

# UNITED STATES DEPARTMENT OF TRANSPORTATION

## Federal Transit Administration

[Safety Directive No. 16-4, Notice No. 1]

### Safety Directive Under 49 U.S.C. § 5329

#### Required Actions to Address Findings from Federal Transit Administration Investigations Conducted at the Washington Metropolitan Area Transit Authority

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

**SUMMARY:** FTA issues Safety Directive 16-4 to require the Washington Metropolitan Area Transit Authority (WMATA) to address findings documented in FTA's Spring 2016 "Safety Blitz" investigation into track integrity (including findings from investigation of the August 6, 2015 derailment near the Smithsonian Station and the July 29, 2016 derailment near the East Falls Church Station). This Safety Directive is being released concurrently with FTA's Track Integrity Investigation Final Report (August 8, 2016). The Safety Directive mandates that WMATA complete 12 required actions within the Metrorail system to address 12 safety findings in four distinct categories of review: (1) track inspection resources and training; (2) WMATA's Office of Transit and Structures 1000 Manual; (3) track quality oversight; and (4) track construction and maintenance.

**FOR FURTHER INFORMATION CONTACT:** For program matters, Sean Thompson, Director, Office of Safety Review, Office of Transit Oversight and Safety, telephone (202) 366-3616 or [Sean.Thompson@dot.gov](mailto:Sean.Thompson@dot.gov); for legal matters, Candace Key, Attorney Advisor, FTA, telephone 202-366-9178 or [Candace.Key@dot.gov](mailto:Candace.Key@dot.gov).

#### SUPPLEMENTARY INFORMATION:

WMATA serves the National Capital Region and manages the second largest heavy rail transit system (Metrorail) in the United States. Metrorail averages approximately 730,000 weekday passengers. Like other heavy rail transit systems across the United States, Metrorail faces challenges in maintaining the safety and reliability of the system, particularly as the system continues to age and public funding decreases. Additionally, in recent years WMATA has failed to allocate available resources appropriately to ensure that the Metrorail system remains safe for both passengers and workers.

WMATA's challenges were compounded by the lack of an effective State Safety Oversight Agency (SSOA) with authority to enforce safety compliance. This led the FTA in October 2015 to temporarily assume direct safety oversight of the Metrorail system until the local authorities responsible for funding and managing WMATA have established a new State Safety Oversight program that is compliant with Federal law and will ensure that WMATA conducts its Metrorail operations safely and responsibly.

Since the FTA assumed temporary and direct safety oversight of WMATA Metrorail, WMATA

has taken a number of critical steps to address safety deficiencies in the Metrorail system (including implementing the “SafeTrack” program), but significant additional work must be done to return the system to a good state of repair. The FTA supports these efforts and will continue to serve in a safety oversight role until the District of Columbia, the State of Maryland and the Commonwealth of Virginia stand up a new SSOA that meets the requirements of federal law.

This Safety Directive is based on a comprehensive track integrity investigation of the Metrorail system that the FTA WMATA Safety Oversight team conducted from March through June 2016. The track integrity investigation, one part of a three part “Safety Blitz” of the system,<sup>1</sup> focused on the quality of WMATA’s track standards, the effectiveness of the procedures for identifying track defects and imposing speed restrictions, the quality of training for track inspectors and maintainers, the resources currently available to support track inspection, coordination and information sharing across maintenance departments, and specific track maintenance and construction quality program issues. As a result of its investigation, FTA has identified a number of systemic track integrity deficiencies that are described in detail in FTA’s Track Integrity Investigation Final Report (August 8, 2016).

Moreover, on July 29, 2016, a Metrorail passenger train derailed at a crossover outside of the East Falls Church Station. While the investigation is on-going, visual inspection conducted by FTA as part of the derailment investigation confirmed poor crosstie condition, loose and missing fasteners, and evidence of excessive lateral rail movement and wide gauge. These conditions clearly exceeded allowable safety parameters specified in WMATA’s track safety standards, and were not found or addressed by WMATA personnel prior to the derailment. There is also evidence that WMATA was not adhering to established standards regarding the frequency of track inspections. FTA’s preliminary findings from this continuing investigation are consistent with its findings from the Safety Blitz investigation.

In response to this derailment, WMATA has committed to performing detailed, supervisory pre-inspections of all turnouts, switches and crossovers required to be used to facilitate SafeTrack closures and single tracking operations. WMATA also will start an immediate special supervisory inspection of all mainline tracks. Finally, WMATA will perform quality audits of both SafeTrack and mainline supervisory inspections. FTA understands that these corrective actions are already underway, and FTA expects WMATA to continue these actions through the remainder of the SafeTrack program.

The FTA will monitor WMATA activity to implement these corrective actions. In addition, as WMATA works to improve the quality of its track inspection and maintenance programs, the findings and required actions outlined in this Directive will assist the agency in focusing its attention on safety-critical priorities as it develops and implements new programs to enhance its track inspection and maintenance programs.

Additionally, the FTA intends to work with WMATA to review and revise all pre-existing corrective action plans (including corrective action plans relating to track integrity) as appropriate to ensure that WMATA continues to make timely progress towards returning Metrorail to a good

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<sup>1</sup> The other two parts involved investigations of red signal overruns and vehicle securement. FTA will release investigation reports concerning these matters soon.

state of repair.

**DIRECTIVE AND REQUIRED ACTIONS:**

In accordance with 49 U.S.C. § 5329 and the authority delegated to the FTA Administrator by the Secretary of Transportation, 49 C.F.R. § 1.91, the FTA directs WMATA to take the following actions:

<b>Metrорail Category 1: Track Inspection Resources and Training</b>			
<b>Findings</b>		<b>Required Actions</b>	
Finding 1	Track inspectors receive inadequate training.	T-1	WMATA must develop additional track inspection training and certification requirements, and expand mentoring.
Finding 2	There is insufficient time for track inspection.	T-2	WMATA must establish a new track inspection plan that expands time available for track inspection through additional inspection shifts (i.e., evening and nighttime) and more frequent inspections of priority locations.
Finding 3	Excessive wear and deficient crosstie condition in special trackwork is not being identified and addressed.	T-3	WMATA must commit adequate resources and technically qualified personnel to the inspection of special trackwork and the completion of required corrective maintenance.
Finding 4	The TGV is underutilized as part of WMATA’s track inspection program.	T-4	WMATA must expand the use of the TGV in its track inspection program, and ensure the training and certification of the TGV crew.
<b>Metrорail Category 2: TRST 1000 Manual</b>			
<b>Findings</b>		<b>Required Actions</b>	
Finding 5	The TRST 1000 Manual is not a field document focused on inspection safety limits.	T-5	WMATA must revise the TRST 1000 manual, or establish a separate track inspection manual, focused on inspection safety limits.
Finding 6	WMATA does not have a clear process in place for track inspectors and supervisors to impose and remove speed restrictions.	T-6	WMATA must establish a clear process for imposing and removing speed restrictions.
<b>Metrорail Category 3: Track Quality Oversight</b>			
<b>Findings</b>		<b>Required Actions</b>	
Finding 7	WMATA fails to use inspection data to inform and prioritize track maintenance.	T-7	WMATA must develop a formal procedure and protocol to ensure the maintenance managers and track inspectors share information and jointly establish maintenance priorities.
Finding 8	Maintenance managers require additional training and resources to act on inspection data.	T-8	WMATA must provide additional training and resources to maintenance managers related to the use of inspection information to establish maintenance priorities.
Finding 9	Current inspection and	T-9	WMATA must ensure that track inspectors and maintenance

	maintenance activity does not adequately address tunnel drainage system.		managers prioritize drainage defects.
Finding 10	Additional supervision is needed for both track inspection and track maintenance.	T-10	WMATA must provide additional supervisory staff or contractors to oversee track inspection and track maintenance activities and ensure conformance with WMATA track safety standards.
<b>Metrorail Category 4: Track Construction and Maintenance</b>			
Finding 11	WMATA does not apply the same quality control testing program to its force account installed fasteners that it would apply to those installed by a contractor while building a new line segment.	T-11	WMATA must develop a special inspection and repair plan to address inappropriate stud bolt installation and missing fasteners, and ensure track maintainers and contractors are trained in stud bolt installation and rail clip installation, and that work is adequately overseen.
Finding 12	In certain instances, WMATA uses welding practices inconsistent with its construction standards to install cables to ensure train control and electrical continuity around mechanical joints.	T-12	CADWELD C-bonds must be identified and replaced with huck bolted cables in the webs of the rail as specified in WMATA's design and construction standards.

WMATA will have thirty (30) days from the date of this Safety Directive to respond to the required actions set out in this Safety Directive, including providing additional information for consideration and proposing any equivalent alternate actions for consideration by FTA's Acting Administrator.

Sixty (60) days after the date of this Safety Directive, WMATA must submit a corrective action plan(s) to FTA that identifies the specific actions that will be performed to address required action specified in this Safety Directive; the milestone schedule for completing corrective action; the responsible parties for action and their contact information; and the verification strategy for ensuring the completion of required work.

FTA will review and approve (with revisions as necessary) WMATA's corrective action plan(s) and will monitor the agency's progress in resolving each finding and required action.

FTA will continue to conduct monthly meetings with WMATA to review progress until such time as FTA determines that these meetings are no longer needed or may be conducted with less frequency.

### **Petitions for Relief or Reconsideration**

WMATA may petition for special approval to take actions not in accordance with this directive or may petition for reconsideration. Such petitions shall be submitted to the Acting Administrator, who shall be authorized to dispose of those requests without the necessity of amending this directive. In reviewing any petition for special approval, the Acting Administrator shall grant petitions only where WMATA has clearly articulated an alternative

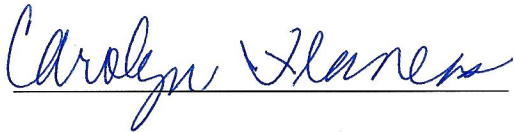
action that will provide, in the Acting Administrator's judgment, at least a level of safety equivalent to that provided by compliance with this directive. In reviewing any petition for reconsideration, the Acting Administrator shall grant petitions only where WMATA has clearly articulated material facts not in evidence at the time of this directive.

A petition for special approval or for reconsideration must be filed within thirty (30) days from the date of this directive.

### **Enforcement**

Any violation of this directive or the terms of any written plan adopted pursuant to this directive will be managed in accordance with FTA's authorities under 49 U.S.C. § 5329, including but not limited to (1) withholding up to 25 percent of financial assistance to WMATA under 49 U.S.C. § 5307; (2) issuing restrictions, closures, or prohibitions on service (*e.g.*, mandatory speed restrictions, shutdown of a Metrorail line, complete system shutdown) as necessary and appropriate to address unsafe conditions or practices that present a substantial risk of death or personal injury under 49 U.S.C. § 5329(h); and (3) directing WMATA to use Federal financial assistance to correct safety deficiencies pursuant to 49 U.S.C. § 5329(g)(1)(D).

Issued on: August 8, 2016

A handwritten signature in blue ink that reads "Carolyn Flowers". The signature is written in a cursive style and is positioned above a horizontal line.

**Carolyn Flowers**

Acting Administrator  
Federal Transit Administration  
U.S. Department of Transportation