



## DEPARTMENT OF TRANSPORTATION

### Federal Transit Administration

#### 49 CFR PART 671

[Docket No. FTA-2023-0024]

RIN 2132-AB41

### Rail Transit Roadway Worker Protection

**AGENCY:** Federal Transit Administration (FTA), Department of Transportation (DOT).

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The Federal Transit Administration (FTA) is proposing minimum safety standards for rail transit roadway worker protection (RWP) to ensure the safe operation of public transportation systems and to prevent accidents, incidents, fatalities, and injuries to transit workers who may access the roadway in the performance of work. This NPRM would apply to rail transit agencies (RTAs) covered by the State Safety Oversight (SSO) program, SSO agencies (SSOAs), and rail transit workers who access the roadway to perform work. It would set minimum standards for RWP program elements, including an RWP manual and track access guide; requirements for on-track safety and supervision, job safety briefings, good faith safety challenges, and reporting unsafe acts and conditions and near-misses; development and implementation of risk-based redundant protections for workers; and establishment of RWP training and qualification and RWP compliance monitoring activities. RTAs would be expected to comply with these Federal standards as a baseline and use their existing Safety Management System (SMS) processes to determine any additional mitigations appropriate to address the level of RWP risk identified. SSOAs would oversee and enforce implementation of the RWP program requirements.

**DATES:** Comments should be filed by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. FTA will consider comments received after

that date to the extent practicable.

**ADDRESSES:** You may send comments, identified by docket number FTA-2023-0024 by any of the following methods:

- Federal Rulemaking Portal: <https://www.regulations.gov>. Follow the instructions for sending comments.
- Fax: (202) 493-2251
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue S.E., West Building Ground Floor, Room W12-140, Washington, D.C., 20590-0001.
- Hand Delivery / Courier: West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue S.E., Washington, D.C., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.

Instructions: All submissions received must include the agency name and docket number or Regulatory Information Number (RIN) for this rulemaking. All comments received will be posted without change to <https://www.regulations.gov>, including any personal information provided.

Docket: For access to the docket to read background documents or comments received, go to <https://www.regulations.gov>. Background documents and comments received may also be viewed at the U.S. Department of Transportation, 1200 New Jersey Ave. SE, Docket Operations, M-30, West Building Ground Floor, Room W12-140, Washington, DC 20590-0001, between 9 a.m. and 5 p.m. EST, Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** For program matters, contact Ms.

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Advisor, FTA, telephone at 202-366-8907 or [emily.jessup@dot.gov](mailto:emily.jessup@dot.gov). Office hours are from 8:30 a.m. to 5 p.m., Monday through Friday, except Federal holidays.

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### **I. Executive Summary**

#### **A. Purpose and Summary of Regulatory Action**

The Federal Transit Administration (FTA) has adopted the principles and methods of Safety Management System (SMS) as the basis for enhancing the safety of public transportation in the United States. As part of its internal SMS, FTA established a Safety Risk Management (SRM) program to proactively address safety concerns impacting the transit industry and to systematically apply FTA's statutory oversight authority to improve the safety of the nation's transit infrastructure through the Public Transportation Safety Program.

The process follows a five-step approach: (1) identify safety concerns; (2) assess safety risk; (3) develop mitigation; (4) implement mitigation; and (5) monitor safety performance. As a result of the first two steps, FTA may develop and advance appropriate mitigations to address a

safety hazard, such as proposed safety regulations, general or special directives, safety advisories, or technical assistance and training activities.

In 2019, FTA began piloting the SRM process to focus on high-priority safety risks and identified the RWP safety concern as the second topic for analysis. Through the SRM process, FTA conducted a review of the existing approaches to RWP used by the rail transit industry. This review shows that on a national level, these approaches do not adequately protect transit workers from rail transit vehicles and other roadway hazards. As a result, FTA has determined that a Federal baseline RWP program is an appropriate mitigation and is proposing this regulation to reduce fatalities and serious injury events involving rail transit workers that occupy the rail roadway during hours of operation.

This NPRM would require RTAs covered by the SSO program under 49 CFR part 674 (Part 674) to implement a minimum, baseline RWP program to provide a standardized and consistent approach to protecting roadway workers industry-wide, overseen and enforced by SSOAs. Using the Federal standards as a baseline, FTA would expect RTAs to use their existing documented safety risk management processes to assess the associated safety risk and, based on the results of the safety risk assessment, identify the specific safety risk mitigations or strategies necessary to address the safety risk.

This NPRM would prohibit the use of individual rail transit vehicle detection as a sole form of protection for workers on the roadway. It would set requirements for RTAs to conduct a safety risk assessment to identify and establish redundant protections for each category of work roadway workers perform on the roadway or track. Redundant protections may include procedures, such as foul time and advance warning systems, and also physical protections to stop trains in advance of workers, such as derailleurs and shunts. The safety risk assessment and

redundant protections would be reviewed and approved by the SSOA, along with other elements of the RTA's RWP program.

The safety risk assessment would be consistent with the RTA's Agency Safety Plan and the SSOA's Program Standard. RTAs may supplement the safety risk assessment with engineering assessments, inputs from the Safety Assurance process established under 49 CFR 673.27, the results of safety event investigations, and other safety risk management strategies and approaches.

To ensure effective implementation and oversight of the RWP program and redundant protections, this NPRM also would specify RWP training and compliance monitoring activities, supplemented by near-miss reporting and SSOA oversight and auditing.

## **B. Statutory Authority**

Congress directed FTA to establish a Public Transportation Safety Program in the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (Pub. L. 112-141) (MAP-21), which was reauthorized by the Fixing America's Surface Transportation (FAST) Act (Pub. L. 114-94). The Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (Pub. L. 117-58), continues FTA's authority to regulate public transportation systems that receive Federal financial assistance under Chapter 53. Title 49 U.S.C. 5329(f)(7) authorizes FTA to issue rules to carry out the public transportation safety program.

Title 49 U.S.C. 5329(b)(2) directs FTA to develop and implement a National Public Transportation Safety Plan (NSP) that includes minimum safety standards to ensure the safe operation of public transportation systems. In 2017, FTA published its first iteration of the National Safety Plan which was intended to be FTA's primary tool for communicating with the transit industry about its safety performance (82 FR 5628). Subsequently, on May 31, 2023, FTA published a second iteration of the NSP (88 FR 34917). While the NSP currently contains only voluntary standards, as FTA's safety program has matured, it is now appropriate for FTA to

propose required minimum standards for RWP. Pursuant to the Administrative Procedure Act (5 U.S.C. 553), FTA is proposing these minimum standards for public notice and comment through the rulemaking process.

## **II. Background Informing FTA's Proposals**

### **A. Rail Transit Industry Safety Performance**

Rail transit employees and contractors who work on the roadway, also known as roadway workers, face numerous on-the-job hazards. Working on the roadway exposes workers to moving rail transit vehicles and electrified system components. Weather, including rain, snow, and heat can create conditions that cause slips, trips, and falls; hypothermia; and heat stroke. Surrounding automobile traffic can limit the ability to hear trains and warnings from watchpersons. Tight clearances, restricted visibility, varying distances from the track to places of safety, and the potential need to clear between rail transit vehicles make tunnels, bridges and aerial structures, locations with more than two tracks, and shared-use roadway (e.g., streets with mixed traffic) make roadways particularly challenging work environments. Adjacent construction and public utilities pose additional safety challenges. Faster trains, more frequent headways, and shorter non-revenue maintenance windows all increase worker exposure to the risk of being struck by a train or electrocuted.

RTAs manage these risks using a variety of RWP programs, including systems and approaches designed to safeguard roadway workers through rules and procedures, training and supervision, communication protocols and technology, and on-track protection. Many existing RWP programs implemented by RTAs use elements from the Federal Railroad Administration (FRA) RWP regulations contained in 49 CFR part 214, Subpart C – Roadway Worker Protection, modified to address the RTA's unique operating conditions and requirements. SSOAs typically review implementation of these RWP programs as part of their triennial audits of the RTAs in their jurisdictions.

Notwithstanding the use of RWP programs throughout the rail transit industry, roadway workers continue to be killed and seriously injured in roadway safety events. For example, in October 2022, two roadway workers on the Port Authority Transit Corporation (PATCO) roadway were struck and killed by a PATCO revenue service vehicle traveling through a close-clearance area. Preliminary information indicates the track was not taken out-of-service as expected, and the incident is currently under investigation by the National Transportation Safety Board (NTSB) (investigation number RRD23FR001). Roadway worker events continue to comprise the majority of transit worker fatalities for RTAs.

This NPRM follows FTA's review of safety events involving roadway workers, dating back to 2008, including information reported to the National Transit Database (NTD) and State Safety Oversight Reporting Tool (SSOR); investigations completed by NTSB, including 12 recommendations issued by NTSB to FTA since 2012 regarding needed improvements in the RWP programs administered in the U.S. rail transit industry; data and information submitted in response to FTA's request for information (RFI) on transit worker safety (86 FR 53143); and analysis completed as part of FTA's internal Safety Risk Management process.

FTA's review is also informed by older information on accidents involving roadway workers collected from the NTD and the SSO program dating back to 1994 and the results of an inventory of RWP practices used in the rail transit industry, collected in 2014 in response to FTA's Safety Advisory 14-1: Inventory of Practice and Analysis (<https://www.transit.dot.gov/oversight-policy-areas/safety-advisory-14-1-right-way-worker-protection-december-2013>). Finally, FTA considered recommendations from the Transit Advisory Committee for Safety (TRACS),<sup>1</sup> voluntary safety standards developed by the

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<sup>1</sup> The Transit Advisory Committee for Safety (TRACS) was established in 2009 by the U.S. Transportation Secretary to improve transit safety. TRACS provides information, advice, and recommendations on transit safety and other issues as determined by the Secretary of Transportation and the FTA Administrator. TRACS's membership reflects the geographic, size, and issue diversity across the transit industry and includes members from large and small bus and rail operators, state safety oversight agencies, academia, non-profit organizations, and labor unions.

American Public Transportation Association (APTA), and the results of research conducted by the Transit Cooperative Research Program (TCRP) (see: <https://www.trb.org/Publications/Blurbs/166925.aspx>) and FTA's Office of Research, Demonstration and Innovation (<https://www.transit.dot.gov/research-innovation/fta-standards-development-program-rail-transit-roadway-worker-protection-report>).

FTA's review finds that, dating back to 1994, 52 rail transit workers have been killed and over 200 workers have experienced major injuries resulting from safety events on the roadway, primarily resulting from collisions with rail transit vehicles, falls and electrocution. More detailed data covering the almost 15-year period between January 1, 2008 and October 31, 2022 is available from the NTD. During this time, 22 workers have been killed and 120 workers seriously injured in accidents on the roadway. This equates to approximately 1.5 workers killed per year and just over eight workers seriously injured per year.

To ensure FTA's analysis of existing RWP practices compares reasonably similar RWP programs and outcomes, this analysis, dating back to 2008, which supports the cost benefit statement for this proposed NPRM, does not include incidents occurring in the State of California, where roadway workers have been protected by General Order 175-A, "Rules and Regulations Governing Roadway Worker Protection provided by Rail Transit Agencies and Rail Fixed Guideway Systems" since 2016. While there is evidence that dozens more workers are injured less seriously each year in incidents on the roadway, the NTD does not provide sufficient detail on these incidents to support substantive analysis.

Based on this review, FTA finds that existing programs used in the rail transit industry do not adequately mitigate the risks of placing workers on the roadway. FTA agrees with NTSB that weaknesses in current programs leave all RTAs "at risk for roadway worker fatalities and serious injuries" (see <https://www.nts.gov/safety/safety-recs/RecLetters/R-13-039-040.pdf>). Further, FTA believes that SSOAs can do more to oversee and enhance the safety of roadway workers in their jurisdictions, in accordance with the SSOAs' authority under 49 CFR part 674.



Many of the safety events in FTA's review primarily or tangentially involve RWP protections that rely solely on the ability of the roadway worker to detect oncoming rail transit vehicles. This approach is vulnerable to human error, such as miscalculating sight distance and generally underestimating the time needed for workers to clear tracks. In many of the events reviewed by FTA, the roadway workers were not sufficiently aware of the immediate hazards they faced when working on the rail transit roadway. Many of these events were caused by roadway workers' lack of awareness of the presence or speed of approaching trains; lack of train visibility in curves or aerial structures; and the time required to move to a place of safety. Contributing to many of these events were the train operators' lack of awareness regarding the roadway workers' locations and insufficient time to slow and stop the trains before striking those workers.

FTA's review confirms that reliance on the roadway worker to detect rail transit vehicles lacks safety redundancy and does not provide sufficient physical or procedural protections to ensure worker safety. Physical redundant protections are technological or mechanical interventions that physically stop a train from striking a roadway worker, such as a derailer or shunt in the signal system. Procedural redundant protections are rules-based interventions that rely on worker training and compliance, such as the use of foul time to clear the track for workers.

FTA's review of these safety events also found that weaknesses in job safety briefings contributed to these events, placing roadway workers in situations where they may not have recognized the hazards of their work sites or the requirements of protection. Also, insufficient training and poor work scheduling practices left workers vulnerable to errors of judgement and fatigue that contributed to poor decision-making on the roadway.

While FTA's review finds that the majority of RWP fatalities and serious injuries have happened on heavy rail transit systems, other rail systems, including light rail and automated guideways, have also experienced fatal RWP accidents and serious injuries. Further, while most

of these agencies have top train speeds in excess of 45 miles per hour, the conditions that make these events possible are present at all RTAs nationwide – even those agencies that provide service at slower speeds, with single rail cars, or more limited track configurations.

## **B. Recommendations from the National Transportation Safety Board**

Since 2008, NTSB has issued 12 safety recommendations to FTA based on its investigation of rail transit RWP safety events. These recommendations focus on the need for Federal regulation, minimum RWP requirements, enhancements in job safety briefings, and RWP training programs for the rail transit industry. NTSB also has recommended that RTAs use redundant protection when workers are on the roadway. A discussion of roadway worker safety events that occurred on the roadway follows below, along with the relevant NTSB recommendation and associated FTA action.

On January 26, 2010, a hi-rail vehicle—a truck or automobile that can be operated on either highways or rails—struck and fatally injured two technicians who were working on the roadway replacing equipment between the tracks at the Washington Metropolitan Area Transit Authority (WMATA). On June 1, 2012, following its investigation at WMATA, NTSB recommended that FTA, “Issue guidelines to advise transit agencies and state oversight agencies on how to effectively implement, oversee, and audit the requirements of [the SSO program] using industry best practices, industry voluntary standards, and appropriate elements from 49 Code of Federal Regulations Part 214, Subpart C—Roadway Worker Protection [*sic*]. (R-12-34).”

To address this recommendation, FTA sent each RTA a package of RWP materials and guidance, including the results of FTA-sponsored research with the TCRP of the Transportation Research Board (TRB) at the National Academies of Science regarding RWP and rules compliance. FTA also provided updates on joint technology demonstration projects with the Metropolitan Atlanta Rapid Transit Authority (MARTA) and the Maryland Transit

Administration (MTA) to support the piloting and testing of technology to help alert workers to the presence of trains and train operators to the presence of workers on the tracks. Finally, FTA re-issued an awareness video, developed in collaboration with WMATA, New York City Transit, and Transport Workers Union Local 100 in response to earlier RWP-related worker accidents, called “A Knock at Your Door” (<http://www.youtube.com/watch?v=31XyWpQCWRc>). This video is designed to reinforce the dangers and challenges of working on the rail transit right-of-way and now is used by RTAs in their track safety training programs.

In response to a December 19, 2013, safety event resulting in two roadway worker fatalities on the Bay Area Rapid Transit (BART) system, NTSB issued two urgent safety recommendations to FTA, citing concerns that the current RWP programs in place in the rail transit industry may not be effective. NTSB recommended that FTA immediately:

- Issue a directive to all rail transit properties requiring redundant protection for roadway workers, such as positive train control, secondary warning devices, or shunting (R-13-39); and
- Issue a directive to require transit properties to review their wayside worker rules and procedures and revise them as necessary to eliminate any authorization that depends solely on the roadway worker to provide protection from trains and moving equipment (R-13-40).

To respond initially to these urgent safety recommendations, on December 31, 2013, FTA issued Safety Advisory 14-1: Right-of-Way Worker Protection to provide guidance to SSOAs and RTAs on redundant protections for workers. Safety Advisory 14-1 also requested information from RTAs and SSOAs regarding RWP program elements and level of implementation in the rail transit industry, as well as assessments from each RTA documenting the safety hazards and mitigations in place at their agencies to protect workers on the roadway. FTA’s Safety Advisory 14-1 also included RWP best practices developed from the findings of 28 investigations of rail transit roadway worker fatalities from 2002 through 2013. Effective

practices in flagging and redundant protection, roadway work scheduling, communication rules, and other practices were detailed in the advisory. Methods for improving existing practices, such as rules compliance testing, job safety briefings and training, were also detailed to assist transit agencies in improving their RWP processes and procedures.

In addition, FTA provided new resources to assist the SSO program and States in conducting activities such as audits, investigations, and inspections related to Safety Advisory 14-1. Beginning in Fiscal Year (FY) 2013, FTA established its grant program for SSOAs pursuant to 49 U.S.C. 5329(e)(6) and issued approximately \$22 million per year to States to fund staffing and training for SSO program managers, staff, and contractors. FTA has continued to provide technical assistance and training to SSOA staff through the Transportation Safety Institute, the National Transit Institute, and a 2018 SSOA workshop session, including sessions focused on oversight of RWP program elements.

Further, on September 24, 2014, NTSB released its Special Investigation Report on Railroad and Rail Transit Roadway Worker Protection (SIR 14-03). In this report, NTSB identified and discussed the circumstances of 15 railroad and rail transit worker deaths in 2013 and issued eight additional safety recommendations to FTA, including five directly related to proposals in this NPRM:

- Require initial and recurring training for roadway workers in hazard recognition and mitigation. Such training should include recognition and mitigation of the hazards of tasks being performed by coworkers (R-14-36);
- With assistance from the FRA and OSHA, establish roadway worker protection rules, including requirements for job briefings (R-14-38);
- Once the action specified in Safety Recommendation R-14-38 is completed, update the state safety oversight program to ensure that rail transit systems are meeting the safety requirements for roadway workers (R-14-39);

- Establish a national inspection program that specifically includes roadway worker activities (R-14-40); and
- Revise 49 CFR part 659 to require all federally funded rail transit properties to comply with 29 parts 1904, 1910, and 1926 (R-14-41).

To respond to these recommendations, FTA has worked with the rail transit industry, SSOAs, and through its internal safety program regulatory processes to focus action on needed improvements in RWP safety. Through guidance, technical assistance, training, research projects, and now proposed regulation, transit worker safety, including RWP safety, has been a major focus for FTA's safety program.

On October 30, 2015, FTA staff participated in developing the APTA Standard for On-Track System Safety Requirements, APTA RT-OP-S-21-15, as part of a cooperative agreement with the Center for Urban Transportation Research. This voluntary standard addresses RWP programs by providing minimum safety requirements for key elements noted in NTSB's Special Investigation Report on Railroad and Rail Transit Roadway Worker Protection.

This standard augments existing APTA voluntary standards that address RWP by focusing specifically on the use and movement of on-track equipment, which includes hi-rail vehicles and equipment. This voluntary standard encourages RTAs to equip all existing and new on-track equipment with certain minimum design features such as automatic change-of-direction alarms; back up alarms which provide audible signals; and alarms that are distinguishable from surrounding ambient noise, all of which will serve as secondary warning systems. This standard also encourages RTAs to develop operating procedures and guidance for the use of on-track equipment in work zone areas and along the right-of-way.

Additionally, in response to recommendation R-14-038 and to further address recommendations R-13-039 and R-13-040, FTA contributed to the development of APTA's 2016 Roadway Worker Protection Program Requirements Standard, APTA RT-OP-S-016-11. This voluntary standard encourages adherence to clear rules and procedures, appropriate training,

certification and retraining, and regular monitoring of right-of-way safety compliance. It also defines minimum elements in an RTA's on-track safety program and emphasizes opportunities for redundant protection and the use of advanced worker warning technology. In January 2017, FTA issued its National Public Transportation Safety Plan, which encouraged the adoption of these voluntary APTA standards.

### **C. Safety Risk Analysis and Report on Rail Transit Roadway Worker Protection**

In 2019, FTA initiated a safety risk analysis of the hazards associated with RWP. FTA conducted this analysis to determine additional mitigations for RWP risks as the agency worked to maintain vigilance in the protection of transit workers. FTA used the results of this safety risk assessment to support the drafting of this NPRM.

In 2021, as part of FTA's Standards Development Program, FTA issued Report No. 0212 on Rail Transit Roadway Worker Protection. This report summarized research that reviewed existing standards and best practices. The report also developed use cases, a risk assessment matrix, and high-level concepts of operations for rail transit RWP. The research report provided tools and resources that RTAs may use to address the safety risks of roadway workers performing tasks on and adjacent to rail tracks. By overlaying emerging technologies with existing policies and procedures, this report demonstrated that risk can be reduced for roadway workers.

As discussed in this report, the use of a hazard/risk assessment matrix that incorporates human factors and risk analyses and considers several use cases, and the use of secondary RWP protection devices, may help agencies to improve RWP. It also demonstrated that while available RWP technologies provide additional warning to roadway workers and train crews, they are not a primary protection source. Only through overlaying these technologies with existing procedures and practices can RTAs enhance RWP and reduce safety risk for workers.

#### **D. Transit Worker Safety Request for Information**

In September 2021, FTA published a request for information in the *Federal Register* to solicit information from the public related to transit worker safety to inform the regulatory process (86 FR 53143). FTA asked for comment on current RWP practices in the industry, including redundant protections and training, and on minimum requirements the public expected to see if FTA pursued Federal requirements for transit RWP programs. FTA received comments suggesting that classroom and field training should be required, RWP program requirements should be responsive to modal differences and differences in operating characteristics, and suggestions for specific technology or practices to improve safety (Docket FTA-2021-0012). The section-by-section analysis below identifies where FTA proposals are responsive to these comments.

#### **E. Summary of Major Provisions**

This NPRM would establish minimum safety standards to protect transit workers who may access the roadway in the performance of work.

The NPRM proposes that each RTA would adopt and implement an RWP program to improve transit worker safety that is consistent with Federal and State safety requirements and approved by the SSOA. The RWP program would be documented in a dedicated RWP manual, which would include: (1) terminology, abbreviations, and acronyms used to describe the RWP program activities and requirements; (2) RWP program elements; (3) a definition of RTA and transit worker responsibilities for the RWP program; (4) training, qualification, and supervision required for transit workers to access the roadway, by labor category or type of work performed; and (5) processes and procedures to provide adequate on-track safety for all transit workers who may access the roadway in the performance of their work, including safety and oversight personnel.

The RWP manual also would include or incorporate by reference a track access guide to support on-track safety. The track access guide would be based on a physical survey of the track geometry and condition of the transit system.

The RTA would be required to completely review and update its RWP manual not less than every two years. This includes updates to reflect current conditions, lessons learned in implementing the RWP program as described in the manual, and information provided by the SSOA and FTA. RTAs would be required to conduct a review within two years of the SSOA's initial approval of the RWP manual and not less than every two years thereafter.

FTA's proposed rules for Public Transportation Agency Safety Plans (PTASP) would also require rail transit agencies to include or incorporate by reference in their Agency Safety Plans (ASPs) the policies and procedures regarding rail transit workers on the roadway. The ASP, and any updates to the ASP, will require approval by a joint labor-management Safety Committee. The joint labor-management Safety Committee may also, as part of its statutory responsibilities, identify RWP related safety deficiencies and identify and recommend risk-based mitigations or strategies to address RWP hazards identified in the agency's safety risk assessment.

The NPRM would prohibit the use of any protections that rely solely on the roadway worker to detect rail transit vehicles. Each RTA would be required to conduct a safety risk assessment to identify redundant protections for all workers to be included in the RWP program and manual. Protections would be based on the category of work being performed. Tasks demanding more attention from roadway workers, including the use of tools and equipment, based on the results of the safety risk assessment, likely would require RTAs to implement greater levels of protection.

In addition, the NPRM would require comprehensive job safety briefings, a good faith safety challenge provision, and required reporting of near misses. Formal training and



qualification programs would be required for all workers who access the roadway. RTAs also would adopt a program for RWP program compliance auditing and monitoring.

SSOAs would be responsible for approving, overseeing, and enforcing implementation of the requirements in the NPRM for each RTA in their jurisdiction, including the RWP Manual and supporting training and qualification programs.

## **F. Summary of Economic Analysis**

This proposed rule, which sets minimum safety standards for RWP programs, would benefit roadway workers by reducing their risk of fatalities and injuries. To estimate benefits, FTA analyzed national transit worker safety data from 2008 to 2020 and identified accidents that would have been prevented if agencies had implemented the protections in the proposed rule. On average, the rule would prevent an estimated 1.4 fatalities and 3.9 injuries per year, resulting in annual safety benefits of \$14.2 million in 2021 dollars. To meet the safety standards, RTAs and SSOAs would incur an estimated \$2.0 million in start-up costs plus \$11.3 million in ongoing annual costs. The largest ongoing annual costs are for redundant worker protections (\$5.9 million) and roadway worker protection training (\$4.5 million).

Table ES-1 summarizes the potential effects of the proposed rule over a ten-year analysis period from 2023 to 2032. In 2021 dollars, the rule would have annualized net benefits of \$2.6 million at a 2 percent discount rate, discounted to 2023.

**Table ES-1 – Summary of Economic Effects (2021 Dollars, Discounted to 2023)**

<b>Item</b>	<b>Annualized Value (2% Discount Rate)</b>
<b>Benefits</b>	\$13,414,248
<b>Costs</b>	\$10,848,469
<b>Net Benefits</b>	\$2,565,779

### **III. Section-by-Section Analysis**

#### **Subpart A—General**

##### **671.1 PURPOSE AND APPLICABILITY**

FTA proposes that this regulation would apply to RTAs that receive Federal financial assistance under 49 U.S.C. chapter 53 and to all SSOAs that oversee the safety of rail fixed guideway public transportation systems. It also specifies that this regulation would not apply to rail systems that are subject to the safety oversight of the Federal Railroad Administration.

FTA also proposes to specify that this regulation applies to transit workers who access any rail fixed guideway public transportation system in the performance of their work. FTA is proposing this applicability to encompass the RTAs and SSOAs in its SSO program and to establish protections for individuals under the RTA's purview as they access the roadway.

##### **671.3 POLICY**

FTA proposes that section 671.3(a) will explain that this regulation establishes minimum safety standards for rail transit RWP. FTA proposes that each RTA and SSOA may prescribe additional or more stringent rules that are consistent with this part.

FTA further proposes that section 671.3(b) will explain that FTA has adopted the use of SMS as the basis for enhancing the safety of public transportation. Safety Risk Management and Safety Assurance, as required in part 673 of this chapter, form the basis of a transit agency's safety risk identification, assessment, mitigation, and monitoring programs. As such, FTA also proposes that any activities conducted to carry out this Part must be integrated into the RTA's SMS required under part 673 of this chapter.

##### **671.5 DEFINITIONS**

FTA proposes definitions for terms used in this part to establish a standard RWP vocabulary.

This section also includes definitions of terms used throughout FTA's safety program. Some of these terms are included in FTA's PTASP NPRM, which was issued on April 26, 2023

(88 FR 25336). FTA's intent is for terms to have the same meaning across the safety program, and FTA will reconcile overlapping terms in the appropriate rulemakings. Readers should refer, specifically, to the definitions of "Accountable Executive," "Equivalent Entity," "Near-miss," "Rail Fixed Guideway Public Transportation System," "Rail Transit Agency," "Roadway," "Safety event," "State Safety Oversight Agency," and "Transit Worker."

FTA is proposing definitions for this part that are not found in other parts of the FTA safety program. FTA is proposing to define "roadway worker protection" to mean the policies, processes, and procedures implemented by an RTA to prevent safety events for transit workers who must access the roadway in the performance of their work. FTA is proposing "roadway worker" to mean a transit worker whose duties involve inspection, construction, maintenance, repairs, or providing on-track safety such as flag persons and watchpersons on or near the roadway or right-of-way or with the potential of fouling track. FTA is proposing to define "fouling a track" to mean the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving rail transit vehicle or on-track equipment and to further explain that any time an individual or equipment is within the track zone, it is fouling the track.

FTA is proposing to define "ample time" to mean the time necessary for a roadway worker to be clear of the track zone or in a place of safety 15 seconds before a rail transit vehicle moving at the maximum authorized speed on that track could arrive at the location of the roadway worker. As with the other requirements of this proposed regulation, FTA anticipates that some RTAs will exceed FTA's minimum requirements. In this case, FTA is proposing minimum ample time of 15 seconds to provide a baseline of safety that includes clearing the track zone or being in a place of safety. It is FTA's intent with this proposal to ensure that roadway workers receive adequate time to move sufficiently clear of moving vehicles or equipment determined not only by the amount of time needed to move physically off the tracks

but also by the amount of time needed in that specific location to be sufficiently clear of moving vehicles.

FTA is proposing to define “place of safety” to mean a place an individual or individuals can safely occupy outside the track zone, sufficiently clear of any rail transit vehicle, including any on-track equipment, moving on any track. FTA is proposing to define “track zone” to mean an area identified by transit workers where a person or equipment could be struck by the widest equipment that could occupy the track and typically is an area within six feet of the outside rail on both sides of any track.

FTA is also proposing to define “individual rail transit vehicle detection” to mean a process by which a lone worker acquires on-track safety by visually detecting approaching rail transit vehicles and leaving the track in ample time. FTA is proposing to define “on-track safety” to mean a state of freedom from the danger of being struck by a moving rail transit vehicle or other equipment as provided by operating and safety rules that govern track occupancy by roadway workers, other transit workers, rail transit vehicles, and on-track equipment.

Finally, FTA is proposing to define “minor tasks” to mean those tasks performed without the use of tools during the execution of which a roadway worker or other transit worker can visually assess their surroundings at least every five seconds for approaching rail transit vehicles and that can be performed without violating ample time. This definition is part of FTA’s proposal to identify appropriate redundant protections for individuals engaged in tasks that require varying levels of attention. FTA is proposing to define “redundant protection” to mean at least one additional protection beyond individual rail transit vehicle detection to ensure on-track safety for roadway workers and that redundant protections may be procedural, physical, or both.

FTA is also proposing definitions for “equivalent protection,” “flag person,” “foul time protection,” “job safety briefing,” “lone worker,” “maximum authorized speed,” “qualified,” “rail transit vehicle approach warning,” “roadway maintenance machine,” “roadway work

group,” “roadway worker in charge,” “RWP manual,” “sight distance,” “track access guide,” “watchperson,” “working limits,” and “work zone.”

### **Subpart B—RWP Program and Manual**

This subpart proposes minimum requirements for the RWP program, which must be adopted and implemented by each RTA. This subpart also proposes minimum requirements for the RWP manual. Similar to the relationship between the Agency Safety Plan and the SMS required by the PTASP regulation, the RWP manual documents the mechanisms by which the RTA will carry out its RWP program.

#### **671.11 RWP PROGRAM**

Section 671.11(a) proposes that each RTA must adopt and implement an RWP program designed to improve transit worker safety and that this program must be consistent with Federal and state requirements.

Section 671.11(b) proposes that the RWP program must include an RWP manual, described further in proposed section 671.13, and all of the RWP program elements described in proposed subpart D of this part.

Section 671.11(c) proposes that each RTA must submit its RWP manual and subsequent updates to its SSOA for review and approval, as described in proposed section 671.25.

#### **671.13 RWP MANUAL**

Section 671.13(a) proposes that the RTA establish and maintain a separate, dedicated manual. The creation of this document as a separate, dedicated manual reflects FTA’s expectation that this manual will be a critical safety component of an RTA’s rail program. This proposal also reflects FTA’s belief that separation from other manuals or documents will grant the RTA greater flexibility and responsiveness in updating and amending the RWP manual as needed.

Section 671.13(b) proposes that the RWP manual must include the terminology, abbreviations, and acronyms used by the RTA to describe its RWP program activities and requirements. This proposal reflects FTA's expectation that RTAs will continue use of, or, as necessary, create standard terminology, abbreviations, and acronyms used throughout the agency in relation to RWP.

Section 671.13(c) proposes the list of required elements that must be documented in the RWP manual. The proposed required elements of the manual include all elements of the RWP program required in subpart D of this part and a definition of RTA and transit worker responsibilities as described in subpart C of this part. FTA also proposes that the RWP manual must document the training, qualification, and supervision the RTA requires for transit workers to access the track zone, by labor category or type of work performed. Finally, FTA proposes to require the RWP manual to document the processes and procedures for all transit workers who may access the track zone in the performance of their work, including safety and oversight personnel. In addition, FTA proposes that procedures for SSOA personnel to access the roadway must conform with the SSOA's risk-based inspection program. By requiring an RWP manual to contain certain elements, FTA's intent is to ensure that all critical elements of an RWP program are documented in one manual. FTA expects this to reduce the potential for conflicting RWP program directions and provide a single authoritative source of RWP program information.

Section 671.13(d) proposes that the RWP manual must include or incorporate by reference a track access guide to support on-track safety. FTA believes that a track access guide is a critical element of on-track safety, as discussed in each subsection below. As FTA proposes that this guide must be based on a physical survey of the track geometry and condition of the track system, FTA is proposing flexibility for RTAs to choose to maintain this track access guide separately from their RWP manual to allow frequent updates as the condition of the track system changes.

FTA proposes in section 671.13(d)(1) that the track access guide includes locations with limited, close, or no clearance, including locations that have size or access limitations. Locations with size or access limitations may include but are not limited to, alcoves, recessed spaces, or other designated places or areas of refuge or safety. FTA understands that, although areas of refuge or safety should not be used in a way that limits access, such as being used to store or otherwise house tools, equipment, or materials, RTAs may use some of these areas to store or “stage” items used to repair, maintain, or inspect the roadway. FTA proposes including these areas in the physical survey to ensure roadway workers are aware of any such areas with access limitations.

Section 671.13(d)(2) proposes that the track access guide must also identify locations with increased rail vehicle or on-track equipment braking requirements.

Sections 671.13(d)(2), (3), (4), and (5) propose that the track access guide must identify areas with limited visibility, including locations with reduced rail transit operator visibility due to weather conditions; curves with limited or no visibility; locations with limited or no visibility due to obstructions or topography; and all portals with restricted views. Finally, section 671.13(d)(6) and (7) propose that the track access guide must identify locations with heavy outside noise or other environmental conditions that impact on-track safety and any other locations with access considerations.

In section 671.13(e), FTA proposes to require that the RTA must completely review and update its RWP manual at least every two years. FTA proposes that this includes updates to reflect current conditions, lessons learned in implementing the RWP program as described in the manual, and information provided by the SSOA and FTA. FTA proposes that this review and update occur within two years after the SSOA’s initial approval of the RWP manual and not at least every two years thereafter.

FTA proposes a review and update cycle of not less than every two years to ensure that RWP manuals reflect current RTA conditions, policies and procedures, and lessons learned. This

cycle is intended to balance the critical nature of this document and effort to review and update the same. As the track access guide must be included or incorporated by reference in the RWP manual, FTA's proposal includes the requirement that this complete review and update will include the track access guide, regardless of whether the guide is maintained as a separate document from the RWP manual. Further, in section 671.13(f), FTA requires RTAs to update both the RWP manual and the track access guide as soon as is practicable when a change in RTA conditions means either document does not reflect current conditions.

Section 671.13(g) proposes that the RTA must distribute the RWP manual to all transit workers who access the roadway and that the RTA distribute the revised manual to all transit workers who access the roadway after each revision. For RTAs that decide to maintain the track access guide separately from the RWP manual, this proposal includes the requirement that those RTAs distribute the track access guide to all transit workers who access the roadway and distribute the revised track access guide to all transit workers after each revision. FTA's intent is to ensure that this safety critical information is disseminated to those workers who access the roadway.

### **Subpart C—Responsibilities**

FTA is proposing RWP responsibilities for three distinct entities: the RTA, transit workers, and the SSOA.

#### **671.21 RAIL TRANSIT AGENCY**

Section 671.21 specifies responsibilities for the RTA, including establishing procedures and requirements for equipment and protection.

Section 671.21(a) proposes general requirements for the RTA, the intent of each is described below. Section 671.21(a)(1) proposes to require the RTA to establish procedures to provide ample time and determine appropriate sight distance based on maximum authorized track speeds. FTA's proposed definition for terms used in this part can be found in proposed



section 671.5. As previously noted, it is FTA's intent with this proposal to ensure that roadway workers receive adequate time to move sufficiently clear of moving vehicles or equipment determined not only by the amount of time needed to move physically off the tracks but also by the amount of time needed in that specific location to be sufficiently clear of moving vehicles.

FTA's proposals reflect the expectation that RTAs include considerations for roadway work group size when making these determinations, to ensure ample time for all workers to be sufficiently clear of moving vehicles. For example, if the nearest place of safety is not sufficiently large to allow the entire roadway work group to be sufficiently clear of moving vehicles, the RTA must include additional time for members of the workgroup to access another location clear of moving vehicles.

Section 671.21(a)(2) proposes to prohibit the use of individual rail transit vehicle detection as the only form of protection in the track zone. This proposed prohibition reflects FTA's determination that a lone worker may not be able to reliably detect approaching rail transit vehicles or equipment in ample time and, further, that the safety risk associated with the practice of individual rail transit vehicle detection as the only form of protection in the track zone is unacceptable. This proposed prohibition also reflects public input to a September 2021 Request for Information (RFI) on transit worker safety mitigations including potential minimum safety standards for RWP programs. Respondents generally agreed that the use of individual detection of rail transit vehicles as the only method of RWP program did not adequately address all hazards for workers.

Sections 671.21(a)(3) and (4) propose that the RTA must establish procedures to provide job safety briefings to all transit workers who enter a track zone to perform work whenever a rule violation is observed. This is responsive both to FTA's determination that job safety briefings are a critical component of roadway safety and to RFI respondents' assertion that poor quality job safety briefings at different operational and organizational levels may contribute to safety risk for workers on the roadway.

Section 671.21(a)(5) proposes that the RTA must establish procedures to provide transit workers with the right to challenge and refuse in good faith any assignment based on on-track safety concerns and resolve such challenges and refusals promptly and equitably. This is often called a “good faith safety challenge” or “good faith challenge.” FTA’s proposed good faith challenge process described in section 671.37 is modelled on and generally consistent with the existing FRA good faith challenge. FTA understands that many RTAs already implement a version of this procedure and that their version may encompass more than just on-track safety concerns. FTA is not proposing that these RTAs to revise their existing procedure and process, as long as they meet the minimums specified here.

Section 671.21(a)(6) proposes that the RTA must establish procedures to require the reporting of unsafe acts, unsafe conditions, and near-misses on the roadway to the Transit Worker Safety Reporting Program. This proposal creates additional safety reporting requirements for an RTA’s Transit Worker Safety Reporting Program established under FTA’s existing PTASP regulation (49 CFR 673.23(b)). FTA proposes that an RTA’s Transit Worker Safety Reporting program must include mandatory reporting of three major categories of safety concerns on the roadway (unsafe acts, unsafe conditions, and near-misses). This proposed expansion of an RTA’s safety reporting program reflects the safety critical nature of information related to RWP.

Section 671.21(a)(7) proposes to require the RTA to ensure that all transit workers who must enter a track zone to perform work understand, are qualified in, and comply with the RWP program. This proposal reflects industry practice and is intended to ensure that the RWP program is sufficiently broad in application to address all transit workers who may access a track zone.

Section 671.21(b) requires the RTA to establish requirements for on-track safety, including equipment and protection. This proposal reflects industry practice. Section 671.21(b)(1) proposes to require the RTA to establish requirements for equipment transit workers must have in order to access the roadway or track zone. In deference to the specific

equipment different job functions may require, FTA specifies that the RTA must establish these requirements by labor category. FTA's intent is to ensure that RTAs establish minimum basic requirements for equipment and to encourage RTAs to consider which positions at their agency may require additional equipment and address those requirements accordingly.

Section 671.21(b)(2) proposes to require RTAs to establish requirements for credentials that transit workers must display while on the roadway or in the track zone. FTA's examples include a badge, wristband, or RWP card, but RTAs may identify alternate forms of credentialing. FTA proposes that RTAs must also establish a requirement for display of credentials such that they are visible when on the roadway or in the track zone. A physical indication of an individual's qualification to access the roadway or the track zone is reflective of industry best practices.

Section 671.21(b)(3) proposes to require the RTA to establish requirements for on-track safety, including protections for emergency response personnel who must access the roadway or the track zone. FTA is proposing this to support the safety of emergency personnel who need to access the roadway or track zone in the performance of their job duties.

Section 671.21(b)(4) proposes to require the RTA to establish protections for multiple roadway work groups within a common area in a track zone. This proposal is responsive to NTSB recommendations. FTA's proposal reflects its expectation that these protections include, at a minimum, information such as, when multiple work groups are present, who is considered the roadway worker in charge, whether one job safety briefing is sufficient or multiple job safety briefings must occur, and how track access is granted and released.

### **671.23           TRANSIT WORKER**

Section 671.23 proposes responsibilities for the transit worker. FTA is proposing specific responsibilities for transit workers in part to respond to common industry observations that, when regulations apply only directly to the transit agency, some transit agencies experience difficulty ensuring compliance from the workforce. FTA is also proposing specific responsibilities for

transit workers as a reflection of the key role the individual transit worker plays in ensuring on-track safety. This approach is consistent with FRA's requirement for individual roadway workers in 49 CFR 214.313.

Section 671.23(a) proposes to require transit workers to follow the requirements of the RTA's RWP program as it applies to their position and labor category.

Section 671.23(b) proposes to prohibit transit workers from fouling the track until they have received appropriate permissions and redundant protections have been established as specified in the RWP manual.

Section 671.23(c) proposes to require transit workers to understand the protections that they will use for their on-track safety while performing the specific task that requires access to the roadway or track zone. Further, transit workers must acknowledge these protections in writing before they access the roadway or track zone.

Section 671.23(d) proposes to permit a transit worker to refuse to foul the track if the worker makes a good faith determination that the instructions to be applied at a job location do not comply with the RTA's RWP program or are otherwise unsafe. This proposal is the companion to proposed section 671.21(a)(5), which requires RTAs to provide transit workers the right to challenge and refuse in good faith any assignment based on on-track safety concerns.

Similarly, section 671.23(e) proposes to require transit workers to report unsafe acts and conditions and near-misses related to the RWP program as part of the RTA's Transit Worker Safety Reporting Program. This proposal is the companion to proposed section 671.21(a)(6).

## **671.25 STATE SAFETY OVERSIGHT AGENCY**

Section 671.25 proposes responsibilities for the SSOA. FTA proposes to require the SSOA to fulfill these responsibilities for every RTA under their jurisdiction. Although not explicitly stated in this text, SSOAs who oversee an RTA that operates in a location that places the RTA under the jurisdiction of two or more SSOAs must work cooperatively with the other SSOA(s) having jurisdiction as required under 49 CFR 674.15.

Section 671.25(a) proposes to require the SSOA to review and approve the RWP manual and any subsequent updates for each RTA within their jurisdiction. This is reflective of the SSOA's primary safety oversight responsibility for such RTAs.

Section 671.25(a)(1) proposes to require that SSOA approve RWP program elements within 90 calendar days of receipt of the program. FTA's proposal reflects its expectation that this amount of time will allow SSOAs to complete full and detailed reviews of all program elements commensurate to the critical role the RWP program plays in ensuring transit worker safety. FTA encourages SSOAs and RTAs to collaborate early and often in the development of the initial RWP program to ensure that 1) the SSOA and RTA can meet their deadlines and 2) the RWP program developed is sufficient to ensure transit worker safety.

Section 671.25(a)(2) proposes to require the SSOA to submit all approved RWP program elements for each RTA in its jurisdiction, and any subsequent updates, to FTA within 30 calendar days of when the SSOA approves those elements. FTA is proposing this to ensure it can validate these safety critical elements.

Section 671.25(b) proposes to require the SSOA to update its Program Standard to explain the role of the SSOA in overseeing the RTA's execution of its RWP program. FTA believes that, as a key safety element of an SSOA's oversight program, the RWP program must be reflected in the SSOA's Program Standard. FTA encourages SSOAs and RTAs to work collaboratively on this update in conjunction with the recommended collaboration on the initial RWP program. FTA is proposing this approach to help SSOAs leverage RTA experience and vice versa, ultimately reducing the need for a prolonged RWP program review and revision process and strengthening both the RWP program and the SSOA's RWP program oversight.

Section 671.25(c)(1) proposes that the SSOA conduct an annual audit of the RTA's compliance with its RWP program. FTA's proposal includes the requirement that the audit include all required RWP program elements and be conducted for each RTA the SSOA oversees. FTA expects SSOAs to conduct these audits independently from any analogous RTA internal

audit or compliance process. The proposal is responsive to NTSB recommendations to require SSOAs to ensure RTAs meet the safety requirements for roadway workers.

Section 671.25(c)(2) proposes to require the SSOA to issue a report with any findings and recommendations arising from the audit. FTA proposes that this report must include, at a minimum, 1) an analysis of the effectiveness of the RWP program; 2) recommendations for improvements, if necessary or appropriate; and 3) corrective action plan(s), if necessary or appropriate. FTA also proposes that the RTA must be given an opportunity to comment on any findings and recommendations. In making this proposal, FTA expects the SSOA to exercise judgment and incorporate changes to the findings or recommendations when presented with errors of fact or other reasonable requests from the RTA. FTA believes these audit reports will be a valuable tool for communicating the results of the SSOA's audit in a form that supports communication of these results to the RTA and, ultimately, resolution of any findings and incorporation of any recommendations as appropriate. Regarding the proposed requirement that SSO audit reports of the RWP program include corrective action plans if necessary or appropriate, FTA proposes that SSOAs and RTAs will follow processes established in part 674 for requiring, developing, approving, and executing corrective action plan(s) related to the RWP program audit.

FTA proposes that the analysis of the effectiveness of the RWP program included in the report must include a review of 1) all RWP-related events over the period covered by the audit; 2) all RWP-related reports made to the Transit Worker Safety Reporting Program over the period covered by the audit; 3) all documentation of instances where a transit worker(s) has challenged and refused in good faith any assignment based on on-track safety concerns and documentation on the resolution; 4) an assessment of the adequacy of the track access guide required in section 671.13(d), including whether the guide reflects current track geometry and conditions; 5) a review of training and qualification records for transit workers who must enter a track zone to perform work; 6) a representative sample of written job safety briefing confirmations as

described in sections 671.33(b)(2) and (3); and 7) a review of the RWP compliance monitoring program as described in section 671.43.

### **Subpart D—Required RWP Program Elements**

FTA is proposing the following minimum RWP program element requirements: roadway worker in charge, job safety briefings, requirements for lone workers, good faith safety challenges, risk-based redundant protections, an RWP training and qualification program, and an RWP compliance monitoring program.

#### **671.31 ROADWAY WORKER IN CHARGE**

Section 671.31(a) proposes that the RTA must designate one roadway worker in charge for each roadway work group whose duties require fouling a track. FTA proposes that the roadway worker in charge must be qualified under the training and qualification program specified in proposed section 671.41 and is responsible for the on-track safety for all members of the roadway work group. This means that FTA expects the individual assigned as the roadway worker in charge to serve only the function of maintaining on-track safety for all members of their roadway work group and to perform no other unrelated job function. RTAs may designate a general roadway worker in charge or may designate a roadway worker in charge specifically for a particular work situation.

Section 671.31(b) proposes that the RTA must ensure the roadway worker in charge provides a job safety briefing to all roadway workers before any member of the roadway work group fouls a track. Additionally, FTA proposes that the roadway worker in charge must provide an updated job safety briefing before the on-track safety procedures change during the work period and immediately after any observed violation of on-track safety procedures before track zone work continues.

FTA understands that emergencies may occur such that roadway workers in charge may not be able to provide updated job safety briefings of changes to on-track safety. Therefore, FTA

proposes section 671.31(b)(2) to specify that, in the event of an emergency, any roadway worker who cannot receive the updated job safety briefing in advance of a change to on-track safety procedures, must be removed from the roadway and must not return until on-track safety is re-established, and they have been given an updated job safety briefing.

FTA's proposals regarding job safety briefings largely reflect industry practice and propose explicitly requiring updated job safety briefings to address common situations where the on-track safety procedures change during a work period and to immediately respond to observed violations of on-track safety procedures.

### **671.33           JOB SAFETY BRIEFING**

Section 671.33 proposes specific requirements for job safety briefings. This proposal is responsive to NTSB safety recommendations about establishing requirements for job safety briefings and is consistent with FRA requirements.

Section 671.33(a) reiterates the proposed requirements that the RTA must ensure the roadway worker in charge provides any roadway worker who must foul a track with a job safety briefing prior to fouling the track, every time the roadway worker fouls the track.

Section 671.33(b) proposes the required minimum elements, as appropriate, of the job safety briefing that the roadway worker in charge must provide. FTA proposes the "as appropriate" language because not all of the elements may be relevant to each rail transit system. This proposal includes 1) a discussion of the nature of the work to be performed and the characteristics of the work, and includes work plans for instances where multiple roadway worker groups are working within a single area. FTA expects this to also include any relevant information for multiple roadway worker groups working in adjacent areas; 2) a discussion of the established working limits; 3) identification of any hazards involved in performing the work; 4) information on how track safety is being provided for each track identified to be fouled and identification and location of key personnel, such as a watchperson and the roadway worker in charge; 5) instructions for each on-track safety procedure to be followed, including appropriate



flags and flag placement, placement; 6) roles and responsibilities for communication for all transit workers involved in the work, responsive to NTSB recommendations; 7) safety information about any adjacent track and identification of the roadway maintenance machines or on-track equipment that may foul adjacent tracks; 8) information on how to access the roadway worker in charge and instructions for alternative procedures in the event that the roadway worker in charge becomes inaccessible to members of the roadway work group; 9) personal protective equipment required for the work to be performed; 10) designated place(s) of safety; and 11) the means for determining how ample time will be provided.

FTA's intent is that the proposed discussion of the nature and characteristics of the work includes any relevant information for multiple roadway worker groups working in adjacent areas. The proposals that the job safety briefing include instructions for each on-track safety procedure to be followed and the role and responsibilities for communication for all transit workers involved in the work are responsive to NTSB recommendations.

Section 671.33(b)(10) proposes that the job safety briefing must identify designated place(s) of safety. FTA intends that the identified designated place(s) of safety will be sufficient for the number of transit workers in the roadway work group. This proposal reflects FTA's understanding that such designated places of safety must be accessible and clear of debris, tools, equipment, or any other material that hinders the ability to access and occupy the space. While not part of the proposal, FTA's expectation is that, where multiple work groups occupy overlapping or adjacent work locations, the associated roadway workers in charge coordinate to ensure their job safety briefings identify designated place(s) of safety sufficient for the combined number of transit workers in the roadway work group.

Section 671.33(c) proposes that, to complete a job safety briefing, the roadway worker in charge must confirm that each roadway worker understands the on-track safety procedures and instructions, each roadway worker acknowledges the briefing and accepts the required personal

protective equipment in writing, and the roadway worker in charge verifies in writing each roadway worker's understanding and written acknowledgment of the briefing.

Section 671.33(d) proposes that, if there is any change in the scope of work or roadway work group after the initial job safety briefing, or if a violation of on-track safety is observed, a follow-up job safety briefing must be conducted. This follow-up safety briefing must be completed before any member of the work group reenters the roadway.

### **671.35 LONE WORKER**

FTA proposes section 671.35 to address common industry and NTSB concerns and recommendations about the practice of permitting a single person to foul the track. Specifically, FTA proposes to allow RTAs to authorize lone workers to perform limited duties that require fouling a track only under the following circumstances: 1) the lone worker must be qualified as both as a roadway worker in charge and as a lone worker following the RTA's RWP training and qualification program; 2) the lone worker may perform only routine inspection or minor tasks and move from one location to another, may only access locations defined in the track access guide as appropriate for lone workers, and may not use power tools; and 3) the lone worker may not use individual rail transit vehicle detection as the only form of on-track safety. The proposal that lone workers may not use individual rail transit vehicle detection is a form of on-track safety is responsive to NTSB recommendations on lone workers. These proposed restrictions reflect the exponential increase in safety risk presented by workers fouling the track as individuals rather than as part of a roadway work group while respecting that certain job functions may be performed safely under these restrictions as a lone worker.

Section 671.35(b) proposes that each lone worker must communicate with a supervisor or other designated transit worker to receive an on-track safety briefing consistent with proposed section 671.33(b) prior to fouling the track. FTA proposes that this briefing must include a discussion of the planned work activities and the procedures they will use to establish on-track

safety. FTA also proposes that the lone worker must acknowledge and document the job safety briefing in writing.

### **671.37 GOOD FAITH SAFETY CHALLENGE**

Section 671.37(a) proposes that the RTA must document its procedures that it provides to roadway workers the right to challenge and refuse in good faith any RWP assignment they believe is unsafe or would violate the RTA's RWP program. FTA proposes in section 671.37(b) that this written procedure must include methods or processes to ensure prompt and equitable resolution of any challenges and refusals made. Section 671.37(c) proposes that the written procedure must require the roadway worker to provide a description of the safety concern regarding on-track safety and that the roadway worker issuing a good faith safety challenge must remain clear of the roadway or track zone until the challenge and refusal is resolved. This process reflects common industry practice and provides a mechanism for transit workers, who often are the most familiar with the particular needs and hazards related to their specific job tasks, to appropriately address unsafe situations.

### **671.39 RISK-BASED REDUNDANT PROTECTIONS**

Section 671.39(a) proposes requirements for RTAs to identify and provide redundant protections for each category of work roadway workers perform on the roadway or track. This section also proposes to require the establishment of redundant protections to ensure on-track safety for multiple roadway work groups within a common area. This proposal is responsive to NTSB recommendations for FTA to require the use of redundant protections.

Section 671.39(b) proposes that the RTA must use the appropriate Safety Risk Management of its SMS established in part 673 to assess safety risk and establish mitigations in the form of redundant protections. This section proposes that the RTA must use the methods and processes established under part 673 to establish redundant protections for each category of work performed by roadway workers on the rail transit system, including workers, to the extent that

lone workers are permitted under the agency's RWP program. This proposal reflects FTA's adoption of the principles of SMS as the mechanism for ensuring transit safety.

In section 671.39(b)(1), FTA proposes that this safety risk assessment must be consistent with the RTA's Agency Safety Plan and the SSOA's Program Standard. In section 671.39(b)(2), FTA is proposing that RTAs may supplement the safety risk assessment with engineering assessments, inputs from the Safety Assurance process established in part 673, the results of safety event investigations, and other safety risk management strategies and approaches.

Section 671.39(b)(3) proposes that the RTA must review and update the safety risk assessment at least every two years. This proposal is intended to ensure that the safety risk assessment reflects current conditions, lessons learned from safety events, actions the RTA has taken to address reports of unsafe acts and conditions and near-misses, and the results of the agency's monitoring of redundant protection effectiveness.

Section 671.39(b)(4) proposes that the SSOA may identify and require the RTA to implement alternate redundant protections based on the RTA's unique operating characteristics and capabilities. These redundant protections may supplant or be implemented alongside the RTA's identified redundant protections.

Section 671.39(c) proposes that the RTA must identify redundant protections for roadway workers performing different categories of work on the roadway and within track zones. This flexibility is intended to reflect the wide range of activities conducted on the roadway and to provide the opportunity for RTAs to "right size" protections based on the safety risk associated with different categories of work. This proposal would require RTAs to establish and layer redundant protections commensurate with the work being performed. FTA proposes that RTAs, at a minimum, identify redundant protections for the following categories of work, as appropriate: 1) roadway workers moving from one track zone to another; 2) roadway workers performing minor tasks; 3) roadway workers conducting visual inspections; 4) roadway workers using hand tools, machines, or equipment to test track system components or conduct non-visual

inspections; 5) roadway workers using hand tools, machines, or equipment in performing maintenance, construction, or repairs; and 6) lone workers, to the extent that lone workers are permitted by the RTA's RWP program, accessing the roadway or track zone or performing visual inspections or minor tasks.

Section 671.39(d)(1) proposes that redundant protections may be procedural or physical. FTA has proposed definitions for each kind of protection as it is likely that RTAs will use a mix of procedural and physical redundant protections to ensure on-track safety. Allowing both physical and procedural redundant protections is responsive to RFI respondents, the majority of whom recommended that FTA allow both physical and redundant protections for workers on the roadway.

Section 671.39(d)(2) proposes example redundant protections. FTA is not proposing an explicit set of redundant protections; rather, FTA proposes that RTAs and SSOAs may use any of the redundant protections listed in this paragraph or identify, using the agency's Safety Risk Management process, redundant protections suitable to the specific circumstance under which they will be used.

Section 671.39(d)(3) proposes that redundant protections for lone workers must include, at a minimum, foul time or an equivalent protection approved by the SSOA.

#### **671.41 RWP TRAINING AND QUALIFICATIONS**

Section 671.41(a) proposes the general requirement for an RTA to adopt an RWP training program. This proposal is responsive to NTSB recommendations. Section 671.41(a)(1) proposes that the training program must address all transit workers responsible for on-track safety by position. This proposal includes, but is not limited to, roadway workers, operation control center personnel, rail transit vehicle operators, operators of on-track equipment and roadway maintenance machines, and any other transit workers who play a role in providing on-track safety or fouling a track for the performance of work as transit workers who must be addressed by the RWP training program.

Section 671.41(a)(2) proposes that a transit worker must complete the RWP training program for the relevant position before the RTA may assign that transit worker to perform the duties of a roadway worker; to oversee or supervise access to the track zone from the operations control center; or to operate vehicles, on-track equipment, and roadway maintenance machines on the rail transit system.

Section 671.41(a)(3) proposes that the RWP training program must address RWP hazard recognition and mitigation. This proposal is responsive to an NTSB recommendation to require initial and recurring training for roadway workers in hazard recognition and mitigation. This section also specifies that the training program must address lessons learned through the results of compliance testing, near-miss reports, reports of unsafe acts or conditions, and feedback received on the training program.

Section 671.41(a)(4) proposes that the RWP training program must include both initial and refresher training by position and that refresher training must occur every two years at a minimum.

Section 671.41(a)(5) proposes that the RTA must review and update its RWP program not less than every two years. FTA proposes that this includes incorporating lessons learned in implementing the RWP program and information provided by the SSOA and FTA. FTA also proposes that the review and update process must include an opportunity for roadway worker involvement, to ensure potentially valuable safety information from workers executing tasks on the roadway can be collected and incorporated into the safety training program.

Section 671.41(b) proposes the required elements of the RWP training program. FTA is proposing these elements based on industry best practices and best practices for adult learners.

Section 671.41(b)(1) proposes that the RWP training program must include interactive training that provides the opportunity for workers to ask the RWP trainer questions and for workers and trainers to raise and discuss RWP issues. FTA proposes that the initial training must include experience in a representative field setting such that the initial training may not be

classroom-only. FTA also proposes that both the initial and refresher training must include worker demonstrations and trainer assessments of the worker's ability to comply with RWP instructions.

Section 671.41(c) proposes minimum contents for the RWP training program. FTA proposes that the RWP training program include at a minimum: 1) how to interpret and use the RTA's RWP manual; 2) how to use the RTA's good faith challenge process; 3) how to make reports on unsafe acts, unsafe conditions, and near misses through the RTA's Transit Worker Safety Reporting Program and the mandatory duty to make such reports; 4) track zone recognition and an understanding of the space around the tracks within which on-track safety is required, including use of the track access guide; 5) the functions and responsibilities of all transit workers involved in on-track safety, by position; 6) proper compliance with on-track safety instructions; 7) signals and directions given by watchpersons, and the proper procedures to implement upon receiving a rail transit vehicle approach warning from a watchperson; 8) the hazards associated with working on or near rail transit tracks, including traction power, if applicable; 9) rules and procedures for redundant protections identified under section 671.37 and how they are applied to RWP; and 10) how to safely cross rail transit tracks in yards and on the mainline. These minimum proposed elements reflect industry best practice and provide a baseline for safety on the roadway.

Section 671.41(d) proposes specialized minimum training and qualifications for transit workers with additional responsibilities for on-track safety. FTA is proposing additional training for transit workers serving the function of watchpersons, flag persons, lone workers, roadway workers in charge, and any other transit workers with responsibilities for establishing, supervising, and monitoring on track safety. FTA proposes that this training must cover the content and application of the additional RWP program requirements carried out by the relevant position(s). FTA also proposes that this additional training must also address the relevant physical characteristics of the RTA's system where on-track safety may be established.

Similar to the general RWP training program, FTA proposes that this specialized training must include demonstration and assessment of the transit worker's ability to perform these additional responsibilities. FTA proposes that refresher training on these additional responsibilities must occur at least every two years. This proposal reflects the critical safety role these transit workers have in establishing, supervising, and monitoring on track safety.

Section 671.41(e) proposes that the RTA must ensure that those transit workers providing RWP training are qualified and have active RWP certification at the RTA. This proposal is intended to ensure that RTAs are providing effective RWP training. Section 671.41(e) further proposes that, at a minimum, the RTA must consider: 1) a trainer's experience and knowledge of effective training techniques in the chosen learning environment; 2) a trainer's experience with the RTA RWP program; 3) a trainer's knowledge of the RTA RWP rules, operations, and operating environment, including applicable operating rules; and 4) a trainer's knowledge of the training requirements specified in this part. FTA's intent with this proposal is to ensure that trainers providing RWP program training have the capacity to deliver effective training in the learning environment used at the agency; are experienced with the specifics of the RTA's individual RWP program, the RTA's rules, operations, and operating environment; and are knowledgeable about FTA's requirements for RWP program training.

#### **671.43 RWP COMPLIANCE MONITORING PROGRAM**

Section 671.43 proposes that the RTA must develop and implement a program to monitor its own compliance with the requirements specified in its RWP program. This monitoring program is consistent with Safety Assurance principles and is intended to ensure consistent and effective RWP program implementation. FTA proposes that this program must include, at a minimum, inspections, observations, and audits consistent with the safety performance monitoring and measurement practices established in the RTA's Agency Safety Plan and the SSOA's Program Standard.



Section 671.43(b)(1) further proposes that the RTA must provide monthly reports to the SSOA documenting the RTA's compliance with and sufficiency of the RWP program and section 671.43(b)(2) specifies that the RTA must provide an annual briefing to the Accountable Executive and the Board of Directors, or equivalent entity, regarding the performance of the RWP program and any identified deficiencies requiring corrective action.

### **Subpart E—Recordkeeping**

#### **671.51 RECORDKEEPING**

FTA proposes recordkeeping requirements related to the RWP program in keeping with the recordkeeping requirements established in part 673, which requires transit agencies to maintain document related to SMS implementation and the results of SMS processes and activities. As discussed above, an RWP program is a key element of Safety Risk Management and Safety Assurance in an RTA's SMS.

Section 671.51(a) proposes that the RTA must maintain the documents that set forth its RWP program, documents related to the implementation of its RWP program, and documentation of the results from the procedures, processes, assessments, training, and activities specified in this part for the RWP program.

Section 671.51(b) proposes that the RTA must maintain records of its compliance with this requirement, including transit worker RWP training and refresher training records, for a minimum of three years after the individual record is created.

Finally, Section 671.51(c) specifies that the RTA must make these documents available upon request by FTA or other Federal entity, or an SSOA having jurisdiction.

## **IV. Regulatory Analyses and Notices**

Executive Order 12866 (“Regulatory Planning and Review”), as supplemented by Executive Order 13563 (“Improving Regulation and Regulatory Review”) and Executive Order

14094 (“Modernizing Regulatory Review”), directs Federal agencies to assess the benefits and costs of regulations, to select regulatory approaches that maximize net benefits when possible, and to consider economic, environmental, and distributional effects. It also directs the Office of Management and Budget (OMB) to review significant regulatory actions, including regulations with annual economic effects of \$200 million or more. OMB has determined that the proposed rule is not significant within the meaning of Executive Order 12866 and has not reviewed it under that order.

### ***Overview and Need for Regulation***

FTA has determined that unsafe practices and conditions place rail transit workers at risk of being killed or seriously injured while performing work on the roadway. According to data collected by FTA, roadway worker accidents have caused more transit worker fatalities than any other type of safety event. Since 1994, 52 rail transit workers have been killed and over 200 workers have experienced major injuries from roadway safety events, primarily from collisions with rail transit vehicles, falls, and electrocution. From January 1, 2008, to October 31, 2022, 22 workers have been killed and 120 workers seriously injured in roadway accidents. Currently, there are no Federal regulations or standards governing rail transit worker RWP, despite recommendations from NTSB and TRACS.

The proposed rule would establish RWP program standards for rail transit agencies in all states. The rule would establish minimum baseline standards and require risk-based redundant protections, defined as protections outside of the employee’s individual ability to detect a train and move to a place of safety, such as shunts or derailleurs, for rail transit roadway workers occupying the rail roadway during hours of operations. The rule would require transit agencies to do the following:

1. Set minimum standards for RWP program elements, including an RWP manual and track access guide.

2. Meet requirements for on-track safety and supervision, job safety briefings, good faith safety challenges, and reporting unsafe acts and conditions and near-misses.
3. Develop and implement risk-based redundant protections for workers.
4. Establish RWP training, qualification, and compliance monitoring activities.

The proposed rule would apply to RTAs in the SSO program, SSOAs, and rail transit workers who access the roadway to perform work. SSOAs would oversee and enforce FTA's RWP program requirements.

### ***Baseline and Analytical Approach***

FTA considered three regulatory options while developing the proposed rule. The key distinction between the three options is the use of redundant protections.

**Option 1:** FTA would require RTAs to perform a risk analysis to determine what types of redundant protections must be used in addition to the baseline RWP program.

**Option 2:** FTA would establish requirements for an RWP program but would not mandate the use of redundant protections.

**Option 3:** FTA would mandate the use of standard physical redundant protections to protect workers when accessing the roadway in additions to the baseline RWP program.

To assess the effects of the three regulatory options, FTA analyzed roadway worker injuries and fatalities outside California from January 1, 2008, to September 19, 2020 (12.7 years). The analysis excludes California because the state established RWP safety standards in 2016.<sup>2</sup> Agencies reported 97 injuries and 20 fatalities, for an annual average of 7.6 injuries and 1.6 fatalities. FTA used the annual averages as a baseline rate for fatalities and injuries in the absence of the proposed rule.

To estimate benefits and costs of the proposed rule, FTA used a ten-year analysis period from 2023-2032. All dollar amounts listed are in 2020 dollars. To estimate labor costs associated

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<sup>2</sup> Public Utilities Commission of the State of California (2016). "General Order No. 175-A: Rules and Regulations Governing Roadway Worker Protection Provided by Rail Transit Agencies and Rail Fixed Guideway Systems." <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M159/K905/159905345.pdf>

with meeting requirements, FTA used occupational wage data from the Bureau of Labor Statistics as of May 2020 for the “Urban Transit Systems” industry (North American Industry Classification System code 485100).<sup>3</sup> FTA used median hourly wages as a basis for the estimated labor costs, multiplied by 1.62 to account for employer benefits.<sup>4</sup>

***Benefits***

Transit subject-matter experts working with FTA reviewed injuries and fatalities reported in the NTD to determine if the regulatory options would have prevented them. FTA then calculated the average annual number of preventable injuries and fatalities to estimate the benefits of each regulatory option. One source of uncertainty for the analysis is that FTA does not have information on the RWP programs or protections that agencies may have adopted after the accidents. As a result, the analysis may slightly overestimate the benefits (and the associated costs) of the regulatory options.

Table 1 compares the average number of preventable injuries and fatalities for each regulatory option. Option 1 would result in an average annual reduction of 2.37 injuries and 1.18 fatalities. Option 2 results in an average annual reduction of 1.34 injuries and 0.87 fatalities. Option 3 results in an average annual reduction of 3.87 injuries and 1.42 fatalities.

**Table 1 – Average Annual Preventable Injuries and Fatalities, 2008 to 2020**

<b>Item</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Preventable Injuries	2.37	1.34	3.87
Preventable Fatalities	1.18	0.87	1.42

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<sup>3</sup> Bureau of Labor Statistics (2021). “May 2020 National Occupational Employment and Wage Estimates: United States: NAICS 485000 - Transit and Ground Passenger Transportation.” [https://www.bls.gov/oes/2020/may/naics3\\_485000.htm](https://www.bls.gov/oes/2020/may/naics3_485000.htm).

<sup>4</sup> Multiplier derived using Bureau of Labor Statistics data on employer costs for employee compensation in December 2022 (<https://www.bls.gov/news.release/ecec.htm>). Employer costs for state and local government workers averaged \$57.60 an hour, with \$35.69 for wages and \$21.95 for benefit costs. To estimate full costs from wages, one would use a multiplier of \$57.60 / \$21.95, or 1.62.

To determine the monetized values for prevented fatalities and injuries, FTA used DOT’s value of \$11.6 million for a fatality and the KABCO Scale value of \$210,000 for an injury with “Severity Unknown.”<sup>5</sup>

Over the 10-year analysis period, the undiscounted benefits for Option 1 are \$142.3 million, and the annualized benefits are \$13.7 million at a 2 percent discount rate, discounted to 2023 (Table 2). For Option 2, the undiscounted benefits are \$103.5 million, with annualized benefits of \$10 million. For Option 3, the undiscounted benefits are \$173 million, with annualized benefits of \$16.6 million.

**Table 2 – Benefits of the Proposed Rule (2023-2032)**

<b>Benefits (2023 to 2032)</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Undiscounted	\$142,311,760	\$103,532,044	\$172,931,886
Annualized (2% Discount Rate)	\$13,678,562	\$9,951,177	\$16,621,673

**Costs**

Agencies are expected to incur start-up and ongoing costs to implement RWP requirements. While some costs vary by regulatory option, many of the costs are fixed. Table 3 summarizes costs of the provisions over the 10-year analysis period. The largest fixed cost is for the *Roadway Worker Protection Training* program, which has estimated costs of \$46 million. The largest difference in costs among the regulatory options stems from the *Minimum Controls and Limitations* (redundant worker protections) requirement, which has costs ranging from \$0 for Option 2 to \$118 million for Option 3.

**Table 3 – Ten-Year Costs of the Proposed Rule (2023-2032)**

<b>Requirement</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
RWP Program	\$911,728	\$911,728	\$911,728
RWP Manual	\$51,656	\$51,656	\$51,656
Rail System Responsibilities	\$152,466	\$152,466	\$152,466

<sup>5</sup> U.S. Department of Transportation (2022). “Departmental Guidance on Valuation of a Statistical Life in Economic Analysis.” <https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis>

<b>Requirement</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Employee Responsibilities	\$5,165,600	\$5,165,600	\$5,165,600
Job Safety Briefing	\$2,418	\$2,418	\$2,418
Minimum Controls and Limitations	\$59,138,560	\$0	\$118,277,120
Roadway Worker Protection Training	\$46,041,229	\$46,065,170	\$46,065,170
Risk Assessment for Redundant Protections	\$118,910	\$0	\$118,910
Employee Injury and Illness Program & Records	\$356,730	\$356,730	\$356,730
Near Miss Reporting Program & Records	\$2,616,020	\$2,616,020	\$2,616,020
Recordkeeping	\$258,280	\$258,280	\$258,280
<b>Total Costs</b>	<b>\$114,813,598</b>	<b>\$55,508,069</b>	<b>\$176,976,098</b>

### *RWP Programs*

RTAs would incur costs to develop and implement programs for ROW workers if they do not already have formal standalone programs. FTA estimates that 33 of the 55 RTAs outside California (60 percent) already have formal standalone programs, based on industry responses to FTA Safety Advisory 14-1,<sup>6</sup> and that 26 of the 33 RTAs already monitor the effectiveness of the programs.

For the remaining 22 RTAs (40 percent), FTA estimates that an RTA would need an average of 96 labor hours to develop and implement a formal standalone RWP program, plus 40 hours per year to monitor the program's effectiveness. The 40-hour estimate also applies to the 5 RTAs that already have programs but do not monitor their effectiveness. FTA assumes that the work is performed by a *First-Line Supervisor of Mechanics, Installers, and Repairers* with a median wage rate of \$58.70 per hour. The program requirements have estimated one-time costs of \$232,452 and annual recurring costs of \$67,928 (Table 4).

<sup>6</sup> Federal Transit Administration (December 2013). "FTA Safety Advisory 14-1: Right-of Way Worker Protection." <https://www.transit.dot.gov/oversight-policy-areas/safety-advisory-14-1-right-way-worker-protection-december-2013>.

**Table 4 – RWP Program Costs (Options 1-3)**

<b>Requirement</b>	<b>One-Time Costs</b>	<b>Recurring Costs</b>
RWP Program Establishment	\$51,656	
RWP Program Effectiveness Monitoring	\$0	\$67,928
SSOA Review	\$129,140	
RWP Program Response to SSOA Comments	\$51,656	
<b>Total</b>	<b>\$232,452</b>	<b>\$67,928</b>

*RWP Training Programs*

The proposed rule would require agencies to establish initial and refresher training for roadway workers. FTA subject matter experts estimated resources needed for transit agencies to develop and implement the programs. FTA assumes that initial training and refresher trainings for roadway workers require 4.5 hours to complete per employee, training for all RTA employees requires 1 hour, and training for lone workers requires 8 hours. The resources needed for initial and refresher training are the same for each regulatory option.

FTA estimates that 90 percent of RTAs have already developed initial training programs for roadway workers and 79 percent of RTAs have already developed refresher training for roadway workers. FTA estimates that an RTA would need 60 hours to develop an initial or refresher training if it has not already. FTA assumes that no agencies have developed training for all employees or training for lone workers.

The training has estimated one-time costs of \$560,000 and annual recurring costs of \$4.5 million for all three regulatory options. Table 5 shows estimated costs by regulatory option for RWP training in the first year and subsequent years; Table 6 shows estimated costs by occupation.

**Table 5 – RWP Training Program Costs (Options 1-3)**

<b>Requirement</b>	<b>Workers</b>	<b>Total Required Hours</b>	<b>Total Costs, Initial</b>	<b>Total Costs, Annual</b>
Development of Initial Training	—	60 hours per RTA	\$11,623	—

<b>Requirement</b>	<b>Workers</b>	<b>Total Required Hours</b>	<b>Total Costs, Initial</b>	<b>Total Costs, Annual</b>
Development of Recurring Training	—	60 hours per RTA	\$24,407	—
Initial Training for Roadway Workers	31,974	143,882	\$524,915	—
Refresher Training for Roadway Workers	31,974	143,882	—	\$1,102,322
Training for All Employees	50,132	50,132	—	\$1,881,946
Training for Lone Workers	5,500	44,000	—	\$1,563,760
<b>Total</b>			<b>\$560,945</b>	<b>\$4,548,028</b>

**Table 6 – RWP Training Program Costs by Occupation (Options 1-3)**

<b>Occupation</b>	<b>Fully Loaded Wage Rate</b>	<b>Workers</b>	<b>Hours Per Worker</b>	<b>Total Required Hours, Initial</b>	<b>Total Required Hours, Annual</b>	<b>Total Costs, Initial</b>	<b>Total Costs, Annual</b>
49-9071 Maintenance and Repair Workers, General	\$35.54	13,824	4.5	62,209	62,209	\$221,090	\$928,577
53-4041 Subway and Streetcar Operators	\$37.20	18,150	4.5	81,674	81,674	\$303,825	\$1,276,067
00-0000 All Occupations	\$37.54	50,132	1		50,132		\$1,881,946
49-9071 Maintenance and Repair Workers, General (Lone Workers)	\$35.54	5,500	8		44,000		\$1,563,760



<b>Occupation</b>	<b>Fully Loaded Wage Rate</b>	<b>Workers</b>	<b>Hours Per Worker</b>	<b>Total Required Hours, Initial</b>	<b>Total Required Hours, Annual</b>	<b>Total Costs, Initial</b>	<b>Total Costs, Annual</b>
<b>Total</b>		<b>87,606</b>		<b>143,882</b>	<b>238,014</b>	<b>\$524,915</b>	<b>\$4,548,028</b>

### *Redundant Worker Protections*

The major cost driver for redundant worker protections is the number of full-time equivalent (FTE) employees needed to establish worker controls and access limitations. Option 1 requires RTAs to do a risk assessment to determine the types of redundant protections to use, Option 2 does not require redundant protections, and Option 3 requires all RTAs to use standard physical redundant protections.

Table 7 lists annual estimated costs for the additional FTEs needed under each regulatory option. The number of FTEs needed is derived from information in California’s Public Utilities Commission General Order Number 175-A. FTA assumes a labor rate of \$35.54 per hour for *Maintenance and Repair Workers, General* for this requirement. For Option 1, FTA assumes 80 additional FTEs (at 2080 hours per FTE) for an annual total of 166,400 hours and \$5,913,856 in recurring costs. Option 3 assumes 160 additional FTEs for a total of 332,800 required hours, annually and \$11,827,712 in recurring costs.

**Table 7 – Redundant Worker Protections, Estimated Costs (2023-2032)**

<b>Regulatory Option</b>	<b>FTEs</b>	<b>Required Hours</b>	<b>Labor Rate</b>	<b>Annual Costs</b>
Option 1	80	2,080	\$35.54	\$5,913,856
Option 2	0	0	\$0	\$0
Option 3	160	2,080	\$35.54	\$11,827,712

### *Other Costs*

Additional cost elements for each regulatory option include:

- Developing an RWP manual
- Establishing rail fixed guideway public transportation system responsibilities

- Establishing employee responsibilities
- Conducting job safety briefings
- Conducting risk assessment for redundant protections
- Establishing employee injury and illness program and maintaining records
- Establishing a near miss reporting program and maintaining records
- Other recordkeeping

FTA assumes that each option has the same staffing requirements and costs for the additional cost elements, unless stated otherwise. A breakdown of the costs is listed in Table 8.

**Table 8 – Additional RWP Requirements, Options 1-3**

<b>Requirement</b>	<b>One-Time Costs</b>	<b>Recurring Costs</b>
RWP Manual	\$51,656	
Rail System Responsibilities	\$95,564	\$5,690
Employee Responsibilities		\$516,560
Job Safety Briefing		\$242
Risk Assessment for Redundant Protections (Options 1 and 3)	\$118,910	
Employee Injury and Illness Program and Records		\$35,673
Near Miss Reporting Program and Records	\$951,280	\$166,474
Recordkeeping		\$25,828
<b>Total</b>	<b>\$1,217,410</b>	<b>\$750,467</b>

*Summary of Costs*

Table 9 summarizes undiscounted costs for the three regulatory options. Option 1 has one-time costs of \$2.0 million and annual costs of \$11.3 million. Option 2 has one-time costs of \$1.9 million and \$5.4 million. Finally, Option 3 has one-time costs of \$2.0 million and \$17.2 million in annual costs.

**Table 9 – Summary of Costs by Regulatory Option, 2023-2032**

<b>Regulatory Option</b>	<b>One-Time Costs</b>	<b>Annual Costs</b>	<b>Total Costs (Undiscounted)</b>
<b>Option 1</b>	\$2,010,807	\$11,280,279	\$114,813,598
<b>Option 2</b>	\$1,915,917	\$5,366,415	\$55,580,068
<b>Option 3</b>	\$2,034,827	\$17,194,127	\$173,976,098

Table 10 shows estimated discounted costs for each regulatory option over the 10-year analysis period at a 2 percent discount rate, discounted to 2023. Option 1 has annualized costs of \$11.1 million, Option 2 has annualized costs of \$5.4 million, and Option 3 has annualized costs of \$16.7 million.

**Table 10 – Discounted Costs (2023-2032), 2% Discount Rate**

<b>Requirement</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
RWP Program	\$805,517	\$805,517	\$805,517
RWP Manual	\$48,677	\$48,677	\$48,677
Rail System Responsibilities	\$139,180	\$139,180	\$139,180
Employee Responsibilities	\$4,459,866	\$4,459,866	\$4,459,866
Job Safety Briefing	\$2,088	\$2,088	\$2,088
Minimum Controls and Limitations	\$51,058,933	\$0	\$102,117,867
Roadway Worker Protection Training	\$39,795,269	\$39,795,269	\$39,795,269
Risk Assessment for Redundant Protections	\$112,051	\$0	\$112,051
Employee Injury and Illness Program & Records	\$307,923	\$307,923	\$307,923
Near Miss Reporting Program & Records	\$2,333,712	\$2,333,712	\$2,333,712
Recordkeeping	\$222,993	\$222,993	\$222,993
<b>Total Costs</b>	<b>\$99,286,280</b>	<b>\$48,173,861</b>	<b>\$150,367,799</b>
<b>Annualized Costs</b>	<b>\$11,053,197</b>	<b>\$5,359,021</b>	<b>\$16,739,923</b>

***Net Benefits***

Table 11 shows the estimated net benefits for each regulatory option at a 2 percent discount rate, discounted to 2023. Option 1 has annualized net benefits of \$2.6 million, Option 2

has annualized net benefits of \$4.6 million, and Option 3 has annualized net benefits of -\$120,000.

Option 2, which would prevent an annual average of 1.34 injuries and 0.87 fatalities, yielded the highest net benefit. Option 1 prevents more fatalities and injuries (2.37 injuries and 1.18 fatalities) while also yielding a positive net benefit. While Option 3 would prevent the most fatalities and injuries, it does not have a positive net benefit due to the costs of the required physical redundant protections.

**Table 11 – Net Benefits**

<b>Regulatory Option</b>	<b>Annualized Benefits</b>	<b>Annualized Costs</b>	<b>Annualized Net Benefits (2% Discount Rate)</b>
Option 1	\$13,678,562	\$11,053,197	\$2,625,365
Option 2	\$9,951,177	\$5,359,021	\$4,592,156
Option 3	\$16,621,673	\$16,733,623	-\$111,950

***Sensitivity Analysis***

The net benefits for each regulatory option primarily depend on the estimated number of fatalities they would prevent. FTA conducted a sensitivity analysis to understand how changes to the estimates would affect the relative net benefits of the three options.

If the redundant worker protections that agencies would adopt in Option 1 would prevent more fatalities and injuries than estimated, then the net benefits of Option 1 would increase relative to Option 2. The protections would need to prevent an additional 0.18 fatalities (for an annual average of 1.36 fatalities) for Option 1 to have the same net benefits as Option 2 at a 2 percent discount rate. Similarly, for Option 3, the redundant worker protections would need to prevent an additional .42 fatalities (for an annual average of 1.84 fatalities) for Option 3 to have the same net benefits as Option 2 at a 2 percent discount rate.

## ***Regulatory Alternatives***

FTA selected the requirements of Option 1 for the proposed rule because it would prevent more roadway worker safety events than Option 2 while maintaining net positive benefits. Many current rail transit RWP programs have provisions that allow roadway workers onto the track to perform work without protections beyond their own ability to detect oncoming trains and clear the tracks before their arrival. FTA's internal safety risk management process identified the lack of redundant protections as the most significant contributor to rail transit roadway worker safety events. Similarly, NTSB, TRACS, and many commenters responding to FTA's RFI on Rail Transit Worker Safety also support the use of redundant protections.<sup>7</sup> Because no two RTAs are the same, Option 1 would provide rail transit agencies the flexibility to determine the types of procedural and physical redundant protections to incorporate. Option 1 would also provide a clear role for SSOAs to approve RWP programs and to ensure overall program effectiveness.

## **Regulatory Flexibility Act**

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 et seq.) requires Federal agencies to assess the impact of a regulation on small entities unless the agency determines that the regulation is not expected to have a significant economic impact on a substantial number of small entities.

The proposed rule would create new RWP program requirements for RTAs and SSOAs. Under the Act, public-sector organizations and local governments qualify as small entities if they serve a population of less than 50,000. RTAs do not qualify as small entities because they all operate in urbanized areas with populations of more than 50,000, and SSOAs do not qualify because they are state agencies. FTA has therefore determined that the proposed rule would not have a significant effect on a substantial number of small entities.

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<sup>7</sup> Federal Transit Administration (2021). "Request for Information on Transit Worker Safety." <https://www.federalregister.gov/documents/2021/09/24/2021-20744/request-for-information-on-transit-worker-safety>

## **Unfunded Mandates Reform Act of 1995**

FTA has determined that this rule would not impose unfunded mandates, as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4). This rule does not include a Federal mandate that may result in expenditures of \$100 million or more in any one year, adjusted for inflation, by State, local, and tribal governments in the aggregate or by the private sector. The threshold in 2023 dollars is \$183 million after adjusting for inflation using the gross domestic product implicit price deflator. Additionally, the definition of “Federal mandate” in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal government. The Federal Transit Act permits this type of flexibility.

## **Executive Order 13132 (Federalism Assessment)**

Executive Order 13132 requires agencies to assure meaningful and timely input by State and local officials in the development of regulatory policies that may have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. This action has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 dated August 4, 1999, and FTA determined this action will not have a substantial direct effect or sufficient federalism implications on the States. FTA also determined this action will not preempt any State law or regulation or affect the States' ability to discharge traditional State governmental functions.

## **Executive Order 12372 (Intergovernmental Review)**

The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.

## **Paperwork Reduction Act**

In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*) (PRA), and the White House Office of Management and Budget's (OMB) implementing regulation at 5 CFR 1320.8(d), FTA is seeking approval from OMB for a new information collection that is associated with a notice of proposed rulemaking. FTA is seeking approval from OMB for the information collection request abstracted below.

- *Type of Collection:* Operators of rail public transportation systems.
- *Respondents to Collection:* RTAs in the SSO program, SSOAs, and rail transit workers who access the roadway to perform work.
- *Type of Review:* OMB Clearance. New information collection request.
- *Summary of the Collection:* The collection of information includes: (1) Each RTA would adopt and implement an RWP program to improve transit worker safety that is consistent with Federal and State safety requirements and approved by the SSOA; they would be required to review and update their program manual not less than every two years; (2) Require implementation of comprehensive job safety briefings and reporting of near-misses; (3) Documenting formal training and qualification programs for all workers who access the roadway; (4) Program compliance auditing and monitoring; (5) Periodic request for information; and (6) Ensuring compliance of SSOAs responsibility to approve, oversee and enforce RWP requirements (7) submission of RWP programs and updates to FTA.
- *Frequency:* Bi-Annual, Periodic.

FTA seeks public comment to evaluate whether the proposed collection of information is necessary for the proper performance of FTA's functions, including whether the information will have practical utility; whether the estimation of the burden of the proposed information collection is accurate, including the validity of the methodologies and assumptions used; ways in which the quality, utility, and clarity of the information can be enhanced; and whether the burden

can be minimized, including through the use of automated collection techniques or other forms of information technology.

### **National Environmental Policy Act**

Federal agencies are required to adopt implementing procedures for the National Environmental Policy Act (NEPA) that establish specific criteria for, and identification of, three classes of actions: (1) Those that normally require preparation of an Environmental Impact Statement, (2) those that normally require preparation of an Environmental Assessment, and (3) those that are categorically excluded from further NEPA review (40 CFR 1507.3(b)). This rule qualifies for categorical exclusions under 23 CFR 771.118(c)(4) (planning and administrative activities that do not involve or lead directly to construction). FTA has evaluated whether the rule will involve unusual or extraordinary circumstances and has determined that it will not.

### **Executive Order 12630 (Taking of Private Property)**

FTA has analyzed this rule under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights. FTA does not believe this rule affects a taking of private property or otherwise has taking implications under Executive Order 12630.

### **Executive Order 12988 (Civil Justice Reform)**

This rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

### **Executive Order 13045 (Protection of Children)**

FTA has analyzed this rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. FTA certifies that this action will not cause an environmental risk to health or safety that might disproportionately affect children.

### **Executive Order 13175 (Tribal Consultation)**

FTA has analyzed this rule under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, and believes that it will not have substantial direct effects on



one or more Indian tribes; will not impose substantial direct compliance costs on Indian tribal governments; and will not preempt tribal laws. Therefore, a tribal summary impact statement is not required.

#### **Executive Order 13211 (Energy Effects)**

FTA has analyzed this action under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. FTA has determined that this action is not a significant energy action under that order and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required.

#### **Executive Orders 14096 and 12898 (Environmental Justice)**

Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All) (Apr. 21, 2023) (which builds upon Executive Order 12898) and DOT Order 5610.2(a) (77 FR 27534, May 10, 2012; see: <https://www.transportation.gov/transportation-policy/environmental-justice/departments-transportation-order-56102a>) require DOT agencies to make achieving environmental justice (EJ) part of their mission consistent with statutory authority by identifying, analyzing, and addressing, as appropriate, disproportionate and adverse human health or environmental effects, including those related to climate change and cumulative impacts of environmental and other burdens on communities with EJ concerns. All DOT agencies seek to advance these policy goals and to engage in this analysis as appropriate in rulemaking activities. On August 15, 2012, FTA's Circular 4703.1 became effective, which contains guidance for recipients of FTA financial assistance to incorporate EJ principles into plans, projects, and activities. (See: <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/environmental-justice-policy-guidance-federal-transit>).

FTA has evaluated this action under its environmental justice policies and FTA has determined that this action will not cause disproportionate and adverse human health and environmental effects on communities with EJ concerns.

### **Regulation Identifier Number**

A Regulation Identifier Number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this rule with the Unified Agenda.

### **List of Subjects in 49 CFR Part 671**

Mass transportation, Reporting and recordkeeping requirements, Safety, Transportation.

For the reasons set forth in the preamble, and under the authority of 49 U.S.C. 5329 and the delegations of authority at 49 CFR 1.91, FTA proposes to amend Chapter VI of Title 49, Code of Federal Regulations, by adding part 671, as set forth below:

## **PART 671—RAIL TRANSIT ROADWAY WORKER PROTECTION**

### **Subpart A—General**

Sec.  
671.1 Purpose and Applicability.  
671.3 Policy.  
671.5 Definitions.

### **Subpart B—Roadway Worker Protection (RWP) Program and Manual**

671.11 RWP Program.  
671.13 RWP Manual.

### **Subpart C—Responsibilities**

671.21 Rail Transit Agency.  
671.23 Transit Worker.  
671.25 State Safety Oversight Agency.

### **Subpart D—Required RWP Program Elements**

671.31 Roadway Worker in Charge.  
671.33 Job Safety Briefing.

671.35	Lone Worker.
671.37	Good Faith Safety Challenge.
671.39	Risk-Based Redundant Protections.
671.41	RWP Training and Qualification Program.
671.43	RWP Compliance Monitoring Program.

### **Subpart E—Recordkeeping**

671.51 Recordkeeping.

**Authority:** 49 U.S.C. 5329, 49 CFR 1.91.

### **Subpart A—General**

#### **§ 671.1 Purpose and Applicability.**

(a) The purpose of this part is to set forth the applicability of the rail transit Roadway Worker Protection (RWP) regulation.

(b) This part applies to rail transit agencies (RTA) that receive Federal financial assistance authorized under 49 U.S.C. Chapter 53; and to State Safety Oversight Agencies (SSOA) that oversee the safety of rail fixed guideway public transportation systems. This part does not apply to rail systems that are subject to the safety oversight of the Federal Railroad Administration (FRA).

(c) This part applies to transit workers who access any rail fixed guideway public transportation systems in the performance of work.

#### **§ 671.3 Policy.**

(a) This part establishes minimum safety standards for rail transit Roadway Worker Protection (RWP) to ensure the safe operation of public transportation systems and to prevent accidents, incidents, fatalities, and injuries to transit workers who may access the roadway in the performance of work. Each RTA and SSOA may prescribe additional or more stringent operating rules, safety rules, and other special instructions that are consistent with this part.

(b) The Federal Transit Administration (FTA) has adopted the principles and methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States. Activities conducted to carry out these RWP safety standards must be

integrated into the RTA's SMS, including the Safety Risk Management process, specified in § 673.25 of this chapter, and the Safety Assurance process, specified in § 673.27 of this chapter.

#### **§ 671.5 Definitions.**

As used in this part:

*Accountable Executive* means a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a transit agency; responsibility for carrying out the transit agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the transit agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. 5329(d), and the transit agency's Transit Asset Management Plan in accordance with 49 U.S.C. 5326.

*Ample time* means the time necessary for a roadway worker to be clear of the track zone or in a place of safety 15 seconds before a rail transit vehicle moving at the maximum authorized speed on that track could arrive at the location of the roadway worker.

*Equivalent entity* means an entity that carries out duties similar to that of a Board of Directors, for a recipient or subrecipient of FTA funds under 49 U.S.C. chapter 53, including sufficient authority to review and approve a recipient or subrecipient's Public Transportation Agency Safety Plan.

*Equivalent protection* means alternative designs, materials, or methods that the RTA can demonstrate to the SSOA will provide equal or greater safety for roadway workers than the means specified in this part.

*Flag person* means a roadway worker designated by the RTA to direct or restrict the movement of rail transit vehicles or equipment past a point on a track to provide on-track safety for roadway workers, while engaged solely in performing that function.

*Foul time protection* is a method of establishing working limits in which a roadway worker is notified by the control center that no rail transit vehicles will be authorized to operate within a specific segment of track until the roadway worker reports clear of the track.

*Fouling a track* means the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving rail transit vehicle or on-track equipment. Any time an individual or equipment is within the track zone, it is fouling the track.

*Individual rail transit vehicle detection* means a process by which a lone worker acquires on-track safety by visually detecting approaching rail transit vehicles or equipment and leaving the track in ample time.

*Job safety briefing* means a meeting addressing the requirements of this part that is conducted prior to commencing work by the Roadway Worker in Charge, typically at the job site, to notify roadway workers or other transit workers about the hazards related to the work to be performed and the protections to eliminate or protect against those hazards. Alternatively, briefings can be conducted virtually for those individuals who are working remotely on the job site (e.g., remote drone operators).

*Lone worker* means an individual roadway worker who is not afforded on-track safety by another roadway worker, who is not a member of a roadway work group, and who is not engaged in a common task with another roadway worker.

*Maximum authorized speed* means the highest speed permitted for the movement of rail transit vehicles established by the rail transit vehicle control system, service schedule, and operating rules. This speed is used when calculating ample time.

*Minor tasks* mean those tasks performed without the use of tools during the execution of which a roadway worker or other transit worker can visually assess their surroundings at least every five (5) seconds for approaching rail transit vehicles and that can be performed without violating ample time.

*Near-miss* means a narrowly avoided safety event.

*On-track safety* means a state of freedom from the danger of being struck by a moving rail transit vehicle or other equipment as provided by operating and safety rules that govern track

occupancy by roadway workers, other transit workers, rail transit vehicles, and on-track equipment.

*Place of safety* means a space an individual or individuals can safely occupy outside the track zone, sufficiently clear of any rail transit vehicle, including any on-track equipment, moving on any track.

*Qualified* means a status attained by a roadway worker or other transit worker who has successfully completed required training, including refresher training, for; has demonstrated proficiency in; and is authorized by the RTA to perform the duties of a particular position or function.

*Rail fixed guideway public transportation system* means any fixed guideway system or any such system in engineering or construction, that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction. These systems include but are not limited to rapid rail, heavy rail, light rail, monorail, trolley, inclined plane, funicular, and automated guideway.

*Rail transit agency (RTA)* means any entity that provides services on a rail fixed guideway public transportation system.

*Rail transit vehicle* means any rolling stock used on a rail fixed guideway public transportation system, including but not limited to passenger and maintenance vehicles.

*Rail transit vehicle approach warning* means a method of establishing on-track safety by warning roadway workers of the approach of rail transit vehicles in ample time for them to move to or remain in a place of safety in accordance with the requirements of this part.

*Redundant protection* means at least one additional protection beyond individual rail transit vehicle detection to ensure on-track safety for roadway workers. Redundant protections may be procedural, physical, or both.

*Roadway* means land on which rail transit tracks and support infrastructure have been constructed to support the movement of rail transit vehicles.

*Roadway maintenance machine* means a device which is used on or near rail transit track for maintenance, repair, construction or inspection of track, bridges, roadway, signal, communications, or electric traction systems. Roadway maintenance machines may have road or rail wheels or may be stationary.

*Roadway worker* means a transit worker whose duties involve inspection, construction, maintenance, repairs, or providing on-track safety such as flag persons and watchpersons on or near the roadway or right-of-way or with the potential of fouling track.

*Roadway work group* means two or more roadway workers organized to work together on a common task.

*Roadway Worker in Charge* means a roadway worker who is qualified under this part to establish on-track safety.

*Roadway Worker Protection (RWP)* means the policies, processes, and procedures implemented by an RTA to prevent safety events for transit workers who must access the roadway in the performance of their work.

*RWP manual* means the entire set of the RTA's on-track safety rules and instructions maintained together, including operating rules and other procedures concerning on-track safety protection and on-track safety measures, designed to prevent roadway workers from being struck by rail transit vehicles or other on-track equipment.

*Safety event* means an unexpected outcome resulting in injury or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

*Sight distance* means mean the length of roadway visible ahead for a roadway worker.

*State Safety Oversight Agency (SSOA)* means an agency established by a State that meets the requirements and performs the functions specified by 49 U.S.C. 5329(e) and 49 CFR part 674.

*Track access guide* means a document that describes the physical characteristics of the RTA's track system, including track areas with close or no clearance, curves with blind spots or restricted sight lines, areas with loud noise, and potential environmental conditions that require additional consideration in establishing on-track safety.

*Track zone* means an area identified by transit workers where a person or equipment could be struck by the widest equipment that could occupy the track, and typically is an area within six feet of the outside rail on both sides of any track.

*Transit worker* means any employee, contractor, or volunteer working on behalf of the RTA or SSOA.

*Transit Worker Safety Reporting Program* means the process required under § 673.23 of this chapter that allows transit workers to report safety concerns, including transit worker assaults, near-misses, and unsafe acts and conditions to senior management, provides protections for transit workers who report safety conditions to senior management, and describes transit worker behaviors that may result in disciplinary action.

*Watchperson* means a roadway worker qualified to provide warning to roadway workers of approaching rail transit vehicles or track equipment whose sole duty is to look out for approaching rail transit vehicles and track equipment and provide at least 15 seconds advanced warning plus time to clear based on the maximum authorized track speed for the work location to transit workers before the arrival of rail transit vehicles.

*Working limits* means a segment of track with explicit boundaries upon which rail transit vehicles and on-track equipment may move only as authorized by the roadway worker having control over that defined segment of track.



*Work zone* means the immediate area where work is being performed within the track zone.

## **Subpart B—Roadway Worker Protection (RWP) Program and Manual**

### **§ 671.11 RWP program.**

(a) Each RTA must adopt and implement an approved RWP program to improve transit worker safety that is consistent with Federal and State safety requirements and meets the minimum requirements of this part.

(b) The RWP program must include:

(1) An RWP manual as described in § 671.13.

(2) All of the RWP program elements described in Subpart D.

(c) Each RTA must submit its RWP manual and subsequent updates to its SSOA for review and approval as described in § 671.25.

### **§ 671.13 RWP manual.**

(a) Each RTA must establish and maintain a separate, dedicated manual documenting its RWP program.

(b) The RWP manual must include the terminology, abbreviations, and acronyms used to describe the RWP program activities and requirements.

(c) The RWP manual must document:

(1) All elements of the RWP program in Subpart D.

(2) A definition of RTA and transit worker responsibilities as described in Subpart C – Responsibilities.

(3) Training, qualification, and supervision required for transit workers to access the track zone, by labor category or type of work performed.

(4) Processes and procedures, including any use of roadway workers to provide adequate on-track safety, for all transit workers who may access the track zone in the

performance of their work, including safety and oversight personnel. Procedures for SSOA personnel to access the roadway must conform with the SSOA's risk-based inspection program.

(d) The RWP manual must include or incorporate by reference a track access guide to support on-track safety. The track access guide must be based on a physical survey of the track geometry and condition of the transit system and include, at a minimum:

(1) Locations with limited, close, or no clearance, including locations (such as alcoves, recessed spaces, or other designated places or areas of refuge or safety) with size or access limitations.

(2) Locations subject to increased rail vehicle or on-track equipment braking requirements or reduced rail transit vehicle operator visibility due to precipitation or other weather conditions.

(3) Curves with no or limited visibility.

(4) Locations with limited or no visibility due to obstructions or topography.

(5) All portals with restricted views.

(6) Locations with heavy outside noise or other environment conditions that impact on-track safety.

(7) Any other locations with access considerations.

(e) Following initial approval of the RWP manual by its SSOA, not less than every two years, the RTA must review and update its RWP manual to reflect current conditions and lessons learned in implementing the RWP program and information provided by the SSOA and FTA.

(f) The RTA must update its RWP manual and track access guide as necessary and as soon as practicable upon any change to the system which conflicts with any element of either document.

(g) The RWP manual must be distributed to all transit workers who access the roadway and redistributed after each revision.

### **Subpart C— Responsibilities**

**§ 671.21 Rail transit agency.**

(a) *In General.* Each RTA must establish procedures to:

(1) Provide ample time and determine the appropriate sight distance based on maximum authorized track speeds.

(2) Ensure that individual rail transit vehicle detection is never used as the only form of protection in the track zone.

(3) Provide job safety briefings to all transit workers who must enter a track zone to perform work.

(4) Provide job safety briefings to all transit workers whenever a rule violation is observed.

(5) Provide transit workers with the right to challenge and refuse in good faith any assignment based on on-track safety concerns and resolve such challenges and refusals promptly and equitably.

(6) Require the reporting of unsafe acts, unsafe conditions, and near-misses on the roadway as part of the Transit Worker Safety Reporting Program and described in § 673.23(b) of this chapter.

(7) Ensure all transit workers who must enter a track zone to perform work understand, are qualified in, and comply with the RWP program.

(b) *Equipment and protections.* Each RTA must establish the requirements for on-track safety, including:

(1) Equipment that transit workers must have to access the roadway or a track zone by labor category, including personal protective equipment such as high-reflection vests, safety shoes, and hard hats.

(2) Credentials (e.g., badge, wristband, RWP card) for transit workers to enter the roadway or track zone by labor category and how to display them so they are visible.

(3) Protections for emergency response personnel who must access the roadway or the track zone.

(4) Protections for multiple roadway work groups within a common work area in a track zone.

### **§ 671.23 Transit worker.**

(a) *RWP program.* Each transit worker must follow the requirements of the RTA's RWP program by position and labor category.

(b) *Fouling the track.* A transit worker may only foul the track once they have received appropriate permissions and redundant protections have been established as specified in the RWP manual.

(c) *Acknowledgement of protections providing on-track safety.* A transit worker must understand and acknowledge in writing the protections providing on-track safety measures for their specific task before accessing the roadway or track zone.

(d) *Refusal to foul the track.* A transit worker may refuse to foul the track if the transit worker makes a good faith determination that that they believe any RWP assignment is unsafe or would violate the RTA's RWP program.

(e) *Reporting.* A transit worker must report unsafe acts and conditions and near-misses related to the RWP program as part of the RTA's Transit Worker Safety Reporting Program.

### **§ 671.25 State safety oversight agency.**

(a) *Review and approve RWP program elements.* The SSOA must review and approve the RWP manual and any subsequent updates for each RTA within its jurisdiction within the following deadlines:

(1) Initial approval of the RWP program elements must be completed within 90 calendar days of receipt of the program, and

(2) The SSOA also must submit all approved RWP program elements for each RTA in its jurisdiction, and any subsequent updates, to FTA within 30 calendar days of approving them.

(b) *RWP program oversight.* The SSOA must update its program standard to explain the role of the SSOA in overseeing an RTA's execution of its RWP program.

(c) *Annual RWP program audit.*

(1) The SSOA must conduct an annual audit of the RTA's compliance with its RWP program, including all required RWP program elements, for each RTA that it oversees.

(2) The SSOA must issue a report with any findings and recommendations arising from the audit, which must include, at minimum:

(i) An analysis of the effectiveness of the RWP program, including, at a minimum, a review of:

(A) All RWP-related events over the period covered by the audit.

(B) All RWP-related reports made to the Transit Worker Safety Reporting Program over the period covered by the audit.

(C) All documentation of instances where a transit worker(s) challenged and refused in good faith any assignment based on on-track safety concerns and documentation of the resolution for any such instance during the period covered by the audit.

(D) An assessment of the adequacy of the track access guide, including whether the guide reflects current track geometry and conditions.

(E) A review of all training and qualification records for transit workers who must enter a track zone to perform work.

(F) A representative sample of written job safety briefing confirmations as described in § 671.33.

(G) The compliance monitoring program described in § 671.43.

(ii) Recommendations for improvements, if necessary or appropriate.

(iii) Corrective action plan(s), if necessary or appropriate, must be, developed and executed consistent with requirements established in part 674.

(3) The RTA must be given an opportunity to comment on any findings and recommendations.

#### **Subpart D— Required RWP Program Elements**

##### **§ 671.31 Roadway worker in charge.**

(a) *On-track safety and supervision.* The RTA must designate one roadway worker in charge for each roadway work group whose duties require fouling a track.

(1) The roadway worker in charge must be qualified under the RTA's training and qualification program as specified in § 671.41.

(2) The roadway worker in charge may be designated generally or may be designated specifically for a particular work situation.

(3) The roadway worker in charge is responsible for the on-track safety for all members of the roadway work group.

(4) The roadway worker in charge must serve only the function of maintaining on-track safety for all members of the roadway work group and perform no other unrelated job function while designated for duty.

(b) *Communication.* The RTA must ensure that the roadway worker in charge provides a job safety briefing to all roadway workers before any member of a roadway work group fouls a track, following the requirements specified in § 671.33.

(1) The roadway worker in charge must provide the job safety briefing to all members of the roadway work group before the on-track safety procedures change during the work period, or immediately following an observed violation of on-track safety procedures before track zone work continues.

(2) In the event of an emergency, any roadway worker who cannot be notified in advance of changes to on-track safety, must be warned immediately to leave the roadway and must not return until on-track safety is re-established, and a job safety briefing is completed.

**§ 671.33 Job safety briefing.**

(a) *General.* The RTA must ensure the roadway worker in charge provides any roadway worker who must foul a track with a job safety briefing prior to fouling the track, every time the roadway worker fouls the track.

(b) *Elements.* The job safety briefing must include, at a minimum, the following, as appropriate:

(1) A discussion of the nature of the work to be performed and the characteristics of the work, including work plans for multiple roadway worker groups within a single work area.

(2) Working limits.

(3) The hazards involved in performing the work, as described in Federal Railroad Administration and the Occupational Safety and Health Administration's guidance on hazard identification as part of a job safety briefing.

(4) Information on how on-track safety is to be provided for each track identified to be fouled and identification and location of key personnel such as a watchperson and the roadway worker in charge.

(5) Instructions for each on-track safety procedure to be followed, including appropriate flags and proper flag placement.

(6) Communication roles and responsibilities for all transit workers involved in the work.

(7) Safety information about any adjacent track, defined as track next to or adjoining the track zone where on-track safety has been established, and identification of roadway maintenance machines or on-track equipment that will foul such tracks.

(8) Information on the accessibility of the roadway worker in charge and alternative procedures in the event the roadway worker in charge is no longer accessible to members of the roadway work group.

(9) Required personal protective equipment.

(10) Designated place(s) of safety of a sufficient size to accommodate all roadway workers within the work area.

(11) The means for determining ample time.

(c) *Confirmation and written acknowledgement.* A job safety briefing is complete only after:

(1) The roadway worker in charge confirms that each roadway worker understands the on-track safety procedures and instructions.

(2) Each roadway worker acknowledges the briefing and the requirement to use the required personal protective equipment in writing.

(3) The roadway worker in charge confirms in writing that they attest to each roadway worker's understanding of the briefing and has received written acknowledgement of the briefing from each worker.

(d) *Follow-up briefings.* If there is any change in the scope of work or roadway work group after the initial job safety briefing, or if a violation of on-track safety is observed, a follow-up job safety briefing must be conducted.

#### **§ 671.35 Lone worker.**

(a) *On-track safety and supervision.* The RTA may authorize lone workers to perform limited duties that require fouling a track.

(1) The lone worker must be qualified as a roadway worker in charge and lone worker under the RTA's training and qualification program as specified in § 671.41.

(2) The lone worker may perform routine inspection or minor tasks and move from one location to another. The lone worker may not use power tools and may only access locations defined in the track access guide as appropriate for lone workers, i.e., no loud noises, no restricted clearances, etc.



(3) The lone worker may not use individual rail transit vehicle detection, where the lone worker is solely responsible for seeing approaching trains and clearing the track before the trains arrive, as the only form of on-track safety.

(b) *Communication.* Each lone worker must communicate prior to fouling the track with a supervisor or another designated employee to receive an on-track safety job briefing consisting of the elements in § 671.33(b), including a discussion of their planned work activities and the procedures that they intend to use to establish on-track safety. The lone worker must acknowledge and document the job safety briefing in writing consistent with § 671.33(c).

### **§ 671.37 Good faith safety challenge.**

(a) *Written procedure.* Each RTA must document its procedures that provide to every roadway worker the right to challenge and refuse in good faith any RWP assignment they believe is unsafe or would violate the RTA's RWP program.

(b) *Prompt and equitable resolution.* The written procedure must include methods or processes to achieve prompt and equitable resolution of any challenges and refusals made.

(c) *Requirements.* The written procedure must include a requirement that the roadway worker provide a description of the safety concern regarding on-track safety and must remain clear of the roadway or track zone until the challenge and refusal is resolved.

### **§ 671.39 Risk-based redundant protections.**

(a) *General requirements.*

(1) Each RTA must identify and provide redundant protections for each category of work roadway workers perform the roadway or track.

(2) Redundant protections must be established to ensure on-track safety for multiple roadway work groups within a common work area.

(b) *Safety risk assessment to determine redundant protections.* Each RTA must assess the risk associated with transit workers accessing the roadway using the methods and processes established under § 673.25(c) of this chapter. The RTA must use the methods and processes

established under § 673.25(d) of this chapter to establish redundant protections for each category of work performed by roadway workers on the rail transit system and must include lone workers.

(1) The safety risk assessment must be consistent with the RTA's Agency Safety Plan and the SSOA's Program Standard.

(2) The safety risk assessment may be supplemented by engineering assessments, inputs from the safety assurance process established under § 673.27 of this chapter, the results of safety event investigation, and other safety risk management strategies or approaches.

(3) The RTA must review and update the safety risk assessment at least every two years to include current conditions and lessons learned from safety events, actions taken to address reports of unsafe acts and conditions, and near-misses, and results from compliance monitoring regarding the effectiveness of the redundant protections.

(4) The SSOA may also identify and require the RTA to implement alternate redundant protections based on the RTA's unique operating characteristics and capabilities.

(c) *Categories of work requiring redundant protections.* Redundant protections must be identified for roadway workers performing different categories of work on the roadway and within track zones, which may include but are not limited to categories such as:

(1) Roadway workers moving from one track zone location to another.

(2) Roadway workers performing minor tasks.

(3) Roadway workers conducting visual inspections.

(4) Roadway workers using hand tools, machines, or equipment in conducting testing of track system components or non-visual inspections.

(5) Roadway workers using hand tools, machines, or equipment in performing maintenance, construction, or repairs.

(6) Lone workers accessing the roadway or track zone or performing visual inspections or minor tasks.

(d) *Types of redundant protections.*

(1) Redundant protections may be procedural or physical.

(i) Procedural protections alert rail transit vehicle operators to the presence of roadway workers and use radio communications, personnel, signage, or other means to direct rail transit vehicle movement.

(ii) Physical protections physically control the movement of rail transit vehicles into or through a work zone.

(2) Redundant protections may include:

(i) Approaches consistent with the Federal Railroad Administration rules governing redundant protections.

(ii) Rail transit vehicle approach warning.

(iii) Foul time.

(iv) Exclusive track occupancy, defined as a method of establishing working limits, as part of on-track safety, in which movement authority of rail transit vehicles and other equipment is withheld by the control center or restricted by flag persons and provided by a roadway worker in charge.

(v) Warning signs, flags, or lights.

(vi) Flag persons.

(vii) Lock outs from the rail transit vehicle control systems or lining and locking track switches or otherwise physically preventing entry and movement of rail transit vehicles.

(viii) Secondary warning devices and alert systems.

(ix) Shunt devices and portable trip stops to reduce the likelihood of rail transit vehicles from entering work zone with workers.

(x) Restricting work to times when propulsion power is down with verification that track is out of service, and when barriers are placed that physically prevent rail transit vehicles, including on-track equipment, from entering the work zone.

(xi) Use of walkways in tunnels and on elevated structures to reduce roadway worker time in the track zone.

(xii) Speed restrictions.

(3) Redundant protections for lone workers must include, at a minimum, foul time or an equivalent protection approved by the SSOA.

**§ 671.41 RWP training and qualification program.**

(a) *General.* Each RTA must adopt an RWP training program.

(1) The RWP training program must address all transit workers responsible for on-track safety, by position, including roadway workers, operations control center personnel, rail transit vehicle operators, operators of on-track equipment and roadway maintenance machines, and any others with a role in providing on-track safety or fouling a track for the performance of work.

(2) The RWP training program must be completed for the relevant position before an RTA may assign a transit worker to perform the duties of a roadway worker, to oversee or supervise access to the track zone from the operations control center, or to operate vehicles, on-track equipment, and roadway maintenance machines on the rail transit system.

(3) The RWP training program must address RWP hazard recognition and mitigation, and lessons learned through the results of compliance testing, near-miss reports, reports of unsafe acts or conditions, and feedback received on the training program.

(4) The RWP training program must include initial and refresher training, by position. Refresher training must occur every two years at a minimum.

(5) The RTA must review and update its RWP training program not less than every two years, to reflect lessons learned in implementing the RWP program and information provided by the SSOA and FTA. The RTA must provide an opportunity for roadway worker involvement in the RWP training program review and update process.

(b) *Required elements.* The RWP training program must include interactive training with the opportunity to ask the RWP trainer questions and raise and discuss RWP issues.

(1) Initial training must include experience in a representative field setting.

(2) Initial and refresher training must include demonstrations and assessments to ensure the ability to comply with RWP instructions given by transit workers performing, or responsible for, on-track safety and RWP functions.

(c) *Minimum contents for RWP training.* The RWP training program must address the following minimum contents:

(1) How to interpret and use the RTA's RWP manual.

(2) How to challenge and refuse in good faith RWP assignments.

(3) How to report unsafe acts, unsafe conditions, and near-misses after they occur, and the mandatory duty to make such reports.

(4) Recognition of the track zone and understanding of the space around tracks within which on-track safety is required, including use of the track access guide.

(5) The functions and responsibilities of all transit workers involved in on-track safety, by position.

(6) Proper compliance with on-track safety instructions given by transit workers performing or responsible for on-track safety functions.

(7) Signals and directions given by watchpersons, and the proper procedures upon receiving a rail transit vehicle approach warning from a watchperson.

(8) The hazards associated with working on or near rail transit tracks to include traction power, if applicable.

(9) Rules and procedures for redundant protections identified under 671.37 and how they are applied to RWP.

(10) Requirements for safely crossing rail transit tracks in yards and on the mainline.

(d) *Specialized training and qualification for transit workers with additional responsibilities for on-track safety.* The RWP training program must include additional training for watchpersons, flag persons, lone workers, roadway workers in charge, and other transit workers with responsibilities for establishing, supervising, and monitoring on-track safety.

(1) This training must cover the content and application of the additional RWP program requirements carried out by these positions and must address the relevant physical characteristics of the RTA's system where on-track safety may be established.

(2) This training must include demonstrations and assessments to confirm the transit worker's ability to perform these additional responsibilities.

(3) Refresher training on additional responsibilities for on-track safety, by position, must occur every two years at a minimum.

(e) *Competency and qualification of training personnel.* Each RTA must ensure that transit workers providing RWP training are qualified and have active RWP certification at the RTA to provide effective RWP training, and at a minimum must consider the following:

(1) A trainer's experience and knowledge of effective training techniques in the chosen learning environment.

(2) A trainer's experience with the RTA RWP program.

(3) A trainer's knowledge of the RTA RWP rules, operations, and operating environment, including applicable operating rules.

(4) A trainer's knowledge of the training requirements specified in this part.

#### **§ 671.43 RWP compliance monitoring program.**

(a) *General.* Each RTA must adopt a program for monitoring its compliance with the requirements specified in its RWP program.

(b) *Required elements.* The RWP compliance monitoring program must include inspections, observations, and audits, consistent with safety performance monitoring and

measurement requirements in the RTA's Agency Safety Plan described in § 673.27 of this chapter and the SSOA's Program Standard.

(1) The RTA must provide monthly reports to the SSOA documenting the RTA's compliance with and sufficiency of the RWP program.

(2) The RTA must provide an annual briefing to the Accountable Executive and the Board of Directors, or equivalent entity, regarding the performance of the RWP program and any identified deficiencies requiring corrective action.

### **Subpart E—Recordkeeping**

#### **§ 671.51 Recordkeeping.**

(a) Each RTA must maintain the documents that set forth its RWP program, documents related to the implementation of the RWP program and results from the procedures, processes, assessments, training, and activities specified in this part for the RWP program.

(b) Each RTA must maintain records of its compliance with this requirement, including records of transit worker RWP training and refresher training, for a minimum of three years after they are created.

(c) These documents must be made available upon request by the FTA or other Federal entity, or a SSOA having jurisdiction.

**Veronica Vanterpool,**

*Acting Administrator.*