards developed by APTA, vendors, consultants, or other organizations that reference key elements from Part 213.

The TSS defines nine different classes of track, with Class 9 being the highest quality track and Class 1 being the lowest. For each class of track, the TSS prescribe various standards for track components, including ties, rail, fastening systems, and ballast. The TSS also prescribes inspection intervals for each class of track. All classes of track must be visually inspected by an authorized track inspector either on foot or in a hi-rail vehicle.

In addition to visual inspections, the TSS also prescribes the use of several automated inspection systems; the number, type, and frequency of different automated inspections depend on the class of track.

Over the last year, as explained in FRA’s Track Inspection Time Study, the FRA completed a survey of railroad track inspectors and supervisors nationwide to determine whether key requirements in Part 213 should be revised.
Specifically, FRA investigated whether the required intervals of track inspections for each class of track should be amended; whether track remedial action requirements should be amended; whether different track inspection and repair priorities or methods should be required; and whether the speed at which railroad track inspection vehicles operate and the scope of the territory they generally cover allow for proper inspection of the track, and whether such speed and appropriate scope should be regulated.

As reported by the FRA, survey data indicates that nearly all railroad track inspectors are initially trained through on-the-job training, but half also have formal classroom training. The vast majority of track inspectors (85 percent) work 8-hour days and 10 percent reported working 10-hour days. Survey results indicate that track inspectors frequently work beyond the scheduled workday. Over half indicated that in the month prior to the survey, they had worked “on a rest day” an average of three times.

The inspector’s job involves inspecting track either from a hi-rail vehicle or on foot. On average, inspectors spend 5 hours per day doing inspections. The remainder of their day is devoted to job briefings, waiting for track time, travel, and reporting inspection results. Survey respondents’ territory size averaged slightly less than 80 miles. The reported number of miles inspected per day varies depending upon the extent to which the hi-rail vehicle is used, the number of curves on the track, and whether the track is jointed or continuous welded rail (CWR). The reported hi-rail speed varied from 5 mph to 30 mph, depending on the type and condition of the track being inspected.

Through the survey, the FRA also asked respondents to indicate how they typically identify various track defects. Nearly 10 percent rated two conditions as not readily detectable: rail seat abrasion and torch-cut or burned-bolt hole in rail. About a third of respondents indicated that they use track geometry measurement systems (TGMS) to aid them in identifying areas with track geometry related defects.

Inspector comments on non-inspection duties were the most prevalent, and reflected that such tasks often take time away from their primary track inspection duties. Inspectors also commented about difficulties getting adequate track time for conducting inspections.

Interviews with labor union officials emphasized the need for standardized training. Union officials also reported that there is pressure to do more work in less time.

Both union officials and railroad management indicated that, given adequate time, visual inspection can find most of the track safety issues but automated systems are an essential tool for guiding and focusing the visual inspection process.

Review of FRA track defect data revealed that defects related to turnouts, rail joints, crossties, and switches/frogs were, respectively, those most commonly found by FRA track inspectors and therefore those most likely missed by the railroad track inspector.
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FRA determined that the data collected and analyses conducted indicate that improvements in the current track inspection process require further investigation of the following issues:

- Expanded use of automated inspection systems to supplement visual inspections.
- Standardization of inspector training.
- Maximum speed of track inspections being conducted from a hi-rail vehicle.

In addition, FRA noted that survey and interview participants expressed concerns about railroad operating practices and safety culture. Pressure to complete work, dispatcher decisions, and inadequate track time are factors that can be alleviated by changes in railroads’ operating practices. Also, non-inspection duties assigned to track inspectors limit the time they have available for track inspections.

FRA determined that implementation of a safety reporting system is one means to address these issues and to begin to change the safety culture in the maintenance-of-way departments. This approach would provide a confidential, non-punitive, and anonymous way for employees to report near-misses and other safety risks, such as management pressure to either ignore or downplay the severity of identified track defects.

The FRA will research solutions to these issues and present the results to the Railroad Safety Advisory Committee (RSAC) for formal consideration. The RSAC provides a continuing forum for advice and recommendations to FRA on rulemakings and other safety-related program issues, enabling FRA to carry out its regulatory responsibilities for railroad safety more effectively. The RSAC includes representation from all of the agency’s major stakeholder groups: both large and small passenger and freight railroads, labor organizations, States, suppliers and manufacturers, and other interested parties, such as the National Transportation Safety Board (NTSB).


Summary of the 2010-2012 Audit Cycle Findings

The data in the following chart summarizes the results of FTA’s State Safety Oversight (SSO) Audit Program cycle that began on October 1, 2009 and is expected to conclude on September 30, 2012. This audit cycle focuses on the 27 SSO agencies and 47 rail transit agencies affected by FTA’s rule 49 CFR Part 659.

As of July 2011, FTA had completed 11 SSO audits since the start of its fourth audit cycle of the SSO Program. FTA issued 122 findings in two categories:

1. Non-Compliance (NC) - FTA determines that a required component of an oversight agency and rail transit agency’s program does not meet Part 659 requirements (105 findings).

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2. Compliance with Recommendation (CR) - FTA determines that a component of an oversight agency and rail transit agency’s program technically meets the requirement of Part 659, but can be improved to meet the intent of Part 659 or support more effective implementation (17 findings).

The ‘Program Management’ audit element has the highest occurrences of both non-compliance and compliance with recommendation findings. “Insufficient resources” devoted to the program is the most common finding within Program Management.

The ‘Hazard Management’ element also has a high number of findings identified. In this category, typically, the transit agencies were not conducting a thorough hazard management process as required in 49 CFR Part 659.

As of August 15, 2011, approximately 65% of the audit findings have been addressed and closed out.

We Want Your Feedback

To provide feedback pertaining to this issue of the SSO Quarterly Newsletter; to obtain additional information pertaining to any of the topics discussed in this issue; or to request that a specific topic of interest to your organization be discussed in upcoming issues, please contact:

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