



NATIONAL TRANSPORTATION SAFETY BOARD

An independent Federal agency

**Testimony of the Honorable Christopher A. Hart
Chairman
National Transportation Safety Board
Before the
Subcommittee on Transportation and Public Assets and
Subcommittee on Government Operations
Committee on Oversight and Government Reform
United States House of Representatives
on
Examining the Safety and Service of D.C. Metro
Washington, DC
April 13, 2016**

Good afternoon Chairman Mica, Chairman Meadows, Ranking Member Duckworth, Ranking Member Connolly, and the Members of the Subcommittees. Thank you for inviting the National Transportation Safety Board (NTSB) to testify before you today.

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident and significant incidents in the United States and significant accidents and incidents in other modes of transportation—rail, highway, marine and pipeline. The NTSB determines the probable cause of accidents and other transportation events and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations assisting victims and their family members impacted by major transportation disasters.

Since its inception, the NTSB has investigated more than 400 railroad accidents, of which 62 were rapid transit accidents. On call 24 hours a day, 365 days a year, NTSB investigators travel throughout the country and internationally to investigate significant accidents and develop factual records and safety recommendations with one aim—to ensure that such accidents never happen again.

Investigations of Prior WMATA Metrorail Accidents and Incidents

Since 1982, the NTSB has investigated 13 accidents involving the Washington Metropolitan Area Transit Authority (WMATA). Most recently, the NTSB investigated the January 12, 2015, accident in which WMATA train 302 stopped after encountering heavy smoke while traveling southbound in a tunnel between the L’Enfant Plaza Station and the Potomac River Bridge in Washington, DC. About 380 passengers were aboard the six-car passenger train at the time of the accident. Some passengers self-evacuated from train 302, while emergency responders assisted others. The smoke originated from an electrical arcing event near the third rail about 1,900 feet south of the L’Enfant Plaza Station. Smoke filled the L’Enfant Plaza Station, which was evacuated. The train was stopped at 3:15 p.m. and all passengers were evacuated to safety by 4:27 p.m. As a result of the accident, 91 people were injured—including passengers, emergency responders, and WMATA employees—and one passenger died.

During the L’Enfant Plaza Station accident investigation, NTSB investigators found that some electrical connections associated with the power to the third rail were improperly constructed and installed without “sealing sleeves.” The absence of sealing sleeves can allow moisture and contaminants to enter the components and come into contact with high-voltage conductors. Such conditions create the potential for electrical short-circuiting, which result in fire and smoke events in the WMATA Metrorail system. On February 11, 2015, less than a month after the L’Enfant Plaza Station accident, the NTSB examined electrical components from a smoke event in the tunnel near

the Court House Station in Arlington, Virginia, where NTSB investigators found that those cable connectors were also missing sealing sleeves.

Most recently, on March 14, 2016, WMATA informed the NTSB of an arcing event early that morning at the McPherson Square Station in downtown Washington, D.C. The NTSB was invited to view some of the damaged electrical components. NTSB staff observed surveillance video of the McPherson Square Station platform, photographs of the incident location, and components that had been removed from the incident location. We observed that the damage to the third rail electrical components was similar to that of the L'Enfant Plaza Station accident. One cable connector assembly and portions of the cables, as well as a portion of the third rail cover board, had been vaporized. Surveillance video showing smoke filling the McPherson Square Station was also similar to what occurred on the L'Enfant Plaza Station platform. However, it is not clear what caused the arcing event at the McPherson Square Station.

To gather additional factual information in support of the NTSB's L'Enfant Plaza Station accident investigation, we convened a two-day investigative hearing in June 2015. The hearing examined four broad issue areas: the state of WMATA's infrastructure, emergency response efforts, WMATA's organizational culture, and the Federal Transit Administration's (FTA) and the Tri-state Oversight Committee's (TOC) efforts to address public transportation safety. Witnesses from various parties involved provided important first-hand insight on what happened and addressed larger questions raised by the accident. Additionally, the NTSB brought in representatives from Montgomery County Fire and Rescue Services, Metro-North Railroad, and the United Kingdom's Office of Rail Regulation to share their relevant experience in preventing and responding to accidents. The final report for the L'Enfant Plaza Station accident will be considered at the NTSB's May 3, 2016, Board Meeting.

In the 35 years prior to the L'Enfant Plaza Station accident, the NTSB investigated 12 accidents on the WMATA's Metrorail system; more than half of those occurred between 2006-2014. In addition, since 1970, the NTSB has issued 101 safety recommendations to WMATA.

The deadliest accident occurred on June 22, 2009, on aboveground track on the Metrorail Red Line near the Fort Totten Station in Washington, D.C. The lead car of train 112 struck the rear car of train 214, causing the rear car of train 214 to telescope into the lead car of train 112. This resulted in a loss of occupant survival space in the lead car of about 63 feet (about 84 percent of its total length). Nine people aboard train 112, including the train operator, were killed. Emergency response agencies reported transporting 52 people to local hospitals.¹ The NTSB determined that the ineffective safety oversight by the WMATA Board of Directors, the TOC's ineffective oversight

¹ National Transportation Safety Board *Collision of Two Washington Metropolitan Area Transit Authority Metrorail Trains Near Fort Totten Station, Washington, D.C. on June 22, 2009*, RAR-10-02 (Washington, DC: National Transportation Safety Board, 2010).

and lack of safety oversight authority, and the FTA's lack of statutory authority to provide federal safety oversight were contributing factors in the accident. As a result of this investigation, the NTSB issued 16 safety recommendations to the WMATA.²

Other significant WMATA Metrorail accidents investigated by the NTSB include the following:

- **November 29, 2009:** Rear-end collision of two Metrorail trains at the West Falls Church, VA, rail yard, resulting in injuries to three Metrorail employees and an estimated \$9 million in damage to train equipment.³
- **January 7, 2007:** Derailment of a Metrorail train near the Mt. Vernon Square Station, Washington, DC, resulting in 23 passengers being transported to hospitals and an estimated \$3.8 million in property damages.⁴
- **November 3, 2004:** Collision of two Metrorail trains at the Woodley Park Zoo-Adams Morgan Station, Washington, DC, resulting in about 20 persons being transported to hospitals for treatment and an estimated \$3.5 million in property damage.⁵
- **January 13, 1982:** Derailment of a Metrorail train at Smithsonian Interlocking, Washington, DC, resulting in three fatalities, 25 injured people, and an estimated \$1.3 million in property damage.⁶

While some progress has been made on the safety recommendations stemming from the Fort Totten and other investigations, the L'Enfant Plaza Station accident and the electrical arcing incidents at the Court House and McPherson Square Stations show that more needs to be done.

NTSB Urgent Recommendations After L'Enfant Plaza Accident

² R-10-007 through -022, August 10, 2007.

³ National Transportation Safety Board, *Washington Metropolitan Area Transit Authority Rear-end Collision*, RAB-12/04 (Washington, DC: National Transportation Safety Board, 2012).

⁴ National Transportation Safety Board, *Derailment of Washington Metropolitan Area Transit Authority Train near the Mt. Vernon Square Station, Washington, D.C. on January 7, 2007*, RAR-07-03 (Washington, DC: National Transportation Board, 2007).

⁵ National Transportation Safety Board, *Collision Between Two Washington Metropolitan Area Transit Authority Trains at the Woodley Park-Zoo/Adams Morgan Station in Washington, D.C. on November 3, 2004*, RAR- 06-01 (Washington, DC: National Transportation Safety Board, 2006).

⁶ National Transportation Safety Board, *Derailment of Washington Metropolitan Area Transit Authority Train No. 410 at Smithsonian Interlocking on January 13, 1982*, RAR-82-6 (Washington, DC: National Transportation Safety Board, 1982).

Soon after initiating the investigation into the L'Enfant Plaza Station accident, the NTSB identified concerns with the ventilation systems that required immediate action. On February 11, 2015, we made three urgent safety recommendations to the WMATA.⁷ The NTSB makes urgent recommendations to address circumstances that create an imminent danger to the public. These urgent recommendations called on the WMATA to: (1) assess the subway tunnel ventilation system, verifying that it is in good repair; (2) develop and implement detailed written ventilation procedures for its operation control center; and (3) base these procedures on the most effective strategy for fan direction and activation to limit passengers' exposure to smoke. In addition, we urged the WMATA to incorporate these procedures into its ongoing training and exercise programs.

In response to the urgent safety recommendations, the WMATA has informed the NTSB that it has completed the following actions: conducted a field assessment of the Metrorail system's 315 ventilation fans, verifying that 94 percent of the fans have no deficiencies, and have either repaired or scheduled for maintenance all remaining fans; procured the services of a technical services firm to update WMATA's emergency standard operating procedures for fire and life safety processes in tunnels and underground stations; and created a plan to develop an employee training program to implement the updated procedures. Therefore, we have reclassified these urgent safety recommendations "Open—Acceptable Response."

In a companion urgent safety recommendation issued on February 11, 2015, we also urged the FTA to audit all properties with underground rail operations to assess their ventilation systems.⁸ In response to this recommendation, the FTA directed all state safety oversight agencies (SSOA) with jurisdiction over the 25 rail transit agencies with subway tunnels to conduct audits to assess and inspect tunnel ventilation systems and related issues. We have also reclassified this urgent safety recommendation "Open—Acceptable Response."

The NTSB also issued a safety recommendation to the WMATA on June 8, 2015, addressing problems with the electrical connections in the Metrorail system.⁹ The NTSB asked the WMATA to inspect the cable connector assemblies and ensure that they are in accordance with WMATA's specifications, which includes the sealing sleeves. We are closely monitoring the WMATA's progress in implementing this recommendation, as well as all of the other safety recommendations issued to the WMATA that are classified "Open."

Urgent Recommendations to DOT Concerning WMATA Oversight

⁷ R-15-008 through -010, February 11, 2015.

⁸ R-15-007.

⁹ R-15-025.

The Intermodal Surface Transportation Efficiency Act of 1991 established the State Safety Oversight (SSO) program; this program went into effect in 1997. Under this program, states are responsible for the safety of the rail fixed guideway systems within their borders. Each state is required to establish an SSOA that sets requirements for rail transit safety and monitors the performance of rail transit agencies in accordance with those requirements.

Since the establishment of the SSO program, the NTSB has investigated serious accidents involving the WMATA and has identified inadequate oversight and regulation as a persistent problem. In general, the NTSB investigations of the WMATA have found that, although safety program plans were in place, they were not effectively implemented and overseen. It should be noted that the WMATA is the only transit property in the United States that involves three jurisdictions. Most transit properties involve one jurisdiction and a few involve two, but the WMATA is the only one with three. After the NTSB investigated the 2009 accident near the Fort Totten Station, we called for increased regulatory oversight of rail transit properties and recommended that the U.S. Department of Transportation (DOT) seek legislative authority to provide safety oversight.

On July 17, 2012, President Obama signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21).¹⁰ MAP-21 made a number of fundamental changes to the statutes that authorize the federal transit programs. Under the law, the FTA must certify oversight agencies, and, once certified, an SSOA can receive federal grant funds. To gain certification, an SSOA must show the FTA that it is financially independent of the rail transit system it oversees, has adequate authority to oversee those systems, and has adequate resources to hire appropriate staff.

To comply with the MAP-21 SSO program requirement, the FTA published the SSO Program final rule, which will take effect on April 15, 2016.¹¹ Among other things, the SSO rule gives the FTA the authority to review and approve each state's SSO program and take enforcement actions against those states with nonexistent or noncompliant safety oversight programs. In addition, it requires each state to establish an SSO program and ensure that the SSOA is financially and legally independent from any rail transit agency it oversees, and meets a number of requirements intended to assure that its oversight is effective. Each state with federally funded rail transit properties must have an SSO program approved by the FTA administrator by April 15, 2019.

In 2013, the TOC received notification from the FTA that it did not meet MAP-21 certification requirements. The FTA's concerns with the TOC focused on the TOC's effectiveness as a legal organizational model for overseeing the WMATA. In response, Governor McAuliffe (Virginia), then Governor O'Malley (Maryland), and then Mayor Grey (District of Columbia) wrote

¹⁰ Pub. L. 112-141.

¹¹ 81 FR 14229: (March 16, 2016)

to the Secretary of Transportation to authorize what they described as an actionable step to establish an independent SSOA that would conform to MAP-21. In doing so, they proposed the Metro Safety Commission (MSC), an independent organization that would assume the responsibilities of the TOC. The letter offered no detail, but it referenced a White Paper, *Optimizing State Safety Oversight of the WMATA Metrorail System*, prepared by the three jurisdictions. The White Paper described the three jurisdictions' collective ideal SSO program for the oversight of the WMATA and proposed actions necessary to achieve that ideal. However, it included no details about establishing legal authority in a way that overcomes the multijurisdictional problems faced by the current TOC. Finally, the authors admitted other challenges, such as resources; legislation at the local, state, and federal levels; and budgetary constraints of all three jurisdictions that may further limit progress in achieving an effective safety oversight program.

According to the TOC chairman's testimony at the NTSB investigative hearing on the L'Enfant Plaza Station accident, the earliest the MSC would come into existence is 2019. On March 1, 2016, Governor Hogan (Maryland), Governor McAuliffe (Virginia), and Mayor Bowser (District of Columbia) signed a memorandum of understanding (MOU) for cooperation in the establishment of the MSC. The parties agreed to commit staff, share information, procure professional services, and develop strategies with the goal of introducing enabling legislation for the MSC in 2016 to the Council of the District of Columbia and in 2017 to the Maryland and Virginia general assemblies. However, the NTSB remains concerned that Maryland, Virginia, and the District of Columbia will encounter legislative impediments that will delay the establishment of the MSC or other SSOA.

Based on 45 years of inadequate safety oversight of the WMATA Metrorail system, the NTSB issued urgent safety recommendations to the Secretary of Transportation on September 30, 2015, recommending that the DOT seek an amendment to 45 USC § 1104(3) to list the WMATA as a commuter authority, thus authorizing the Federal Railroad Administration (FRA) to exercise regulatory oversight of the WMATA and to direct the FRA administrator to develop and implement a plan to transition the oversight of the WMATA to the FRA within six months (attached).¹² The NTSB recommended the change in oversight because the FRA has robust regulatory and enforcement powers, allowing it to more effectively address hazards and improve the overall safety of the WMATA's rail operations. The Secretary of Transportation responded to the NTSB's urgent safety recommendations on October 9, 2015, acknowledging that the TOC lacked sufficient resources, technical capacity, and enforcement authority to provide the level of oversight needed to ensure safety at the WMATA. However, the Secretary disagreed with the NTSB recommendation to transfer safety oversight of the WMATA rail system to the FRA, citing the enhanced authority of the SSOAs and the authority in MAP-21 for the FTA to assume the safety oversight in the absence of an effective SSOA. The Secretary stated in his letter that the FTA would begin increased

¹² R-15-031 and -032.

oversight and would “directly enforce and investigate the safety oversight of WMATA.” He also said that the expanded authority would include orders and directives pursuant to Title 49 USC § 5329(f) and (g), require the WMATA to spend federal funds to address safety deficiencies, and amend the WMATA’s corrective action plan to include previous TOC notices of deficiencies, the implementation of which would be overseen directly by the FTA with the TOC’s assistance. The FTA oversight of the WMATA was to include unannounced facility inspections. The Secretary said the FTA would maintain a higher level of oversight “until a compliant and capable SSOA is established to replace the TOC.”

The NTSB remains concerned that, while the Secretary of Transportation tasked the FTA with assuming the authority of the SSOA, the FTA has very limited ability to oversee the WMATA effectively. The FTA has no prior experience in direct safety oversight or as an SSOA, has limited staff to carry out the function, and does not have the authority to levy civil or individual penalties in response to safety deficiencies. The NTSB understands that legislation enabling the creation of a fully functional SSOA for the WMATA may be a lengthy process, and the FTA’s temporary SSOA authority will likely exist longer than anticipated. Thus, on February 19, 2016, the NTSB reclassified the urgent safety recommendations “Open—Unacceptable Response.”

The NTSB is not alone in its concern about the ability of the FTA to conduct oversight activities effectively. On December 2, 2015, the DOT Office of the Inspector General announced its initiation of an audit of the FTA’s safety oversight program and assumption of the WMATA rail safety oversight, stating in a memorandum to the acting administrator of the FTA that, “FTA may face significant challenges in carrying out these new responsibilities.”

Although the Fixing America’s Surface Transportation Act,¹³ enacted in 2015, granted additional authority to the FTA, including the authority to exercise direct safety oversight of rail transit agencies when necessary to correct safety deficiencies and withhold not more than 25 percent of the Section 5307 financial assistance funds from recipients for noncompliance with safety regulations, we do not believe that these additional authorities address the concerns that we highlighted in the urgent safety recommendations. There are many uncertainties associated with the proposed FTA approach to WMATA oversight. DOT implementation of our urgent safety recommendations that the WMATA be ruled a commuter authority and that the FRA assume oversight responsibility for WMATA rail transit would eliminate these uncertainties because the FRA is an experienced regulatory safety oversight agency. The NTSB believes that the FRA is best positioned to oversee the WMATA Metrorail, but the DOT, nevertheless, is moving forward in implementing FTA oversight. The NTSB will monitor the efficacy of this decision and continue to champion consistently strong oversight for all rail transit agencies.

¹³ Pub. L. 114-94.

Conclusion

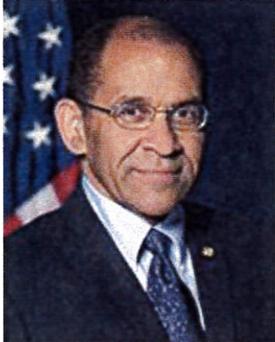
The NTSB's annual Most Wanted List highlights safety-critical actions that the DOT, other federal entities, states, and organizations need to take to help prevent accidents and save lives. In January, the NTSB released its Most Wanted List of transportation safety improvements for 2016. The NTSB's investigation of the L'Enfant Plaza accident illustrated that rail transit accidents continue to cause injuries and deaths, and yet oversight of rail transit is unreliable in some cases, increasing safety risks. Therefore, this year's Most Wanted List includes "Improve Rail Transit Safety Oversight."¹⁴

The L'Enfant Plaza Station accident and subsequent electrical arcing incidents at the Court House and McPherson Square stations demonstrate that more needs to be done to ensure the safety of the Metrorail system. Most importantly, an effective, independent oversight system must be created to ensure that the highest possible level of safety is afforded to the American public

Thank you for the opportunity to testify before you today. I look forward to responding to your questions.

¹⁴ National Transportation Safety Board, *2016 Most Wanted List: [Improve Rail Transit Oversight](#)*.

Biography



Honorable Christopher A. Hart

Member Christopher A. Hart was sworn in as Chairman of the National Transportation Safety Board on March 17, 2015. He was originally sworn in as a Member of the Board on August 12, 2009 and designated by the President as Vice Chairman on August 18, 2009. In August 2013, President Obama nominated him for a second term as Board Member and after Senate confirmation of his nomination, the President, in October 2013, designated him for a third term as Vice Chairman. He has served as Acting NTSB Chairman since April 26, 2014.

Hart joined the Board after a long career in transportation safety, including a previous term as a Member of the NTSB. Immediately before returning to the Board in 2009, Member Hart was Deputy Director for Air Traffic Safety Oversight at the Federal Aviation Administration (FAA). He was previously the FAA Assistant Administrator for System Safety.

He served as a Member of the NTSB from 1990 to 1993. After leaving the Board, he served as Deputy Administrator of the National Highway Traffic Safety Administration, before moving to the FAA in 1995.

From 1973 until joining the Board in 1990, Member Hart held a series of legal positions, mostly in the private sector. He holds a law degree from Harvard University and Master's and Bachelor's degrees in Aerospace Engineering from Princeton University. He is a member of the District of Columbia Bar and the Lawyer-Pilots Bar Association.

Hart is a licensed pilot with commercial, multi-engine, and instrument ratings.

Hart's family has a tradition of accomplishment in the field of transportation. His great uncle, James Herman Banning, was the first African-American to receive a pilot's license issued by the U.S. Government in 1926.

His 2 year appointment as Chairman will end March 17, 2017.

His 5 year term as a Member will end 12/31/17.



National Transportation Safety Board

Washington, DC 20594

Safety Recommendation

Date: September 30, 2015

In reply refer to: R-15-31 and -32 (Urgent)

The Honorable Anthony Foxx
Secretary of Transportation
US Department of Transportation
Washington, DC 20590

The National Transportation Safety Board (NTSB) urges the US Department of Transportation (DOT) to take action on the urgent safety recommendations issued in this letter. These recommendations address the continued failure of the Tri-State Oversight Committee (TOC) to provide effective safety oversight of the Washington Metropolitan Area Transit Authority (WMATA). These recommendations are derived from our ongoing investigation of the WMATA Metrorail smoke and arcing accident at the L'Enfant Plaza station on January 12, 2015, and from other events indicating inadequate oversight of WMATA. Facts supporting these recommendations are discussed below.

Background

On Monday, January 12, 2015, about 3:15 p.m. eastern standard time, WMATA Metrorail Yellow Line train 302 stopped after encountering an accumulation of heavy smoke while traveling southbound in a tunnel between the L'Enfant Plaza station and the Potomac River bridge in the District of Columbia.

About 400 passengers were on board the six-car passenger train at the time of the accident. Some passengers self-evacuated from the train, while others were assisted by emergency responders. The smoke originated from an arcing event near the third rail about 2,000 feet south of the L'Enfant Plaza station. Smoke filled the L'Enfant Plaza station causing an evacuation of the station. District of Columbia Fire and Emergency Management Services reported that 86 people were treated and transported from the scene; another 9 passengers self-transported to medical facilities. There was one passenger fatality.

On Tuesday, June 23, 2015, the NTSB convened a 2-day investigative hearing to gather additional factual information for the ongoing investigation of the accident. The investigative hearing focused on the following areas:

- State of WMATA's infrastructure
- Emergency response efforts
- WMATA's organizational culture
- Federal Transit Administration (FTA) and TOC efforts for public transportation safety

Rail Transit Operations

Rail transit operations are an inherently local activity, and the FTA has limited responsibility for the safety of rail transit operations. In the Intermodal Surface Transportation Efficiency Act of 1991, Congress directed the FTA to establish the State Safety Oversight (SSO) program; this program went into effect in 1997. Under this program, states are responsible for the safety of the rail fixed guideway systems within their borders. Each state is required to establish a state safety oversight agency (SSOA) that sets requirements for rail transit safety and monitors the performance of rail transit agencies in accordance with those requirements. The FTA established minimum requirements for the safety programs that the state agencies implement and oversees the efforts of the state agencies in carrying out the programs.

Since the establishment of the SSO program, the NTSB has investigated serious accidents involving rail transit systems; several of these accidents involved WMATA.¹ Many of the accident investigations identified inadequate oversight and regulation. In general, the NTSB investigations of WMATA found that although safety program plans were in place, they were not effectively implemented and overseen. In the NTSB's investigation of the June 22, 2009, WMATA accident near the Fort Totten station, we called for increased regulatory oversight of rail transit properties and recommended that the DOT seek the authority to provide safety oversight of rail fixed guideway transportation systems, including the ability to promulgate and enforce safety regulations and minimum requirements governing operations, track and equipment, and signal train control systems.

On July 6, 2012, the President signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21), Pub. L. 112-141, with an effective date of October 2, 2012. MAP-21 made a number of fundamental changes to the statutes that authorize the federal transit programs in Title 49 *United States Code (USC)* Chapter 53. The Public Transportation Safety Program requires the Secretary of Transportation to create and implement a national public transportation safety plan to improve the safety of all public transportation systems that receive funding from the FTA. The statute requires the contents of this plan to include the following:

1. Safety performance criteria for all modes of public transportation
2. Definition of the term "state of good repair"
3. Minimum safety performance standards for public transportation vehicles used in revenue operations that
 - a. do not apply to rolling stock otherwise regulated by the Secretary or any other federal agency
 - b. to the extent practicable, take into consideration
 - i. relevant recommendations of the National Transportation Safety Board
 - ii. recommendations of, and best practices standards developed by, the public transportation industry

¹ See, for example, NTSB accident reports: RAR-82-06, RAR-96-04, RAR-06-01, RAR-07-03, RAR-10-02, RAR-12-04, RAB-08-01, RAB-08-02, RAB-12-04, RAB-12-05, and DCA15FR004 preliminary report *Washington Metropolitan Area Transit Authority Arcing/Smoke Event with Passenger Evacuation, L'Enfant Plaza Station, Washington, DC, January 12, 2015.*

4. A public transportation safety certification training program

The FTA is still in the process of implementing the requirements of MAP-21. During the NTSB's June 23–24, 2015, investigative hearing into the WMATA L'Enfant Plaza accident, the FTA Associate Administrator for Transit Safety and Oversight was questioned about the implementation of the requirements of MAP-21. The Associate Administrator testified that the FTA's current rulemaking would include the elements stated above; however, he provided no specific timeline for completion of the rulemaking.²

Until the rail transit safety rulemaking called for by MAP-21 is complete, Title 49 *Code of Federal Regulations (CFR) Part 659 (Rail Fixed Guideway Systems; State Safety Oversight)* remains in effect, and SSOAs will continue using this regulation to conduct safety oversight. Although the FTA is responsible for overseeing the work of the SSOAs and for partially funding rail transit agencies through grants, it has a very small staff to regulate, audit, investigate, and administer the SSO program.

There are 32 SSOAs overseeing 50 rail transit systems.³ The level of expertise within each SSOA, the methods used to assure safety, and the agencies' resources vary and are not necessarily commensurate with the amount of rail transit activity for which each agency is responsible. Of the 50 rail transit systems, 3 operate in multiple states and cross state boundaries:

- WMATA – District of Columbia, Maryland, and Virginia
- Port Authority Transit Corporation (PATCO) – Pennsylvania and New Jersey
- Metro Transit-St. Louis (MetroLink) – Missouri and Illinois

The three SSOAs for transit agencies that operate across state boundaries face the challenges of managing oversight authorities and responsibilities among different jurisdictions under separate bureaucracies. A 2006 report by the Government Accountability Office stated that although the oversight programs of MetroLink and PATCO appeared to be working well, WMATA's oversight program "experienced difficulty obtaining funding, responding to FTA information requests, and ensuring audit findings are addressed."⁴

WMATA

WMATA is unique in that it is the only rail transit agency in the country with an SSOA made up of representatives from three jurisdictions (Maryland, Virginia, and the District of Columbia); it is the Tri-State Oversight Committee (TOC). The TOC was established in 1997 by a memorandum of understanding (MOU) between the Virginia Department of Rail and Public

² We note that the August 2015 *Report on DOT Significant Rulemakings* states that the FTA rulemaking on the Public Transportation Safety Program indicates that a draft notice of proposed rulemaking (NPRM) had not yet been sent to the Office of Management and Budget and projects the publication date of the NPRM to be October 21, 2015.

³ Federal Transit Administration, *State Safety Oversight (SSO) Program Annual Report for 2005* (Washington, DC: US Department of Transportation, Federal Transit Administration, 2005). http://www.fta.dot.gov/TSO/12537_12950.htm, accessed August 31, 2015.

⁴ Government Accountability Office, *RAIL TRANSIT: Additional Federal Leadership Would Enhance FTA's State Safety Oversight* (Washington, DC: Government Accountability Office, 2006). <http://www.gao.gov/products/GAO-06-821>, accessed August 31, 2015.

Transportation (VDRPT) and the Departments of Transportation of Maryland (MDOT) and the District of Columbia (DCDOT). Amended in 2008 and again in 2010, the MOU specifies that the TOC be composed of six representatives, two from each of those agencies. The secretaries of transportation for the State of Maryland and the Commonwealth of Virginia and the director of transportation for the District of Columbia select their respective members. The MOU specifies that TOC members must select a chair and a vice chair who serve in those capacities for 2 years. At the end of the 2-year term, the vice chair becomes the chair, and a new vice chair is selected by the TOC members.

As the designated SSOA for WMATA, the TOC is required to develop and adopt a System Safety Program Standard, a document that establishes the relationship between the oversight agency and the rail transit agency and that specifies the requirements that the rail transit agency must follow.⁵ The program standard must include requirements for safety practices to reduce the likelihood of unintentional events that may lead to death, injury, or property damage and security practices to reduce intentional wrongful or criminal acts or terrorist activities. The TOC does not conduct independent inspections of equipment, infrastructure, or operations as part of its safety oversight activities.⁶ The TOC has no regulatory or enforcement authority, such as the ability to initiate or levy civil penalties. It must rely on WMATA to respond appropriately and in a timely manner to any safety concern, finding, or recommendation the TOC makes.

Under the requirements of MAP-21, the FTA must certify oversight agencies, and, as a result of certification, an SSOA can receive federal grant money. To gain certification, an SSOA must show the FTA that it is financially independent of the rail transit system it oversees, it has adequate authority to oversee those systems, and it has adequate resources to hire appropriate staff. In 2013, the TOC received notification from the FTA that it did not meet MAP-21 certification requirements. Until the TOC is certified, it is not eligible for FTA SSOA funding grants. The FTA's concerns with the TOC focused on the TOC's effectiveness as a legal organizational model for overseeing WMATA. The following is a summary of issues cited by the FTA that led to the TOC's not receiving certification:⁷

1. The TOC is a committee created by MOU between the VDRPT, MDOT, and DCDOT.
2. Beyond the MOU, the TOC has no enabling legislation, administrative code, or set of regulations that each jurisdiction has adopted to enforce safety provisions for WMATA.
3. As a committee created by MOU, the TOC is not a legal agency of any state but it is a "working group" responsible for implementing the FTA's existing SSO program requirements (49 *CFR* Part 659).
4. As a committee, not a legal agency of a state, the TOC cannot hire staff, establish qualifications or training requirements, promulgate or enforce legislation or regulations, issue contracts, or take independent action.
5. As specified in the MOU, each jurisdiction (VDRPT, MDOT, and DCDOT) contributes one full-time and one part-time staff member to serve on the TOC. The jurisdictions appoint these members based on their own preferences and considerations. As a result,

⁵ Title 49 *CFR* 659.15, System Safety Program Standard.

⁶ TOC Program Standards and Procedures, Exhibit F3, January, 2011. NTSB Docket, DCA15FR004.

⁷ FTA GAP Analysis for the TOC with Attachments, Exhibit F1, October 2013. NTSB Docket, DCA15FR004.

the TOC has no uniform standards or qualifications for its members and no standard terms for employees.

6. TOC members are not managed and directed by the TOC but instead by their home jurisdictions. As a result, they can be moved or directed to support other safety or oversight activities in those home jurisdictions. For example, FTA SSO audits have found that MDOT and DCDOT both move their TOC members around to support other oversight programs (MDOT's program for the Maryland Transportation Administration) or agency safety obligations (engineering and construction of the DC Streetcar program).
7. The TOC chair position rotates every 2 years from jurisdiction to jurisdiction. This continual change in leadership exacerbates challenges for both TOC staff and WMATA in maintaining continuity and building expertise.
8. The TOC's members report up through the management and decision-making structures of the three separate jurisdictions. This situation makes it difficult for TOC members in the field to take expedient or independent action and to build consensus with each other regarding safety issues at WMATA. Findings, concerns, and approvals sometimes must move up the management structures of all three jurisdictions and back down to staff before any action can be taken.
9. All three jurisdictions have their own funding and political relationships with WMATA, with the counties serviced by WMATA, with the WMATA Board, and with each other.
 - a. The director of DCDOT serves as a member of the WMATA Board
 - b. All three jurisdictions have joint projects with WMATA
 - c. All three jurisdictions provide subsidies and funding to WMATA

In a February 26, 2014, letter to the Secretary of Transportation, Governor McAuliffe (Virginia), then Governor O'Malley (Maryland), and then Mayor Grey of the District of Columbia authorized what they described as an actionable step to establish an independent state oversight agency that would conform to MAP-21. In doing so they proposed the Metro Safety Commission (MSC), an independent organization that would assume the responsibilities of the TOC. The letter offers no detail, but it references a White Paper, *Optimizing State Safety Oversight of the WMATA Metro Rail System*, prepared by their respective jurisdictions.

The White Paper includes a discussion of the inherent barriers that the structure and function of the TOC pose for effective implementation of the SSO program.⁸ The paper describes the different jurisdictions' ideal SSO program for the oversight of WMATA and proposes actions necessary to achieve that ideal. It proposes to carry out this effort in two phases, acknowledging the time-consuming procedures and negotiations that would be required. Phase one is the creation of a strengthened Interim TOC Oversight Program, and phase two is either the legal creation of an MSC or federal oversight of WMATA's safety oversight functions.⁹

⁸ Tri-State Oversight Committee Oversight Program White Paper, *Optimizing State Safety Oversight of the WMATA Metro Rail System* (The District of Columbia, Maryland, and Virginia: 2010).

⁹ MAP-21 does not provide for direct federal safety oversight, and this alternative approach will not be pursued.

The White Paper proposes specific board membership, director, staff, facility, and funding requirements for the MSC. It includes discussion of the need for legal independence and authority for the MSC to conduct and enforce safety oversight of WMATA. However, the paper includes no details about establishing legal authority in a way that overcomes the multijurisdiction problems faced by the current TOC. Finally, it concedes that phase two will entail actions that will “consume years” to create. In the paper, the authors admit other challenges such as resources; legislation at the local, state, and federal levels; and budgetary constraints of all three jurisdictions that may further limit progress in achieving a robust safety oversight program. According to the TOC chairman, the earliest the MSC would come into existence is 2019.¹⁰

Discussion

The NTSB is concerned about the ongoing challenges to effective safety oversight of WMATA. The TOC’s current approach to assuring safety of WMATA consists of audits, reviewing required WMATA safety plans, following up on reported accidents and incidents, and corrective action plans developed in response to audit findings or accident investigations. MAP-21 was enacted to create a national public transportation safety plan to improve safety of all public modes of transportation. It calls for an increased level of independent oversight of rail transit agencies. MAP-21 requires the establishment of safety performance criteria and performance standards, which serve as the foundation of a safety management system (SMS). The FTA Associate Administrator testified during the NTSB investigative hearing on the L’Enfant Plaza accident that MAP-21 is very similar to the current 49 *CFR* Part 659, stating, “It just has a higher bar of what’s required for the state safety oversight agencies.”

Testimony given at the investigative hearing demonstrated that although both the TOC and WMATA have made progress since the 2009 Fort Totten accident, significant safety, oversight, and organizational issues still exist in both agencies. The TOC has only three full-time employees, and each employee is paid by and accountable to a different jurisdiction: Maryland, Virginia, or the District of Columbia. The TOC has no offices; the TOC staff participates in audits but has not conducted a single investigation into any accident or incident, because all investigations have been delegated to WMATA; and the TOC has no enforcement authority.¹¹

FTA enforcement authority will not change significantly under MAP-21. Because the FTA’s safety authority primarily relies on SSOAs, it does not wield the same regulatory enforcement tools to compel safety compliance that are available to other agencies such as the Federal Railroad Administration (FRA). The FTA envisions using an SMS approach to implement the National Public Transportation Safety Plan that systemically and proactively identifies the factors that contribute to unsafe events and prevents or minimizes the likelihood of their occurrence.¹² The NTSB agrees that an SMS is a critical component of assuring organizational safety, and we look forward to increased oversight under MAP-21. However, neither MAP-21 nor 49 *CFR* Part 659 provides regulatory enforcement tools to compel compliance that are available to other agencies such as the FRA. Title 49 *CFR* Part 659 provides no authority for the FTA to conduct inspections of rail transit agencies, and although MAP-21 does include some additional authorities for the FTA, the only FTA enforcement tool is to

¹⁰ TOC Plan for Transition to MSC, Exhibit F14, March 9, 2015, NTSB Docket, DCA15FR004.

¹¹ Title 49 *CFR* Part 659 authorizes an SSOA to delegate accident investigations to the transit agency.

¹² *Federal Register* 78, no. 192 (October 3, 2013): 61254.

withhold funds or require funds to be spent to correct a safety deficiency.¹³ According to the FTA,

safety oversight reviews would focus on the overall safety performance of an entire organization and effective implementation of the methods for identifying and evaluating safety risks and to mitigate exposure to those risks, instead of relying solely on strict compliance with regulatory requirements or technical standards.¹⁴

The infrastructure complexities of WMATA's system are comparable to those of commuter rail systems that are currently regulated by the FRA. The FRA exercises jurisdiction over all commuter services, as defined in 45 *USC* Section 1104(4), as provided by "commuter author[ities]" specifically enumerated in 45 *USC* 1104(3), including the Port Authority Trans-Hudson Corporation (PATH).¹⁵

PATH operates a 13.8-mile rapid transit system between New Jersey and New York. About one-half of the track is below ground level. Over 1,248 train movements per day carry about 244,000 passengers 5 days per week. Four major terminals and nine intermediate stations serve the closed system. PATH has 10 different speed limits ranging from 8 mph to 55 mph; the average speed over the system is about 20 mph. The FRA's authority to regulate this system is derived from 45 *USC* Section 1104(3), which means PATH is subject to FRA safety enforcement and oversight. PATH is a rail transit system similar to WMATA.

The FRA has established and developed robust inspection, oversight, regulatory, and enforcement authority and conducts regular safety compliance inspections of railroads. Title 49 *CFR* Part 209 describes the procedures used by the FRA in its enforcement of federal railroad safety statutes and regulations. According to appendix A to Part 209, those statutes include the Federal Railroad Safety Act of 1970 and a group of statutes enacted before 1970 referred to as the "older safety statutes." Other statutes include the Rail Safety Improvement Act of 1988, which raised the maximum civil penalties available under railroad safety laws and made individuals liable for willful violations of those laws.

The FRA administers and enforces the federal laws and related regulations designed to promote safety on railroads and exercises jurisdiction over all areas of railroad safety, such as track maintenance, inspection standards, equipment standards, and operating practices. It also administers and enforces regulations enacted under railroad safety legislation for locomotives, signals, safety appliances, power brakes, hours of service, transportation of explosives and other dangerous articles, and the reporting and investigation of railroad accidents. Railroad and related industry equipment, facilities, and records are inspected, and required reports are reviewed.

¹³ A proposed rule to establish a framework for the US Department of Transportation's authority, delegated to the FTA administrator, to monitor, oversee, and enforce safety in public transportation is at *Federal Register* 80, no. 157 (August 14, 2015): 48794.

¹⁴ *Federal Register* 78, no. 192 (October 3, 2013): 61255.

¹⁵ Title 45 *USC* Section 1104(3) designates the following entities as "commuter author[ities]": Metropolitan Transportation Authority, the Connecticut Department of Transportation, the Maryland Department of Transportation, the Southeastern Pennsylvania Transportation Authority, the New Jersey Transit Corporation, the Massachusetts Bay Transportation Authority, and any entity created by one or more such agencies for the purpose of operating, or contracting for the operation of, commuter service.

The FRA issues and enforces railroad safety regulations, administers railroad financial assistance programs, conducts research and development in support of improved railroad safety and national rail transportation policy, provides for the rehabilitation of Northeast Corridor rail passenger service, and consolidates government support of rail transportation activities. FRA inspectors document noncompliance on inspection reports. The FRA has several tools available when inspectors find that railroads are noncompliant with applicable regulations. It can issue civil penalties, individual liability penalties, compliance orders, and emergency orders. In contrast, the FTA and the TOC do not have such tools.

The FRA fulfills its mission through safety compliance inspections, audits, and accident investigations. Annually the FRA develops a National Inspection Plan (NIP).¹⁶ The NIP is intended to reduce accidents by providing guidance to each FRA regional office on how inspectors in each of the five FRA disciplines—track, operating practices, motive power and equipment, signal and train control, and hazardous materials—should divide their work by railroad and state. Under this approach, the FRA uses data models to focus its inspectors' efforts in places deemed likely to have safety problems. The FRA headquarters uses accident, inspection, and other data to specify, by inspection discipline, numeric goals for the level of inspection activity to allocate to each railroad, by state. FRA regional administrators may adjust these goals for their respective regions based on local knowledge and emerging issues to allow regions to respond to new and/or unexpected events such as major accidents. The FRA monitors how the regions are meeting their inspection goals on an annual basis, and the regions are required to submit reports on any missed NIP goals. Furthermore, the FRA investigates all safety complaints from individuals, state and federal agencies, and railroads and their employees.

The FRA enforces the federal railroad safety regulations and laws with about 400 federal safety inspectors whose efforts are supplemented by about 165 state inspectors from states that participate in the FRA's State Inspection Program. Both Maryland and Virginia participate in the FRA's program. The state programs are important supplements to the NIP established by the FRA. The state inspectors coordinate with federal inspectors while monitoring the safety practices of each railroad company operating in the states. State inspectors are certified by the FRA. As states participating in the FRA state program, Maryland employs three FRA-qualified inspectors and Virginia employs six FRA-qualified inspectors. The role of the FRA-qualified inspectors is to inspect operating practices, motive power and equipment, and track and structures.

Another recent event illustrates the value that FRA oversight could bring to WMATA. On August 6, 2015, WMATA Metrorail train 412, a nonrevenue employee train, derailed on approach to the D02 (Smithsonian) Interlocking on track 2. Three of the six cars in the consist derailed. The derailed cars had not reached the switch points of the interlocking. WMATA's investigation into the derailment revealed that on July 9, 2015, a WMATA track geometry vehicle performed track measurement inspections on the Orange line of the Metrorail system through the area where the train derailed. This inspection identified a gage defect of 58.09 inches at chain marker D2-22+41 between the Federal Triangle station and the Smithsonian station, the

¹⁶ The new National Rail Safety Action Plan was developed in response to a 2004 DOT Office of the Inspector General recommendation that the FRA develop a comprehensive program to use available data to focus inspection activities.

area where train 412 derailed. This gage exceeded WMATA's maximum gage standard of 57.75 inches, a condition often referred to as wide gage.

Track gage is the spacing of the rails measured between the inner faces of the load-bearing rails. Wide gage impedes the wheel-rail interface, and derailment is likely. WMATA policy requires immediately removing the track from service because of wide gage, as identified on July 9, 2015, until repairs are completed.¹⁷ WMATA confirmed both the wide gage at the subsequent point of derailment and that this out-of-service track condition remained between July 9, 2015, and the August 6, 2015, derailment. For 27 days this gage defect remained in the track while WMATA continued to run revenue service trains over the track, with no reduction in speed or other mitigation.

FRA inspectors enforce the requirements set forth as Track Safety Standards in 49 *CFR* Part 213 in addition to operating practices and equipment safety standards for railroad operations. Track gage must be maintained within prescribed limits, or the track must be removed from service or the maximum track speed must be reduced.

Crosstie and wide gage defects are the second leading cause of derailments across the nation's railroads. The identification of track geometry defects during routine inspections is complex. Track geometry test vehicles using computerized tools enhance track inspections. FRA inspectors conduct ride-alongs on railroad-operated geometry cars. FRA inspectors monitor the data collected and observe remedial actions taken when defective conditions are identified. The FRA also operates its own geometry test vehicles under the Automated Track Inspection Program (ATIP). On an ATIP survey, an FRA inspector has the authority to stop the vehicle and objectively verify the defective conditions measured.

The role of FRA inspectors may vary depending on operational requirements. The FRA model includes data integrity oversight. Additionally, assurance of proper protection and remedial action are included. In many circumstances, after verification, the FRA may recommend a civil penalty assessment on the railroad if it is determined that the defective condition put railroad employees or the general public at risk.

With FRA oversight in place, the wide gage noted on July 9, 2015, would have required the track to be removed from service. Operations could have continued only after a designated person determined that operations could safely continue. Any operation also would be subject to limiting conditions specified by such person and at a maximum speed of 15 mph for a period of no longer than 30 days.¹⁸

Under the current safety oversight structure, the TOC does not have the authority to levy penalties or stop Metrorail revenue service for a track gage problem such as the one that existed for 27 days near the Smithsonian station and resulted in the derailment. Further, the only FTA enforcement action allowed under MAP-21 is withholding funds or directing funds to correct safety conditions.

¹⁷ WMATA 1000 Track Maintenance and Inspection Manual.

¹⁸ Title 49 *CFR* Part 213.

Conclusion

Regulatory assurance of compliance with standards and direct inspection and enforcement authority provides an increased measure of safety across all modes of transportation. The TOC currently does not have the authority, the expertise, or the resources to provide assurance of compliance. The TOC does not have a standardized set of regulations to draw upon. The TOC cannot issue civil penalties, individual liability penalties, compliance orders, or emergency orders nor can it conduct independent inspections.

The NTSB has initiated 11 investigations on the WMATA rail system over the past 33 years. In total, these accidents and incidents have resulted in 18 fatalities. Many of the NTSB investigations determined that WMATA's inadequate management of its operation contributed to the events, and based on the repeated and ongoing deficiencies identified during its investigations of accidents and incidents involving WMATA, the NTSB concludes that the TOC cannot perform effective safety oversight of the WMATA rail system. Based on testimony from representatives of the TOC and the FTA during the NTSB's June 23, 2015, investigative hearing on the January 12, 2015, WMATA Metrorail accident, the NTSB further concludes that neither the regulatory changes the FTA can make as a result of MAP-21 nor the proposed creation of a Metro Safety Commission will likely resolve the deficiencies identified in safety oversight of WMATA.

The FRA has an established state inspection program whereby states can participate in regulatory oversight. The District of Columbia, the State of Maryland, and the Commonwealth of Virginia, through the FRA's state inspection program, could remain involved in safety oversight of WMATA.

Without adequate oversight, accidents and incidents will continue to place the riders of the WMATA system at risk. The NTSB therefore proposes that the DOT seek the authorization under 45 *USC* Section 1104 to classify WMATA as a commuter authority, thus placing WMATA under the regulatory authority of the FRA.

The Congress is currently working on a surface transportation bill to reauthorize the DOT's surface transportation administrations, including the FRA and the FTA. This provides an opportunity to revise 45 *USC* Section 1104(3) to list WMATA as a commuter authority, thus placing WMATA under FRA regulatory oversight.

Therefore, the NTSB makes the following urgent safety recommendations to the US Department of Transportation:

Seek an amendment to Title 45 *United States Code* Section 1104(3) to list the Washington Metropolitan Area Transit Authority as a commuter authority, thus authorizing the Federal Railroad Administration to exercise regulatory oversight of the Washington Metropolitan Area Transit Authority's rail system.
(R-15-31) (Urgent)

After Title 45 *United States Code* Section 1104(3) is amended to include the Washington Metropolitan Area Transit Authority, direct the Administrator of the Federal Railroad Administration to develop and implement a plan to transition the oversight of the Washington Metropolitan Area Transit Authority's rail system to the Federal Railroad Administration within 6 months. (R-15-32) (Urgent)

Chairman HART, Vice Chairman DINH-ZARR, and Members SUMWALT and WEENER concurred in these recommendations.

We are vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 30 days detailing the actions you have taken or intend to take to implement them. When replying, please refer to the safety recommendations by number. We encourage you to submit your response electronically to correspondence@ntsb.gov.

[Original Signed]

By: Christopher A. Hart,
Chairman