

Rail Transit Safety

Quarterly Newsletter

Mike Flanigon, FTA Director, Office of Safety and Security

On August 20, 2008, Susan Schruth, Associate Administrator for Program Management, announced that Mr. Mike Flanigon had been selected as FTA's next Director of Safety and Security. Mike joined the Office of Safety and Security from FTA's Office of Research, Innovation and Demonstration where he was the Director of the Office of Technology. He has been involved in the transportation industry for over thirty-five years, and began his career as a brakeman on the Southern Pacific Railroad where he also worked as a switchman, conductor, locomotive engineer and operating rules instructor.



From his first days with Southern Pacific, Mike developed a keen interest in system safety and security that has continued to grow over his career. He first became

involved with safety issues as a safety steward in United Transportation Union Local 100. He also

Inside

- 3** Oversight of Rail Transit Agency Rules Compliance Monitoring
- 6** Improving Safety Culture

gained unique insight into the industry's many safety issues working in both the private and public sectors and at local, state and Federal government levels. Prior to his federal career, Mike held responsibility in the California Public Utilities Commission (CPUC) rail safety oversight program, and worked as both the Environmental Health and Safety Manager and Light Rail Way Power & Signal Maintenance Superintendent for the Valley Transportation Authority (VTA) in San Jose, California. He also served as the Chief Safety Officer for San Francisco's Bay Area Rapid Transit (BART). He entered federal service in 2001 with the National Transportation Safety Board (NTSB) where he served as Investigator-in-Charge on several high-

profile railroad and rail transit investigations. In 2003 he was recognized by NTSB as the Regional Investigator of the Year for his work in improving transportation safety. He is a Senior Associate with the Transportation Safety Institute and has taught courses in Rail System Safety and Rail Accident Investigation since 1993. In addition, Mike holds a Bachelor's Degree in Anthropology from California State University in Los Angeles and a Master's Degree in Public Administration from Golden Gate University in San Francisco.

The following interview was conducted on March 9, 2009 to learn more about Mike and the Office of Safety and Security's priorities for the coming year.

What do you feel are the top priorities for the Office of Safety and Security over the coming year?

Mike Flanigon (MF): The goal of FTA's Safety and Security Program is to achieve the highest practical level of safety and security for all modes of transit. Where Congress has given us a specific task, as in the Drug/Alcohol and State Safety Oversight programs, we are responsible for ensuring that we are carrying it out as effectively as possible. In safety, this means trying to help the state oversight agencies and the industry identify and resolve issues before they result in accidents or other losses. Recent fatalities among right-of-way workers remind us that we can and must do better to resolve hazards before they impact employees, passengers or the system itself.

What is the Office of Safety and Security doing to achieve these priorities?

MF: First, we want to get good data to determine the effectiveness of our programs and projects. To support this effort, we recently began a data management project to answer a number of key

questions including:

- *What types of data do we collect?*
- *What purpose does the data serve?*
- *How timely and accurate is the data?*
- *How does it support our annual and five-year strategic plan goals and objectives?*
- *How can it be improved?*

Through this task we're seeking to prove to ourselves and to others that our programs add value and are meeting their intended purposes. If the data indicates otherwise, we will make the necessary changes to ensure improved performance.

How will your background and experiences serve you in this new position?

MF: At accident scenes with NTSB, I have witnessed first-hand the catastrophic results of failures in the systems that are meant to assure safety. As a result, I'm driven towards a proactive approach that seeks to improve systems before accidents can occur. Throughout my career, working as a unionized front-line employee as well as in management, training, safety, operations, and maintenance roles, I've been fortunate to have the opportunity to view the transit industry from several perspectives and believe I can positively impact a number of projects. I feel that my background has given me the ability to communicate and work well with the industry and its employees. I look forward to the challenges ahead.

What changes do you see occurring in the industry and how are they impacting safety and security?

MF: An area that continues to grow is Bus Rapid Transit (BRT). Transit agencies that operate BRT are recognizing that their bus operations are becoming more like those of rail transit with dedicated rights-of-way, reduced headways between buses,

increased passenger loads, and greater passenger occupancy at stations. Each of these factors increases exposure and accident potential and necessitates that we ensure that strong system safety and security practices are being implemented. Each new challenge is an opportunity to improve.

The stimulus package will also impact the safety and security of the industry in several ways. First, with increased funding, there may now be opportunities to support projects that improve transit safety and security. Second, the stimulus package may also help the industry to move forward with its State of Good Repair initiatives. As transit agencies begin to repair and upgrade their systems and facilities, and as state and local governments work to do the same to improve infrastructure, transit agencies will need to remain cognizant of the impact that extensive renewal projects have on their operations. This could place an additional burden on the industry's safety systems and programs, and will require greater awareness and oversight to avoid accidents.

Oversight of Rail Transit Agency Rule Compliance Monitoring

49 CFR Part 659.17(m) requires State Safety Oversight (SSO) Agencies to require the rail transit agencies under their jurisdiction to include in their System Safety Program Plans (SSPP) a description of the processes used by the rail transit agency to develop, maintain, and ensure compliance with rules and procedures having a safety impact. This must include:

- Identification of operating and maintenance rules and procedures subject to review;
- Techniques used to assess the implementation of operating and maintenance rules and

procedures by employees, such as performance testing;

- Techniques used to assess the effectiveness of supervision relating to the implementation of operating and maintenance rules; and
- A process for documenting results and incorporating them into the hazard management program.

In addition to ensuring the rail transit agency has included the above information in its SSPP, the SSO Agency must also oversee the rule compliance and monitoring process of the rail transit agency to ensure it is actually be administered as stated in the SSPP.

For over a decade, FTA has conducted triennial audits of the SSO and rail transit agencies subject to the requirements of 49 CFR Part 659. Findings from these audits have regularly indicated the industry's difficulty with meeting the rule compliance requirements of Part 659. As a result of these findings, FTA has developed the following to provide insight into the topic of rule compliance, the different methods and processes used by rail transit agencies to monitor rule compliance, and the mechanisms used by SSO Agencies to oversee these processes.

The Rule Compliance Process

Rule compliance is perhaps one of the most important aspects of establishing an effective system safety program. Indeed, industry accident statistics and National Transportation Safety Board (NTSB) investigation findings and recommendations have cited rule violations as the primary or contributing causes of many of the rail transit industry's most recent and severe accidents. Moreover, as the demand for public transit continues to grow and the institutional knowledge

of the rail transit industry's most experienced professionals continues to be stretched thin across more and more new start projects and system expansions, the need for strong rule compliance programs will continue to grow.

As a result of these factors, it is no surprise that the rail transit industry dedicates so much time and effort each year to monitoring and trying to improve employee rule compliance. Rail transit agencies from across the country have developed standards for managing employee efficiency checks, expended immeasurable resources to enhance employee training and certification programs, spent countless man-hours conducting unannounced inspections and audits of employee work activities, administered new, positive reinforcement techniques for addressing rule violations when they occur, and have worked tirelessly to improve the other safety aspects of their operations in an attempt to prevent future rule violations. Regardless of the approach taken, it is clear that each of these methods, whether used alone or in combination, can greatly improve rule compliance within an agency, regardless of its size, location, or types of operations.

It is certain that many methods for improving rule compliance exist. Yet, rail transit agencies continue to struggle with identifying the methods that would be most useful to their own systems. In addition, SSO Agencies continue to be challenged with overseeing these processes within the constraints of limited time and resources. FTA and the American Public Transportation Association (APTA) have recognized this issue and in response APTA has developed the **APTA Standard for Rule Compliance (APTA RT-S-OP-011-04)**. This standard, available for download on APTA's website (www.aptastandards.com/Standards/Rail/tabid/84/Default.aspx), applies to both heavy rail and light

rail systems and is intended to outline "the basic elements of a rule compliance program needed to verify adherence to operating rules."

The first step in the rule compliance process, and the first requirement stated in APTA's Standard for Rule Compliance, is for the rail transit agency to establish a "written expression" of the policies and practices conveyed in general and specialized rulebooks, operating bulletins, special orders, standard and emergency operating procedures and other similar documents. In essence, the rail transit agency must first identify the rules to which its employees will be held accountable. The APTA Standard also requires that the rail transit agency develop a formal "process of observations to evaluate and verify that rules are followed."

These same requirements are conveyed by 49 CFR Part 659.17(m). This section requires rail transit agencies to not only identify in their SSPPs the operating and maintenance rules and procedures subject to review, but also the techniques used to assess the implementation and effectiveness of operating and maintenance rules and procedures, including supervision's enforcement of these rules and procedures.

APTA's Standard for Rule Compliance next requires that each rail transit agency define the rule compliance requirements it will use to verify and evaluate if rules are being followed. At a minimum, these requirements must address:

- The evaluation process used by the rail transit agency, including the job classifications and functions subject to review.
- Organizational responsibilities, including the departments responsible for administering the rule compliance process and the minimum level of qualification required to perform the function

of “evaluator.”

- Evaluation cycles that have been developed based on the size and complexity of the rail transit agency’s operations to define the frequency of compliance checks.
- The methods of verification used to measure compliance.
- Record keeping policies and practices used to maintain records of rule compliance activities, observations and corrective actions.
- Corrective actions to be taken to address issues of non-compliance.

The methods of verification used by each rail transit agency to monitor rule compliance should be based on the unique characteristics and features of the agency’s own operations. In all cases, APTA’s Standard for Rule Compliance requires that observations be “performed in a methodical, objective manner.” This requires the rail transit agency to develop specific instructions for conducting compliance checks that include the use of standardized forms, checklists, or other mechanisms.

Compliance checks must include observations of rail transit agency personnel performing their job duties. Individuals responsible for conducting rule compliance observations must therefore have the appropriate level of training and experience necessary to ensure they are capable of easily identifying violations. They must also know and understand the actions to be taken to appropriately and immediately correct adverse behaviors and rule violations. Finally, they must know, understand and use the methods the rail transit agency has defined for documenting the results of the rule compliance process. This must include documentation of observations, findings, and corrective actions taken.

As required by 49 CFR Part 659.17(m), this must also include how the rail transit agency incorporates the results of its rule compliance processes into its hazard management program.

SSO Agencies have a number of tools available to monitor and oversee the rule compliance processes of the rail transit agencies under their jurisdiction.

- First, SSO Agencies can review the rail transit agency’s SSPP and the specific plans, policies, instructions, forms, checklists or other documents the rail transit agency has developed to define and standardize its rule compliance practices. SSO Agencies can also review the rail transit agency’s actual operating and maintenance rulebooks and procedures to become more familiar with the rules and procedures subject to the rail transit agency’s rule compliance processes.
- SSO Agencies can also examine the rail transit agency’s internal safety and security review process to ensure that it addresses the rule compliance process, and to determine the depth to which the rail transit agency monitors and measures the effectiveness of this process.
- Third, SSO Agencies can request and review the qualifications of the individuals and departments the rail transit agency has made responsible for administering its rule compliance processes to determine if they are capable of safely identifying, correcting and documenting rule violations.
- SSO Agencies can monitor the rail transit agency’s hazard management program and tracking mechanisms to determine if findings and corrective actions generated through the rule compliance process are being incorporated into the agency’s hazard tracking and corrective

action logs.

- Finally, SSO Agencies can work with the rail transit agencies under their jurisdiction to receive the necessary training that would enable them to participate in the actual rule compliance processes of the rail transit agency.

10 Quick Questions SSO Agencies Can Ask to Evaluate RTA Rule Compliance Processes

To gain an immediate sense of a rail transit agency's rule compliance processes, the SSO Agency can ask the following questions:

1. Is the rail transit agency familiar with APTA's Standard for Rule Compliance, RT-S-OP-011-04?
2. Is the rail transit agency's rule compliance process adequately described in its SSPP and does this description meet the requirements of 49 CFR Part 659.17(m)?
3. Has the rail transit agency written a specific policy or procedure that standardizes its rule compliance process through the use of forms, checklists or other mechanisms?
4. Has the rail transit agency formally identified and documented the rules, procedures, job classifications, and job functions subject to the rule compliance process?
5. Has the rail transit agency formally identified the individuals and departments responsible for administering its rule compliance process?
6. Has the rail transit agency established minimum qualifications for these individuals and departments to ensure they are capable of safely administering its rule compliance process?
7. Has the rail transit agency defined evaluation cycles for the rule, procedures, job classifications

and job functions subject to the rule compliance process?

8. Has the rail transit agency established formal record keeping policies to ensure the results from the rule compliance process are completely and accurately documented?
9. Has the rail transit agency defined how the results of its rule compliance process will be incorporated into its hazard management program?
10. Are findings and corrective actions developed through the rail transit agency's rule compliance process entered into the agency's hazard tracking and corrective action logs?

Improving Safety Culture

FTA's Office of Safety and Security is tasked with providing the leadership and vision necessary for the transit industry to develop and manage initiatives that will continually improve the safety and security of its passengers, employees, and all others who come into contact with public transit systems. In fulfilling this task, FTA has long emphasized the importance of management commitment to building and sustaining effective safety programs within the transit environment. Transit managers from across the nation have responded strongly to this recommendation to ensure the public transit industry remains one of the safest forms of travel available in the U.S.

Consistent with its leadership role, FTA has recently started promoting the concept "safety culture" as a key attribute to improving overall transit safety and operational performance. Although much has been written and said about this topic, it's a relatively

new concept to the transit industry. As such, many within the industry continue to raise questions regarding what it means to have a strong safety culture, how such a culture can benefit their organizations, and what steps can be taken to begin the process of improving the safety cultures of their organizations.

In the September 2008 issue of Metro Magazine, Mr. Levern McElveen, Safety Team Leader for FTA's Office of Safety and Security, addressed the topic of safety culture, commenting that a strong safety culture can enhance "organizational performance by energizing and motivating employees to unite around a shared goal."¹ This is done by establishing safety as a top priority, by making every individual and level of the transit organization personally responsible for safety, and by maintaining a commitment to continuous improvement—*no small task*. For many transit agencies, improving their safety culture requires changing behaviors and processes that have become engrained over decades of service. To understand what it means to have a strong safety culture, transit agencies must therefore first understand the current state of their safety programs, including how employees perceive management's commitment to safety. This can be quickly measured by examining the extent to which individuals and groups within the transit agency will:

- Commit to being personally responsible for system safety.
- Act to preserve, enhance and communicate safety concerns.
- Strive to actively learn, adapt and modify both individual and organizational behaviors based

on lessons learned from accidents, near-misses and other mistakes.

- Comply with stated rules, policies, and regulations.
- Be rewarded and recognized for positive contributions to improved performance.

While this provides a qualitative measure of safety program performance, transit managers should also measure quantitative performance indicators by examining:

- accident/incident rates,
- employee and passenger injuries and illness rates,
- property damage costs,
- employee absenteeism,
- workers' compensation costs,
- insurance premiums,
- legal fees and civil penalties incurred through lawsuits brought against the agency as a result of at-fault accidents, and/or
- lost revenues resulting from system downtime during accident response and recovery operations.

Although cursory in nature, the results of these preliminary assessments not only provide insight into the health of the agency's safety program, but also enable transit managers to identify leading indicators of problem areas that can then be proactively addressed. Once transit managers have an idea of how their current safety programs are performing, they can begin to make the changes necessary to improve performance. Transit agencies should accomplish this by focusing first on the following six principles necessary for building a

¹ Metro Magazine, "Proactive Programs Key to Rail Safety," September 2008. www.metro-magazine.com/Article/Story/2008/09/Proactive-Programs-Key-To-Rail-Safety.aspx.

strong safety culture:

- **Leadership** – The safety culture must be continually promoted throughout the organization and led from the highest levels of management. To implement this principle, managers may develop a “safety vision” or strategy for the agency that is focused on achieving safety excellence in unison with other operating, maintenance and organizational goals. Transit managers must also lead by example, taking steps to ensure that they not only follow established rules and procedures, but that all employees also feel comfortable identifying and reporting hazards and unsafe acts without fear of reprisal.
- **Management** – In much the same way transit managers monitor the operational and maintenance performance of their systems, they should also establish processes and procedures for monitoring safety performance. This requires moving beyond the simple tracking of weekly or monthly accident and injury rates to a much more dynamic and comprehensive means of examining how the safety vision or strategy of the agency is being implemented and achieved across the organization on a daily basis. This is important because the safety program and culture are continually evolving, affected each day by the factors that the transit agency often cannot control. Using management systems to continually monitor the safety program enables transit managers to proactively identify problems before they result in catastrophic losses.
- **Responsibility and Accountability** – It goes without saying that all employees must be made responsible and held accountable for following established rules, policies, procedures and regulations. However, in a strong safety culture this requires more than routine work oversight and discipline. It must also include ongoing training, positive reinforcement, and institutionalizing systems that encourage employees to hold each other accountable for their actions.
- **Participation** – All employees, regardless of rank or function, must feel valued by their organizations, believe that their work has a positive impact on mission success, and feel that their voices, opinions and concerns matter and are being heard. The transit agency’s safety program is an excellent means of meeting each of these employee needs because it allows employees to directly participate in improving their work environments and the organization as a whole. To be successful however, reported hazards and unsafe conditions cannot be permitted to linger and employees must be provided with positive feedback quickly.
- **Prevention** – A single catastrophic accident damages both the reputation of the transit agency in which it occurred and the reputation of the industry as a whole. For this reason it is important that all employees actively participate in the safety program by taking proactive steps to eliminate hazards and unsafe acts or conditions within the system before they can lead to an accident. This also requires administering ongoing training and certification programs, performing regular inspections of

systems and equipment, monitoring rule compliance, conducting internal safety and security reviews and audits, ensuring new systems and equipment include appropriate safety design considerations, and learning from those accidents or incidents that do occur.

- **Recognition** – This is perhaps the simplest of the safety culture principles to implement because it often requires little more than noticing employees for doing their jobs well, through verbal recognition, some form of award, or both. Although simple, this principle is also one of the most useful because it encourages other employees to become actively involved in the safety program, while improving employee morale.

As indicated throughout the above principles, the ability and desire to proactively eliminate hazards sits at the very core of a strong safety culture and is

perhaps its greatest benefit because it challenges all members of the organization to make positive contributions to improving safety before accidents can occur. Other benefits of a strong safety culture include reduced accident and injury rates, improved operational performance, increased employee morale and productivity, lower insurance premiums, and greater customer service and satisfaction.

Although more questions related to the concept of safety culture are sure to exist, FTA hopes that the above discussion has been beneficial, and at a minimum has provided a basic understanding of the concept. FTA will continue to promote the safety culture concept and over the coming months will work to provide additional information and guidance to support the industry as its many transit agencies work to develop and improve their own safety culture.

We Want Your Feedback

To provide feedback pertaining to this issue of the FTA Rail Transit Safety 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:

Mr. Levern McElveen
Safety Team Leader
FTA Office of Safety & Security, TPM-30
1200 New Jersey Avenue, SE
Washington, DC 20590
(202) 366-1651

About the Newsletter

The FTA Rail Transit Safety Newsletter is a technical assistance newsletter published quarterly by the Federal Transit Administration. This Newsletter is distributed free to members of the State Safety Oversight Community, including FTA regional offices, state safety oversight agencies, and rail transit agencies.