



Testimony

Before the Subcommittee on
Government Operations, Committee on
Oversight and Government Reform,
House of Representatives

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**WASHINGTON
METROPOLITAN AREA
TRANSIT AUTHORITY**

**Improved Planning of
Future Rehabilitation
Projects Could Prevent
Limitations Identified with
SafeTrack**

Statement of Mark Goldstein, Director, Physical
Infrastructure

Mr. Chairman, Ranking Member, and Members of the Subcommittee:

Thank you for the opportunity to discuss our March 2017 report on the Washington Metropolitan Area Transit Authority's (WMATA) SafeTrack project.¹ Recent inquiries into WMATA's Metrorail system—the nation's second-busiest—have revealed a range of serious safety issues.² In response to some of these issues, as well as its backlog of track work, WMATA began SafeTrack in May 2016. According to WMATA, SafeTrack is a unique effort, designed to address urgent safety issues with railroad track infrastructure.

WMATA's Metrorail system has experienced a variety of serious safety incidents in recent years. On June 22, 2009, one Metrorail train struck the rear of a second train stopped near the Fort Totten station on the Red Line, resulting in nine deaths and over 50 injuries. The National Transportation Safety Board (NTSB) report on the incident found, among other things, evidence of an ineffective safety culture within WMATA.³ More recently, WMATA has experienced smoke and fire incidents involving the electrical cables and other components supporting its third-rail system.⁴ For example, on January 12, 2015, a Metrorail train stopped after encountering heavy smoke in the tunnel between the L'Enfant Plaza station and the Potomac River Bridge on the Yellow Line caused by an electrical issue, resulting in one passenger's death and numerous injuries. In a report on this incident, the NTSB again found a lack of a safety culture within WMATA.⁵ In November 2015, WMATA's current

¹ GAO, *Washington Metropolitan Area Transit Authority: Improved Planning of Future Rehabilitation Projects Could Prevent Limitations Identified with SafeTrack*, [GAO-17-348](#) (Washington, D.C.: March 14, 2017).

² According to the American Public Transportation Association, WMATA's Metrorail system had the second-highest average daily ridership in 2016.

³ NTSB, *Collision of Two Washington Metropolitan Area Transit Authority Metrorail Trains Near Fort Totten Station*, NTSB/RAR-10/02. According to NTSB, organizations with effective safety cultures are generally described as having a commitment to safety that permeates the entire organization; that is, senior management demonstrates a commitment to safety and a concern for hazards that are shared by employees at all levels within the organization.

⁴ The third rail is a high voltage rail bar along the track that carries electrical energy to run the trains on that track.

⁵ NTSB, *Washington Metropolitan Area Transit Authority L'Enfant Plaza Station Electrical Arcing and Smoke Accident*, NTSB/RAR-16/01.

General Manager began his tenure and initiated a variety of efforts to address WMATA's Metrorail safety issues.

On May 19, 2016, WMATA announced SafeTrack, a large-scale rehabilitation project to address safety issues and rehabilitate the Metrorail system on an accelerated basis by expanding all available maintenance windows.⁶ The primary focus of SafeTrack is rehabilitating Metrorail's track infrastructure by replacing over 45,000 crossties, which are the wooden beams that lay across the railroad bed on above ground sections of the track, and 35,000 fasteners, which secure rails directly to concrete on underground or aerial sections of the track where wooden crossties are not used. SafeTrack is being carried out through a series of "surges" that involve intensive work on specific areas of track that are either shut down to normal traffic or have only one of the two tracks open, a type of operation known as "single tracking." According to WMATA's initial announcement, the project was designed to bring Metrorail's track infrastructure to a "state of good repair," which WMATA defines as the condition at which individual railroad assets can be sustained at ongoing, annual replacement rates under normal maintenance cycles. According to a March 2017 report from the Federal Transit Administration (FTA), the total cost of SafeTrack is estimated to be over \$133 million.

My testimony today summarizes findings from our report that examined the planning and implementation of SafeTrack.⁷ Accordingly, this testimony addresses the extent to which:

1. WMATA's planning of the SafeTrack project was consistent with leading project management practices, and
2. WMATA's implementation of SafeTrack was consistent with these practices.

In our report, we recommended that WMATA develop a policy that requires and includes relevant procedures specifying that certain actions be taken prior to starting future large-scale rehabilitation projects.

⁶ Throughout this statement, we refer to "large-scale rehabilitation projects" as projects that involve extended disruption to normal operating service for the maintenance or replacement of transit infrastructure.

⁷ Our full report also discusses the steps taken by FTA to oversee SafeTrack, and we have work planned to examine FTA and Federal Railroad Administration safety oversight programs.

To conduct this work, we examined documentation and interviewed WMATA officials on how WMATA planned SafeTrack, including the alternative plans it developed, as well as how it carried out work for SafeTrack. We also examined WMATA documentation on the quality control and quality assurance frameworks in place for SafeTrack as well as the results of WMATA's own SafeTrack quality reviews. We also reviewed recent investigations and studies regarding WMATA, including those from the Department of Transportation's (DOT) Office of Inspector General (OIG), NTSB, and WMATA's OIG. We also interviewed officials from the DOT's OIG, FTA, NTSB, and WMATA's OIG about their work with WMATA and perspectives on SafeTrack. Additionally, we interviewed officials from local jurisdictions (the District of Columbia; Montgomery County, Maryland; and Fairfax County, Virginia) about the coordination and communication between them and WMATA officials concerning SafeTrack. We also compared WMATA's planning and implementation of SafeTrack to leading project management practices identified by the Project Management Institute (PMI) in its *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*,⁸ and by the Transit Cooperative Research Program (TCRP) in its *Report 157*, which focuses on rehabilitation of transit assets.⁹ Further details on our scope and methodology are included in our report. The work on which this statement is based was performed in accordance with generally accepted government auditing standards.

⁸ Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, Fifth Edition, 2013. *PMBOK* is a trademark of Project Management Institute, Inc. PMI is a not-for-profit association that provides global standards for, among other things, project and program management. These standards are utilized worldwide and provide guidance on how to manage various aspects of projects, programs, and portfolios.

⁹ TCRP, *State of Good Repair: Prioritizing the Rehabilitation and Replacement of Existing Capital Assets and Evaluating the Implications for Transit, Report 157* (Washington, D.C.: 2012). The FTA sponsored this report.

WMATA Did Not Fully Follow Leading Practices When Planning SafeTrack

In our March 2017 report, we found that WMATA's planning of SafeTrack did not fully align with leading project management practices.¹⁰ While WMATA generally followed leading practices to coordinate with stakeholders, it did not comprehensively collect and use data on the condition of its assets, analyze project alternatives, and develop a project management plan before starting work. WMATA did not follow these practices because it believed it needed to start work immediately to address critical safety issues. Further, WMATA does not have a policy that requires, and includes relevant procedures for how to carry out, these planning activities for large-scale rehabilitation projects. More specifically:

- *WMATA's Collection and Use of Data in Planning SafeTrack Did Not Align with Leading Practices.* Leading management practices for transit rehabilitation projects state that transit agencies should collect and use data on assets when planning projects.¹¹ Although WMATA inspected its track assets when planning SafeTrack, those inspections were not comprehensive and did not collect detailed data on the condition of all track infrastructure, such as all interlockings, where trains cross from one track to another, or of all track power systems, including the electrical cables that power the third rail system. According to WMATA officials we spoke with, electrical cables were not included in the inspections leading up to SafeTrack because the Track and Structures department that lead the inspections is not responsible for the maintenance of the third rail system. In addition, serious safety incidents continued to occur on the Metrorail system during SafeTrack on assets that were not being addressed in the project. For example, on July 29, 2016, a train derailed near the East Falls Church station. This derailment occurred on an interlocking, which while part of the Track and Structures department's responsibilities, was not scheduled at that time for rehabilitation under SafeTrack. As a result of using limited data on its track infrastructure, WMATA's decision makers may not have used sufficient information to develop project objectives and to properly prioritize SafeTrack work.
- *WMATA's Analysis of Alternatives for Improving the State of Repair of the Track Did Not Align with Leading Practices.* Leading management practices for transit rehabilitation projects state that transit agencies

¹⁰ See [GAO-17-348](#) for a full discussion of the leading project management practices.

¹¹ TCRP, 2012.

should have a policy in place for evaluating project alternatives.¹² Though WMATA developed three alternatives for SafeTrack—including options for 8, 10, and 22-month work schedules—it did not determine the costs and impacts of each alternative, or assess them to determine which approach may have resulted in greater efficiencies, lower costs, or less disruption for riders and local jurisdictions. Moving forward, WMATA plans to spend over \$56 million a year on track rehabilitation projects alone starting in fiscal year 2018. By not having a policy and procedures in place requiring analysis of alternatives prior to starting future large-scale rehabilitation projects, WMATA lacks a framework to comprehensively plan such projects to meet their objectives.

- *SafeTrack Work Began Before Key Elements of a Project Management Plan Were in Place.* Leading project management practices emphasize the importance of developing project management plans.¹³ Federal law requires that recipients of federal financial assistance for a major capital project related to public transportation prepare a project management plan approved by the Secretary of Transportation, and carry out the project in accordance with the project management plan.¹⁴ Before WMATA began SafeTrack, it lacked a comprehensive project management plan, which is a key tool to ensure a project is completed on-time, within-budget, and according to quality standards.¹⁵ WMATA officials told us that they implemented SafeTrack to respond to a critical safety situation and that they could not postpone this track work to develop a project management plan. SafeTrack, though, involves an unprecedented amount of track work performed over an extended

¹² TCRP, 2012.

¹³ PMI, 2013. The PMI PMBOK® Guide notes that the content of such plans can vary depending upon the application area and complexity of the project.

¹⁴ 49 U.S.C. § 5327(a). However, FTA officials told us that, based on discretion provided in agency regulations, a project management plan is not necessarily required prior to the start of a major capital project. 49 C.F.R. § 633.21. Major capital projects include, among other things, projects that involve the rehabilitation or modernization of an existing fixed guideway with a total project cost in excess of \$100 million. 49 C.F.R. § 633.5.

¹⁵ FTA found that SafeTrack met the \$100-million criteria for a major capital project when it approved an additional \$20 million in safety-related federal funding for the project in mid-June 2016, during the first surge. WMATA submitted a project management plan to FTA in September 2016. FTA initially found the plan lacked sufficient detail, but after WMATA made subsequent revisions, according to FTA, it conditionally approved the plan in March 2017. FTA also requested additional changes to the plan, such as further explanation of risk management.

period, significantly disrupts ridership, and is estimated to cost well over \$100 million. WMATA currently lacks a policy and procedures requiring the development of a project management plan prior to starting large-scale rehabilitation projects like SafeTrack, according to WMATA officials, regardless of whether the work is to be completed in response to an emergency situation or within WMATA's normal state of good repair efforts.

We concluded in our report that, without a policy requiring planning processes that are more consistent with leading project management practices, WMATA's ability to effectively address future infrastructure challenges may be limited. This situation is particularly true for future large-scale rehabilitation projects that may not be subject to FTA's project management oversight authority, but which could still benefit from having a project management plan in place before beginning the project, consistent with leading practices.¹⁶ To ensure future large-scale rehabilitation projects are in line with leading project management practices, we recommended that WMATA develop a policy that requires, and includes relevant procedures specifying, that it, prior to starting large-scale projects, (1) use detailed asset data to develop project objectives; (2) analyze alternatives; and (3) develop a project management plan for those projects that may not be designated as major capital projects. WMATA agreed with our findings and conclusions, and said that it is working to address the recommendations.

¹⁶ FTA's project management oversight authority includes monitoring a major capital project's progress to determine whether a project is on time, within budget, and in conformance with design criteria, and whether it is constructed to approved plans and specifications, and is efficiently and effectively implemented. 49 C.F.R. § 633.5.

WMATA Is Using Several Leading Practices to Implement SafeTrack and Improve the Quality of Completed Work

In our March 2017 report, we found that WMATA's implementation of SafeTrack generally aligned with leading project management practices.¹⁷ Specifically, WMATA officials collected information on the work performed and the condition of assets repaired during SafeTrack. WMATA officials also collect lessons learned during and after each surge, and use those lessons during subsequent maintenance and planning efforts. Additionally, WMATA developed a new organization-wide quality control and assurance framework and is implementing it for the first time through SafeTrack.

We concluded in our report that, through SafeTrack, WMATA has accomplished a substantial amount of repair work to bring its track infrastructure closer to a state of good repair. WMATA is also learning some important lessons in implementing SafeTrack that could better equip it to identify and address issues in future large-scale rehabilitation projects. Perhaps more importantly, SafeTrack indicates that WMATA is now committed to preventative maintenance, including the repairing of track assets before they break and cause more cost and safety impacts on Metrorail riders.

Mr. Chairman, Ranking Member, and Members of the Subcommittee, this concludes my statement. I would be pleased to respond to any questions you or other Members of the Subcommittee may have.

GAO Contact and Staff Acknowledgments

For questions about this statement, please contact Mark Goldstein at (202) 512-2834 or goldsteinm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this testimony were Matt Barranca, Jason Blake, Kyle Browning, Lacey Coppage, Hannah Laufe, Sara Ann Moessbauer, and Michelle Weathers.

¹⁷ See [GAO-17-348](#).

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