



# **State Safety Oversight Program:**

## **Audit of the Tri-State Oversight Committee and the Washington Metropolitan Area Transit Authority**

### **FINAL AUDIT REPORT**

**March 4, 2010**



March 4, 2010

**SENT VIA EMAIL**

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**Subject: Final Audit Report**

Dear Mr. Madison and Mr. Catoe:

Attached to this letter, please find the Final Audit Report for the Federal Transit Administration (FTA) State Safety Oversight (SSO) Program Audit of the Tri-State Oversight Committee (TOC) and the Washington Metropolitan Area Transit Authority (WMATA).

In this report, FTA makes findings to TOC and recommendations to WMATA designed to enhance compliance with FTA's State Safety Oversight Rule, 49 CFR Part 659. We greatly appreciate your support in addressing these findings and recommendations.

FTA is requesting responses from each of you within sixty days. FTA understands that subsequent to this FTA audit, TOC and WMATA have initiated activities to address, and attempt to correct, findings made by FTA in this report. We look forward to receiving your responses.

At the end of this report, FTA has provided an Audit Findings Tracking Matrix for TOC and an Audit Recommendations Tracking Matrix for WMATA. These matrices detail each audit finding or recommendation, and ask you to provide the actions that will be taken by your agency to address each finding, the responsible party or parties, and the proposed date of completion.

Please fill out the attached matrices and email them to me at [Mike.Flanigon@dot.gov](mailto:Mike.Flanigon@dot.gov), as well as to Mr. Levern McElveen, Safety Team Leader at [Levern.McElveen@dot.gov](mailto:Levern.McElveen@dot.gov), and to Ms. Annabelle Boyd at [aboyd@bcgtrans.com](mailto:aboyd@bcgtrans.com), no later than **May 4, 2010**. Should you require any support in completing these forms, or require additional clarification regarding a specific finding or concern, please do not hesitate to call me at (202) 366-0235 or to contact me by email.

We greatly appreciate your cooperation and assistance in working with FTA to support this audit. Your actions to address our findings and recommendations will contribute significantly to the goal of improved safety for WMATA's passengers and employees.



We look forward to our continued partnership for safety.

Sincerely,

A handwritten signature in black ink that reads "Michael Flanigon".

Michael Flanigon  
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## **Executive Summary**

The Federal Transit Administration (FTA) conducted an on-site audit of the safety program implemented by the Washington Metropolitan Area Transit Authority (WMATA) and overseen by the Tri-State Oversight Committee (TOC) between December 14 and 17, 2009 at WMATA's Jackson Graham Building and Alexandria Rail Yard.

Subsequent document requests and reviews took place throughout the month of January 2010. FTA also participated in WMATA's Right-of-Way Safety Workshop, January 11 to 13, 2010. At the end of January, both TOC and WMATA were provided with the opportunity to comment on a draft version of this report. FTA received those comments and incorporated them into this final report. At the end of February, FTA, TOC and WMATA all participated in a public hearing convened by the National Transportation Safety Board (NTSB) to focus, in part, on the adequacy of state and federal oversight of rail transit systems, including TOC and FTA's program to oversee WMATA.

## **Audit Focus**

This audit, previously scheduled for mid-2010, was accelerated at the request of the United States Department of Transportation (USDOT) Secretary Ray LaHood and U.S. Senator Barbara Mikulski of Maryland. For this audit FTA departed from its normal process of focusing primarily on the state safety oversight agency.

In the aftermath of (1) the Ft. Totten collision and (2) in light of the well-publicized difficulties that TOC encountered assessing WMATA's right-of-way safety program, FTA decided to assess WMATA's safety program as well. WMATA's acting Chief Safety Officer also requested that FTA's audit more closely examine WMATA's system safety program.

This FTA audit, therefore, focused on:

- the effectiveness of both TOC and WMATA's implementation of FTA's State Safety Oversight (SSO) rule (49 CFR Part 659);
- the level and quality of coordination between TOC and WMATA to ensure safety for WMATA's passengers and employees; and
- follow-up on three open non-compliance findings from its 2007 audit of TOC.

## **Audit Methodology**

To perform this audit, prior to arrival on-site at WMATA, FTA requested and reviewed TOC and WMATA SSO program documentation. While on-site, the FTA audit team interviewed TOC and WMATA personnel and contractors responsible for implementing SSO program requirements. FTA also performed records reviews on-site. At the conclusion of the audit on December 17, 2009, FTA held an exit briefing to deliver preliminary findings to TOC and WMATA representatives.

## **Deficiencies and Challenges**

Throughout the course of the audit, FTA identified several deficiencies regarding the implementation of 49 CFR Part 659, as well as on-going challenges in maintaining the quality of the oversight relationship. To address these concerns, FTA issued twenty-one total findings and recommendations – eleven findings to TOC and ten recommendations to WMATA.



### *TOC's implementation of 49 CFR Part 659 requirements*

The TOC jurisdictions – the District of Columbia, the Commonwealth of Virginia, and the State of Maryland – have structured TOC as a committee created by Memorandum of Understanding to implement 49 CFR Part 659 requirements for WMATA. TOC has developed a fully compliant Program Standard and Procedures document to convey 49 CFR Part 659 oversight requirements to WMATA. WMATA implements these requirements in its System Safety Program Plan, which TOC reviews and approves annually.

TOC has six members, two from each jurisdiction. Three members of TOC, one from each jurisdiction, constitute a quorum. A majority vote, including at least one member from each jurisdiction, is necessary for TOC action (for example, approving WMATA accident investigations reports and corrective action plans or making findings from on-site reviews).

TOC's six members manage on-going, day-to-day activities; however, when specific compliance issues emerge at WMATA, TOC members often must obtain the authority to act from higher level executives in their own separate agencies. At the current time, there is no uniform protocol in place to bring oversight issues and requests before senior leadership in the home jurisdictions.

Since TOC is a committee, and not an independent legal entity, its members must follow the legal and administrative requirements of their home jurisdictions. There is no formal process to manage conflicts of law and policy that arise among the three jurisdictions. Instead, policy in a specific area may be directed by one jurisdiction or the other, or differences in opinion among the jurisdictions may prevent action.

TOC's members historically have been part-time. Between 1997 and 2008, assignment to TOC was collateral duty for each jurisdiction, and TOC membership was not included in TOC member employee job descriptions within their home agencies. The home jurisdictions provided no training for serving on TOC, and a background in rail transit or system safety was not required. Since its inception, TOC has experienced considerable turnover among its members.

In early 2009, however, the Commonwealth of Virginia committed the first full-time TOC member. Also, in 2008 and 2009, the TOC jurisdictions significantly increased the resources devoted to contract support for the program. TOC also updated its procedures to include monthly and quarterly meetings among members, as well as teleconference and email protocols to reduce the time required for TOC to review and approve WMATA submittals.

The TOC members and the home jurisdictions are committed to implementing FTA's 49 CFR Part 659 requirements for WMATA; however, the jurisdictions have not provided TOC with the authority to ensure that WMATA effectively implements its System Safety Program Plan:

- Until a few months ago, TOC corresponded primarily with the Chief Safety Officer and held working meetings with lower level staff within WMATA.
- WMATA was not very responsive to TOC, providing late submittals to requests, occasionally not responding at all to requests, denying TOC members access to the live right-of-way, and excluding them from key meetings and activities.
- TOC members did not directly work with key personnel in WMATA's rail operating and maintenance departments.



- TOC did not have the attention of the WMATA's Executive Leadership Team or the Board of Directors.

Since the June 22, 2009 Fort Totten collision, and the extensive media coverage regarding WMATA's denial of TOC member access to the right-of-way during revenue service, TOC members have been actively engaged with WMATA's Executive Leadership Team. TOC members have more direct access to WMATA personnel at all levels of the organization. As a result of this new working relationship, TOC and WMATA are making some progress in closing open corrective action plans developed to prevent accidents from happening again.

Over the last two months, TOC and WMATA have closed over 75 CAPs, with the number of open corrective action plans dropping from 140 in October to 66 at the time of the FTA audit. Previously, TOC and WMATA aimed to close five (5) open corrective action plans per month.

TOC also is working more closely with WMATA to address serious gaps in the implementation of WMATA's right-of-way safety program. Challenges remain; however, and TOC members must work diligently with WMATA to formalize these new relationships in program documentation. FTA also finds that there are several areas where additional TOC clarifications and oversight could improve implementation key safety program elements at WMATA, such as internal audits and the hazard management program.

#### *WMATA's Compliance with TOC's Program Standard and Procedures and 49 CFR Part 659*

While WMATA's Executive Leadership Team is working more closely with TOC, FTA finds that WMATA's Safety Department is not "plugged-in" to critical conversations, decision-making meetings and reporting systems that provide information on hazards and potential safety concerns throughout the agency.

Over the last five years WMATA's in-house safety capabilities and expertise have been depleted through reduction in work force and re-organization. At the current time, the Safety Department has neither the resources nor standing to ensure interdepartmental coordination regarding the identification, prioritization, and resolution of safety issues within WMATA.

WMATA's Safety Department has been re-organized three times in the last four years, losing personnel and technical qualifications with each re-organization. Twenty-five percent of the staff positions allocated to the Safety Department remain vacant (10 out of 41), including all positions devoted to system-wide hazard analysis. At the current time, the Safety Department does not have the in-house capabilities to perform internal safety audits and the Safety Department has insufficient resources to keep up with a growing backlog of accident and incident investigations.

WMATA does not have a process, including a single point of responsibility, which ensures the timely identification and evaluation of safety hazards. Further, there is no evidence of safety analyses being performed to prioritize hazards for elimination or mitigation.

WMATA's Executive Leadership Team is making critical decisions regarding the operation and maintenance of the Metro rail system without access to system-wide analysis of hazards.

- WMATA is not using hazard analysis tools and techniques to support the identification, assessment, elevation and resolution of safety concerns.
- WMATA currently devotes no resources to system-wide hazard analysis.



- Critical systems, processes and reports used and maintained in RAIL (Rail Operations Delivery) are not shared with WMATA's Safety Department.
- Analysis performed in WMATA's current hazard management system is poor:
  - Improper analysis and categorization of identified hazards.
  - Limited sources from which to identify hazards.
- There are no procedures or programs in place to ensure appropriate coordination between departments to identify, examine and resolve problematic issues.

### **Findings and Recommendations**

In this report, FTA issues specific finding and recommendations to TOC and WMATA to address the identified deficiencies and challenges.

- For TOC: FTA issued findings where it was determined that a required component of TOC's program does not meet FTA's SSO program requirements (49 CFR Part 659) ;
- For WMATA: due to FTA's lack of direct regulatory authority of rail transit agencies, including WMATA, FTA issued recommendations where FTA believes improvement is needed. Though WMATA is under no legal obligation to address these recommendations, we believe these recommendations support more effective implementation of safety program elements. Further, we stand ready to provide technical assistance and on-site support to help WMATA address the recommendations in this report.

FTA expects to receive in-depth responses from TOC and WMATA by Tuesday, May 4, 2010.



## Summary List of Findings and Recommendations

### Findings to the Tri-State Oversight Committee (TOC):

1. Assess the level of resources necessary from each jurisdiction (District of Columbia, Maryland and Virginia) to meet TOC's responsibilities. Use the results of this assessment to establish resource commitments from each jurisdiction to TOC for the next three calendar years. Resources should be committed and onboard before the beginning of the next Federal audit cycle.
2. Evaluate the technical and professional skills that TOC representatives need to effectively carry out their oversight duties. To the extent that TOC representatives do not currently possess these skills, ensure training is provided as soon as practicable to each TOC member.
3. Determine the best method to respond quickly and professionally, as WMATA safety situations arise and require coordinated action. Consider whether full-time TOC positions can be vested with decision-making authority to act in specific safety situations with WMATA.
4. Identify and formalize a mechanism to ensure that critical unresolved WMATA safety concerns identified by TOC members are elevated to the highest levels of each TOC jurisdictional agency and WMATA for immediate action.
5. Require WMATA to complete a timely, thorough, and competent review and update of WMATA's Safety Rules and Procedures Manual. This review and update must reflect actual current practices and needed improvements identified by TOC and by FTA in this audit report.
6. Require WMATA to develop (and TOC to review and approve) an internal WMATA safety audit recovery plan for calendar year 2010 and calendar year 2011. Before WMATA develops this plan, TOC should sponsor a meeting with WMATA's Safety Department, Quality Department, and Executive Leadership Team to explain the internal safety audit program requirements and TOC's expectations regarding WMATA's internal safety audit recovery plan.
7. Require WMATA to develop a recovery plan to complete all open accident investigations following procedures established in TOC's Program Standard, WMATA's System Safety Program Plan and WMATA's Accident Investigation Procedures.
8. Document the Corrective Action Plan Technical Review process in TOC's Program Standard and Procedures and WMATA's System Safety Program Plan.
9. Work with WMATA to ensure that there is a process in place for evaluating Corrective Action Plans (CAP) alternatives that may be necessary as a result of capital and operating program resource limitations.
10. Require WMATA to develop and implement a comprehensive and system-wide hazard management program (as required by 49 CFR Part 659.31).
11. Require WMATA to strictly adhere to the annual certification of compliance with its System Safety Program Plan (as specified in 49 CFR 659.43), including identifying areas where WMATA is not in compliance with its System Safety Program Plan as well as specific actions WMATA is taking to achieve compliance.



**Recommendations to the Washington Metropolitan Area Transit Authority (WMATA):**

1. Conduct an assessment to identify the resources and expertise necessary for the Safety Department to carry out the activities specified in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual.
2. Use the results of the assessment to ensure adequate staffing levels and expertise within the Safety Department.
3. Increase the Safety Department's access to operating and maintenance information and reports to ensure that this information is being analyzed for potential impacts on the safety of WMATA.
4. Develop an internal process to require the communication of safety-related information across all WMATA departments, including the impacts of budget reductions and resource constraints on the performance of safety-related maintenance activities and requirements.
5. Define and implement the process for the top Safety Department position to communicate safety priorities to the General Manager in a timely and consistent manner.
6. Identify the technical skills required to perform system-wide hazard analysis (as required in 49 CFR Part 659 and TOC's Program Standard). To the extent that WMATA Safety Department staff does not currently possess the needed skills, provide training as soon as practicable.
7. Update the WMATA System Safety Program Plan (specifically Procedure #2.1/0 and Section 6) to develop a hazard management process that ensures that all WMATA departments participate in an on-going manner.
8. Institute a process to ensure that changes in operating rules are analyzed for safety impacts before system-wide implementation. For example, WMATA engineering bulletins are "field tested" before full implementation.
9. Finalize the right-of-way protection rules, develop training to implement the new rules and ensure all right-of-way employees and contractors receive this training before accessing the right-of-way.
10. Implement the configuration management program described in the WMATA System Safety Program Plan.



## Introduction

Between December 14 and 17, 2009, the Federal Transit Administration (FTA) conducted an on-site audit of the program managed by the Tri-State Oversight Committee (TOC) to provide safety oversight for the Washington Metropolitan Area Transit Authority (WMATA). The requirements for TOC's oversight program are specified in FTA's State Safety Oversight Rule, 49 CFR Part 659, and TOC's internal Program Standard and Procedures, which implement 49 CFR Part 659 requirements for WMATA.

FTA's audit program is authorized in 49 CFR 659.7. Since this audit program began eleven years ago, FTA has completed three full cycles of audits, visiting each state safety oversight agency a minimum of three times. FTA completed audits of TOC in 2000, 2005 and 2007. In addition, FTA conducted a special safety review of WMATA in 1997, just as 49 CFR Part 659 was going into effect.

The December 14 to 17, 2009 audit of TOC's program is the first in FTA's fourth cycle of auditing state safety oversight agencies under 49 CFR Part 659. For this fourth round of audits, which will be completed at the end of 2012, FTA decided to add a new element to the scope of the audit: the effectiveness of the relationship between the SSO agency and the rail transit agency.

This audit of TOC, previously scheduled for mid-2010, was accelerated at the request of the United States Department of Transportation (USDOT) Secretary Ray LaHood and U.S. Senator Barbara Mikulski of Maryland. This audit represents a departure from FTA's approach in past audits for several reasons:

- (1) It expands on FTA's initial plans for the fourth audit cycle of state safety oversight agencies by including an in-depth examination of WMATA's safety program. This examination was provided, in part, at the request of WMATA's acting Chief Safety Officer, who asked that FTA's audit more closely examine WMATA's technical capacity to effectively implement the TOC Program Standard and Procedures for an internal system safety program;
- (2) In the aftermath of the June 22, 2009 Ft. Totten collision, and in light of the well publicized difficulties that TOC encountered assessing WMATA's right-of-way safety program, this audit responds to the interest of the Congress and the public regarding the quality of the TOC-WMATA oversight relationship and how well both agencies meet their existing safety requirements; and
- (3) As a result of past audits, FTA has worked closely with TOC and WMATA to focus on key deficiencies at both agencies regarding the way in which certain 49 CFR Part 659 requirements are managed. During this current audit, FTA focused special attention on TOC activities and WMATA responsiveness in key areas where FTA had identified concerns in the past.

## Findings from Past Audits

As a result of FTA's 2000 State Safety Oversight program audit of TOC, FTA issued six deficiency findings and three recommendations. All of these findings and recommendations, which related primarily to TOC's structure, authority and resources, were closed by the end of 2001.

The 2005 FTA audit of TOC focused on the ability of TOC to develop and implement plans and procedures required for the implementation of 49 CFR Part 659. As a result of this audit, FTA issued nine deficiency findings and one recommendation regarding TOC's implementation of 49 CFR Part 659 requirements. Over the next two years, TOC and WMATA were unable to close several of these audit findings, prompting FTA to conduct a series of meetings with TOC and WMATA executive leadership. FTA was concerned about WMATA's ability to identify, elevate, and address safety deficiencies within its own agency as well as WMATA's lack of responsiveness to TOC.



In 2007 FTA conducted another audit of TOC and WMATA. At the time of this audit, two deficiency findings remained open from FTA's 2005 audit. FTA ended up incorporating these open deficiencies into the 2007 audit results. FTA issued eight deficiency findings and four recommendations. FTA's audit showed that TOC faced considerable challenges in getting WMATA to implement and complete corrective action plans (CAP) designed to prevent the recurrence of accidents. At the time of the 2007 audit, TOC was tracking over 200 open corrective action plans, some dating back to 2004. FTA also found that TOC and WMATA were not implementing key 49 CFR Part 659 requirements, such as internal safety audits and an effective hazard management program.

Since 2007, FTA has received quarterly reports on TOC's activities to address FTA's audit findings; FTA representatives also participate in monthly meetings with TOC and WMATA. Action has been slow; however, and going into the December 14 to 17, 2009 audit, three deficiency findings from FTA's 2007 audit remained open, as follows:

1. TOC and WMATA have not been managing the State Safety Oversight program according to approved timeframes and established requirements.
2. TOC is not ensuring that WMATA conducts Internal Safety Audits according to approved schedules.
3. TOC is not reviewing and adopting WMATA investigation reports according to the timeframe required by TOC's Program Standards and Procedures.

FTA focused the 2009 audit on the nature of the oversight relationship that exists between TOC and WMATA, including the status of activities to address the three outstanding findings from FTA's 2007 audit of TOC's program. The audit also focused on WMATA's process, as approved by TOC, for identifying, reporting, and resolving hazards and system safety concerns (i.e., WMATA's hazard management program), and the extent and nature of TOC's oversight of WMATA's safety program. This included TOC's oversight of WMATA's internal safety audit process, rule compliance program, accident and incident investigation process, and the process used by TOC and WMATA to develop, monitor, and implement necessary safety corrective actions. Further, the audit examined the organizational structures and safety program communication and reporting processes of both TOC and WMATA as they pertain to implementing and complying with 49 CFR Part 659.

## **Audit Methodology**

Before arriving on-site, FTA collected and reviewed documents and materials that support the implementation of both TOC's and WMATA's policies and procedures. A complete list of the documents and materials received and reviewed by FTA is provided in **Appendix A**. While on-site FTA conducted interviews with TOC and WMATA personnel responsible for key safety program functions and activities. This included interviews of TOC and WMATA executive management staff, and WMATA Safety Department, Quality Assurance/Quality Control Department, Track Structures and Systems Maintenance, and Rail Operations Delivery staff, including track workers and supervisors, and train operators. FTA also conducted field verifications and record reviews.

During the audit, FTA identified areas in which TOC and WMATA do not comply with the processes and requirements specified in TOC's Program Standards and Procedures and WMATA's System Safety Program Plan. This report identifies these concerns and makes findings requiring corrective action.

TOC will have 60 days to develop and provide a response to each FTA finding. FTA also requests that WMATA respond to FTA's recommendations within 60 days. As requested by members of WMATA's



Executive Leadership Team, FTA will be working with WMATA staff to provide technical assistance and support in addressing these recommendations.

## **Report Organization**

This remainder of this report is organized into two parts:

- Part One presents the results of FTA’s audit of TOC’s implementation of 49 CFR Part 659 requirements.
- Part Two provides FTA’s assessment regarding how well WMATA’s safety program addresses 49 CFR Part 659 requirements and also makes recommendations for needed WMATA improvements.



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## **PART ONE: COMPLIANCE AUDIT OF THE TRI-STATE OVERSIGHT COMMITTEE**

### **1.0 TOC Organization and Resources**

This portion of the audit evaluated the designation and authority of the Tri-State Oversight Committee and its organizational capacity, including the assignment of personnel resources and contractors, to implement 49 CFR Part 659 requirements.

#### **Discussion of Requirement**

FTA's 49 CFR Part 659 requires that each state with a rail transit agency in its jurisdiction designate an oversight agency to implement the provisions of 49 CFR Part 659. In cases where a rail transit agency operates in more than one state, the affected states may either agree to designate one agency of one state to implement 49 CFR Part 659 requirements, or they may designate one or more agencies representative of all states to implement the requirements. In the event multiple states share oversight responsibility for a rail transit agency, the states must agree upon a single set of requirements for the rail transit agency.

#### **Observations**

##### Designation

TOC was created by a Memorandum of Understanding among the District of Columbia, Office of Mass Transit; the Commonwealth of Virginia, Virginia Department of Rail and Public Transportation; and the State of Maryland, Maryland Department of Transportation. The Memorandum of Understanding was signed on March 7, 1997, and provides a basic framework for how the two states and the District of Columbia address 49 CFR Part 659 requirements.

As specified in the Memorandum of Understanding, TOC is composed of six representatives—two each from Maryland, Virginia, and the District of Columbia. Each of the three parties to the Memorandum of Understanding maintains sole jurisdiction and discretion to appoint their respective members to serve on TOC. Jurisdictions can assign additional alternate members. Virginia, for instance, has two alternate members who also support TOC.

Three members of TOC, one from each agency, constitute a quorum. A majority vote, including at least one member from each jurisdiction, is necessary for TOC action (for example, approving accident investigations reports and corrective action plans). The Memorandum of Understanding defines the Chair and Vice Chair positions, and establishes the annual rotation of the Chair and Vice Chair duties to each jurisdiction. (At the current time, the District of Columbia has the TOC Chair and the Commonwealth of Virginia has the Vice Chair. In April 2010, the Commonwealth of Virginia will assume the Chair and the State of Maryland will have the Vice Chair.)

The Memorandum of Understanding also clarifies TOC responsibilities to establish requirements for WMATA and to oversee WMATA's activities to meet these requirements. TOC is responsible for preparing a Program Standard that complies with the minimum requirements in 49 CFR Part 659. TOC requires WMATA to develop and implement a System Safety Program Plan (SSPP) that addresses all minimum TOC requirements in the Program Standard. TOC reviews and approves the System Safety Program Plan; requires annual updates; and monitors System Safety Program Plan implementation, in part through on-site reviews at WMATA at least once every three years.



TOC also requires WMATA to conduct internal safety audits and a hazard management process in accordance with TOC's Program Standard. WMATA must report the occurrences of accidents, incidents and hazards as defined in the TOC Program Standard within a time specified by TOC. WMATA must develop procedures to investigate accidents, incidents and hazards, and those procedures are reviewed and approved by TOC.

Also in the Memorandum of Understanding, TOC is given the authority to conduct, or cause to be conducted, investigations of accidents, incidents and hazards at WMATA. The Memorandum of Understanding provides TOC with the authority to obtain full access to all information or evidence collected by WMATA and/or its agents during these investigations.

In response to findings from investigations, internal audits and reviews, WMATA's hazard management program, TOC's three-year reviews, or other sources identifying safety deficiencies, the Memorandum of Understanding also provides TOC with the authority to require corrective action plans, to review and approve them, and to track and verify their implementation.

Based in part on findings from FTA's 2007 audit, the TOC Memorandum of Understanding was updated on December 5, 2008 to formally describe the process for appointing interim TOC members. This update also clarified that the laws of the individual jurisdictions would govern how TOC handles the release of confidential information to the media, the courts, and other requesting agencies.

To address recent concerns regarding WMATA's safety performance, TOC developed Amendment 1 to the December 5, 2008 Memorandum of Understanding, which was signed and approved on December 14, 2009 by the TOC jurisdiction executives, including the Director of the District of Columbia Department of Transportation, the Secretary of Transportation of the State of Maryland, and the Secretary of Transportation of the Commonwealth of Virginia. This amendment provides greater detail regarding roles, responsibilities, and duties for TOC and WMATA to implement the state safety oversight program as specified by 49 CFR Part 659, TOC's Program Standard and Procedures, and WMATA's System Safety Program Plan.

This amendment, which was presented to WMATA's General Manager and Board of Directors, respectively, on December 16 and 17, 2009, clarifies that the TOC jurisdictions expect the WMATA General Manager to work with TOC, to ensure that WMATA communicates with TOC, and that TOC members have access to system, right-of-way, and facilities in a manner agreed upon in advance by TOC and WMATA. Also, the amendment re-states TOC's authority to establish safety requirements for WMATA, to report directly to the WMATA Board of Directors on a scheduled basis, and to implement a dispute resolution process, including appropriate sanctions for WMATA.

### Resources

Since its inception in 1997, TOC has experienced considerable turnover among its members. As of FTA's December 14 to 17, 2009 audit, only one TOC member has served on TOC for three years, two other members have served for almost two years, one member has served for almost one year, and the remaining two members were assigned in 2009. In fact, only one current TOC member was serving on TOC when FTA conducted its 2007 audit, and no current member served on TOC when FTA conducted its 2005 audit.

Until recently, assignment to TOC was collateral duty for each jurisdiction, and TOC membership was not included in TOC member employee job descriptions within their home agencies. The home jurisdictions provided no training for serving on TOC, and a background in rail transit or system safety was not required. In an effort to address this situation, the December 14, 2009 amendment to the TOC



Memorandum of Understanding, clarifies the authority of each jurisdiction to establish appropriate qualifications and requirements for TOC membership, including programmatic and management oversight experience; safety program experience; and industry-specific experience.

Further, to ensure ongoing access to technical support, the three jurisdictions hired a contractor in 2004. The Washington Council of Governments administers TOC's contract. Each jurisdiction initially contributed \$50,000 per year for consulting services that were primarily to conduct TOC's three-year review at WMATA to assess implementation of the system safety program plan. Over the past six years however, resources devoted to consultant support have risen to about \$150,000 per jurisdiction per year. In addition to conducting the three-year review, TOC's consultant has been providing ongoing support for all of TOC's responsibilities as directed by TOC, and is available on-call to support unanticipated situations and emergencies, and to perform special studies and analyses. This increase in resources has occurred as the Commonwealth of Virginia, the State of Maryland, and the District of Columbia have faced significant cuts and reductions to transportation-related budgets.

The table below presents the resources (in hours) that TOC uses to implement its oversight program for WMATA, as submitted to FTA in TOC's annual reports calendar years 2006, 2007 and 2008.

	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>TOC Member Staff Hours</b>	1,980	3,130	2,291
<b>TOC Contractor Hours</b>	2,088	3,686	1,710
<b>Total</b>	<b>4,068</b>	<b>6,816</b>	<b>4,001</b>

During this period, depending on the specific activities performed in a given year, the six TOC staff members combined to devote between 1 and 1.5 full-time equivalents to the program and TOC's contractor also provided between 1 and 1.8 full-time equivalents to the program.

In early 2009, the Commonwealth of Virginia became the first jurisdiction to commit a full-time member to TOC. In addition, Virginia increased the involvement of the second member, and assigned two alternate members. Virginia also committed to additional training for all four employees.

TOC duties are still not a part of job descriptions for members from Maryland and the District of Columbia, however, and these members, including the current TOC Chair, have other significant responsibilities within their home jurisdictions. During audit interviews, both Maryland and the District of Columbia representatives stated that there are initiatives underway to attempt to commit full-time members to TOC.

During interviews, TOC members also stated that the June 22, 2009 collision has had a significant impact on their organization. Representatives noted that demands for participation in the investigations conducted by the National Transportation Safety Board and WMATA, as well as the need to respond quickly and decisively to WMATA corrective action plans and proposals, have intensified the challenges in the oversight relationship. Further, since the collision, TOC members stated that the agency has experienced intensive scrutiny from the local and national media, which has required considerable personnel resources to manage. Also, a series of Congressional hearings required TOC participation and attention.

The demands of the June 22, 2009 WMATA Red Line collision have required additional support from all jurisdictions. Before the June 22, 2009 collision, the six TOC staff members reported that they devoted a combined two full-time equivalents to the oversight program, with Virginia providing sixty percent of TOC staff member resources. TOC's contractor provided 1.3 full-time equivalents.



Since the accident, TOC’s jurisdictions have supported additional resources, and during audit interviews, TOC staff members reported a combined almost 3.6 equivalents devoted to the oversight program. TOC also increased the activity of its contractor to 2.6 full-time equivalents. Please see the table below.

<b>TOC Representatives</b>	<b>Pre-June 22, 2009</b>	<b>Post-June 22, 2009</b>
Virginia Department of Rail and Public Transportation (out of 3 persons working on TOC-related issues)	1.2 FTE	1.5 FTE
District of Columbia Department of Transportation (out of 2 persons working on TOC-related issues)	.5 FTE	1.5 FTE
Maryland Department of Transportation (out of 2 persons working on TOC-related issues)	.3 FTE	.6 FTE
TOC consultant (out of 10 available contract employees)	1.3 FTE	2.6 FTE
<b>Totals</b>	<b>3.3 FTE</b>	<b>6.2 FTE</b>

Representatives from Maryland and the District of Columbia stated that, while they have received some leeway from their other responsibilities to address the increasing demands of their TOC membership after the June 22, 2009 collision, this enhanced level of effort may not be sustainable through 2010.

In working with WMATA to address key concerns, other TOC staff members rely on TOC’s only full-time member, and the Commonwealth of Virginia has taken the lead in many key areas. This approach to oversight has resulted in the creation of new practices and approaches. The full-time TOC member conducts meetings with WMATA, observes WMATA activities, and actively tracks WMATA action in key areas of concern. In fact, the full-time member conducts meetings with leadership from WMATA’s operating and maintenance functions, called Corrective Action Plan Technical Review Entity (or CAPTURE) meetings, which have greatly increased the effectiveness of the process used to close out open concerns, verify the completion of corrective actions, and resolve obstacles to action required to close out open corrective action plans. None of these new practices are documented in the TOC Program Standards and Procedures or the TOC Internal Operations Manual.

While additional resources have been provided after the June 22, 2009 collision, TOC still struggles to fulfill its oversight obligations. During interviews, TOC members stated that since only one member is full-time, the other members inevitably are placed in a “catch-up” position. The full-time member must update the other members on his activities. As stated to FTA during the interviews, there is a steep learning curve required to understand WMATA’s operations and issues. Part-time involvement of new members who change from year to year does not give TOC a strong foundation and the ability to develop institutional knowledge to carry out its oversight mission.

In past audit reports, both FTA and the Government Accountability Office have recommended that the three jurisdictions designate one or more TOC full-time members each to enhance responsiveness to WMATA requests, and to provide dedicated, on-site oversight at WMATA. Virginia’s commitment shows the value of a full-time position in providing oversight at WMATA. Maryland and the District of Columbia; however, have yet to equal Virginia’s resource commitment.

## Findings

- 1. Assess the level of resources necessary from each jurisdiction (District of Columbia, Maryland and Virginia) to meet TOC’s responsibilities. Use the results of this assessment to establish resource commitments from each jurisdiction to TOC for the next three calendar years. Resources should be committed and on-board before the beginning of the next Federal audit cycle.**



- 2. Evaluate the technical and professional skills that TOC representatives need to effectively carry out their oversight duties. To the extent that TOC representatives do not currently possess these skills, ensure that training is provided as soon as practicable to each TOC member.**
- 3. Determine the best method to respond quickly and professionally, as WMATA safety situations arise and require coordinated action. Consider whether full-time TOC positions can be vested with decision-making authority to act in specific safety situations with WMATA.**

## **2.0 Program Management**

This portion of the audit evaluated how the oversight agency addresses the requirements in 49 CFR 659.11 and 659.15 to manage the Program Standard and oversee its implementation for WMATA.

### **Discussion of Requirement**

49 CFR 659.15 requires that each state oversight agency develop and distribute a program standard. The program standard is a compilation of processes and procedures that governs the conduct of the oversight program at the state oversight agency level, and provides guidance to the regulated rail transit agencies concerning processes and procedures they must have in place to be in compliance with the State Safety Oversight program. 49 CFR 659.15(b) identifies the required content for each state oversight agency's program standard, including detailed explanations of the oversight agency's roles and responsibilities to manage its own program activities and the processes required of the rail transit agency.

49 CFR 659.11 provides that the state oversight agency may establish confidentiality provisions to withhold an investigation report that may have been prepared or adopted by the oversight agency from being admitted as evidence or used in a civil action for damages resulting from a matter mentioned in the report.

### **Observations**

TOC's Program Standard and Procedures, first issued in 1997 and last revised and re-issued in February 2009, implement the authority provided to TOC by the Memorandum of Understanding among the three jurisdictions. The Program Standard and Procedures convey TOC's requirements to WMATA regarding compliance with 49 CFR Part 659 and specific TOC procedures; they also explain how TOC will review WMATA's System Safety Program Plan and assess its implementation. The TOC Program Standard and Procedures are based upon FTA's revised 49 CFR Part 659, issued April 29, 2005.

TOC commits resources to the active review and update of its Program Standard and Procedures. TOC has used these reviews to address previous findings and recommendations from FTA audits in 2005 and 2007, as well as a series of internal recommendations regarding how the program should be structured and its guidance to WMATA specified.

#### Coordination among TOC Jurisdictions

In implementing the Program Standard and Procedures, TOC members manage on-going, day-to-day activities; however, when specific compliance issues emerge at WMATA, TOC members often must obtain the authority to act from higher level executives in their own separate agencies. At the current



time, there is no uniform protocol in place to bring oversight issues and requests before senior leadership in the home jurisdictions.

TOC is not a legal entity. It is a committee, and, as such, its members must follow the legal and administrative requirements of their home jurisdictions. This creates challenges for TOC members, because there is no formal process to manage conflicts of law and policy that arise among the three jurisdictions. Representatives from each jurisdiction stated during interviews that it is difficult for TOC members to speak as the unified representatives of the District of Columbia, Maryland and Virginia. Instead, policy in a specific area may be directed by one jurisdiction or the other, or differences in opinion among the jurisdictions may prevent action.

For example, the TOC has been unable to establish a uniform policy to handle media requests or to manage Freedom of Information Act (FOIA) requirements with a single point of contact. Instead, reporters approach each jurisdiction separately with information requests. Virginia's FOIA law, which requires response to oral or written media requests, typically within five days, has become the TOC default policy. TOC members from Maryland and the District of Columbia indicated that Virginia's TOC members manage TOC's media relations, sometimes over their objections.

In interviews, TOC members from Maryland and the District of Columbia explained that the FOIA laws and regulations in their jurisdictions also are designed to ensure public access to information, but that these laws and regulations have slightly different components, such as requiring a written request before the release of information, or providing different review criteria before release, or specifying a slightly longer turn-around time, such as an additional week or two, before a document is released to the media.

These members stated that since TOC is generally a committee of largely part-time staff, it would be better served following the laws and regulations in Maryland or the District of Columbia, or developing its own policy, than operating de facto under the laws of Virginia. This would allow more time to ensure that accurate and sufficient responses are compiled and transmitted.

In interviews, WMATA managers and executives stated that TOC, at times, appeared to be using the media in a punitive manner to resolve differences of opinion with WMATA. Also during interviews, WMATA managers observed that, in a few instances in recent months, media reporters were better informed regarding a conflict with TOC than WMATA's own senior leadership. TOC members disagreed with this assertion; however, they do acknowledge that the media coverage has been largely helpful to TOC.

As reported in the media, TOC has had problems in the past with WMATA's responsiveness to TOC's requests for data and analysis, and to specific requests, such as for access to the right-of-way during normal service hours. During interviews, TOC members explained that the media found these stories and featured them, without influence from TOC. Further, TOC members stated they have tried to maintain professional integrity in their relationships with the leadership and staff of WMATA, in spite of the intense media scrutiny.

TOC members stated that a uniform TOC media policy is not possible given the current structure of TOC. Members stated that a uniform policy would require TOC to be re-established as an independent legal entity with its own charter. This new entity would require legislative action by the three TOC jurisdictions and possibly Congress. Unless and until a separate oversight agency is created, each TOC jurisdiction must abide by its own laws, regardless of the action of another jurisdiction.



### Coordination with WMATA's Executive Leadership Team

Before October 2009, TOC members worked primarily with lower staff levels within WMATA and with WMATA's System Safety and Environmental Department and its Chief Safety Officer to address safety issues, accident investigations, and open corrective action plans. WMATA System Safety and Environmental Department representatives were expected to advocate on behalf of TOC within WMATA, and until recently, TOC members did not directly work with key personnel in WMATA's rail operating and maintenance departments.

TOC representatives stated that when TOC members disagreed with the decision of the Chief Safety Officer, or did not believe that enough work had been done in a specific area, there was no process in place to bring these concerns directly to the General Manager for action.

Historically, this lack of access to top executives and decision-makers within WMATA has limited TOC's effectiveness in prompting action from WMATA to mitigate safety concerns. This lack of access also made it difficult to resolve differences of opinion between TOC and WMATA.

Recent disclosures and reports in the local and national media have brought public scrutiny to this situation. WMATA's General Manager and Board of Directors have taken action to ensure greater responsiveness to TOC since the media coverage.

In November, for the first time in TOC's 12-year history, TOC members gave a presentation before the WMATA Board of Directors. Further, the General Manager and the Board have accepted an addendum to the original charter that created TOC which clarifies TOC's standing to address safety issues at WMATA. Through resolution, WMATA's Board of Directors now must be informed any time that a member of WMATA's Executive Leadership Team plans to deny a TOC request.

Now that WMATA's Executive Leadership Team and the Board of Directors are actively working to address TOC findings and concerns, it is critical that TOC formalize and institutionalize the mechanisms developed to elevate and resolve critical safety issues.

## Findings

- 4. Identify and formalize a mechanism to ensure that critical unresolved WMATA safety concerns identified by TOC members are elevated to the highest levels of each TOC jurisdictional agency and WMATA for immediate action.**

### **3.0 System Safety Program Plan Review and Approval Process**

This section of FTA's audit evaluated TOC's implementation of program polices for requiring, reviewing, and approving WMATA's System Safety Program Plan as specified in 49 CFR 659.17, 659.19, and 659.25.

## Discussion of Requirement

49 CFR 659.17 specifies that the state oversight agency must require the rail transit agency under its jurisdiction to develop and implement a System Safety Program Plan that complies with the requirements of Part 659 and the oversight agency's program standard. Section 659.19 establishes the minimum content requirements of the rail transit agency System Safety Program Plan.



Section 659.25 specifies that the oversight agency must require the rail transit agency to conduct an annual review of its System Safety Program Plan. Section 659.25(b) requires that, in the event the rail transit agency's System Safety Program Plan is modified, the rail transit agency must submit the modified plan and any subsequently modified procedures to the oversight agency for review and approval. After the System Safety Program Plan is approved, the oversight agency must issue a formal letter of approval to the rail transit agency, including the checklist used to review the System Safety Program Plan.

## Observations

Section 12 of TOC's Program Standard and Procedures establish the minimum requirements which guide WMATA's safety program. WMATA's System Safety Program Plan, which is maintained by WMATA's System Safety and Environmental Management Department, serves as the primary mechanism for addressing these requirements.

The TOC Program Standard and Procedures require WMATA to review the System Safety Program Plan on an annual basis for needed changes, and to submit any revisions to TOC by December 31 of each year. According to TOC's Program Standard and Procedures, TOC is required to issue its response to WMATA in the form of comments and a review checklist within 45 days of receiving the revised System Safety Program Plan. Upon receiving the TOC comments, WMATA addresses them and resubmits the document to TOC within 30 days. As required in 49 CFR Part 659, TOC then issues a formal letter of approval with the completed checklist. In addition to annual updates, TOC requires that WMATA identify changes that require modification of the System Safety Program Plan on an on-going basis.

This schedule enables the System Safety Program Plan review and approval process to be completed in a little less than three months. During the 2007 audit, FTA noted that TOC and WMATA were having trouble meeting these time frames. It appears that additional emphasis has been placed on this process, however, and WMATA provided its draft 2010 System Safety Program Plan for TOC to review a few weeks in advance of the December 31, 2009 deadline.

Throughout the System Safety Program Plan, WMATA makes several references to its "Safety Rules and Procedures Manual." This document contains procedures to guide critical system safety activities, such as internal safety audits and the hazard identification and resolution process. WMATA's "Safety Rules and Procedures Manual" was prepared in 1997, and FTA could find no evidence that it has been reviewed and updated since that time, with the exception of Procedure 2.4/1. (This procedure governs accident investigations, and was required to be updated as part of WMATA's submission to TOC for the revised 49 CFR Part 659, which went into effect on May 1, 2006). While the procedures in the "Safety Rules and Procedures Manual" are technically still in effect, they do not reflect current practice. Further, as will be indicated in other sections of this audit report addressing the internal audit process and the hazard management process, FTA found little evidence that WMATA's System Safety and Environmental Management Department is actively carrying out these procedures as specified in the "Safety Rules and Procedures Manual".

## Findings

- 5. To ensure compliance with 49 CFR Part 659, TOC must require WMATA to complete a timely, thorough, and competent review and update of WMATA's Safety Rules and Procedures Manual. This review and update must reflect actual current practices and needed improvements identified by TOC and by FTA in this audit report.**



## 4.0 Oversight of Internal Safety Reviews and Annual Rail Transit Agency Reporting

This section of FTA’s State Safety Oversight audit evaluated TOC’s policies to require WMATA to conduct internal safety reviews, and annual assessments of its System Safety Program Plan, as specified in 49 CFR 659.25 and 659.27.

### Discussion of Requirement

49 CFR 659.27 requires rail transit agencies to develop and document a process for the performance of ongoing internal safety reviews in their System Safety Program Plans. The internal safety review process must, at a minimum:

- Determine if all identified elements of its System Safety Program Plan are performing as intended; and
- Ensure that all elements of the System Safety Program Plan are reviewed in an ongoing manner and completed over a three-year cycle.

Section 659.27(c) requires rail transit agencies to notify the state oversight agency at least thirty days before the conduct of scheduled internal safety reviews. In addition, Sections 659.27(d) and (e) require rail transit agencies to submit to the state oversight agency any checklists or procedures that will be used during the internal reviews.

Section 659.27(f) specifies that the state oversight agency must require the rail transit agency to annually submit a report documenting internal safety review activities and the status of subsequent findings and corrective actions. Section 659.27(g) requires rail transit agencies to submit a formal letter of certification signed by the rail transit agency’s Chief Executive, indicating that the rail transit agency is in compliance with its System Safety Program Plan. Section 659.27(h) states that if the rail transit agency determines that findings from its internal safety review indicate that the rail transit agency is not in compliance with its System Safety Program Plan, the Chief Executive must identify the activities the rail transit agency will take to achieve compliance.

### Observations

WMATA’s System Safety Program Plan requires WMATA to conduct “comprehensive and continuous internal safety audits to evaluate the effectiveness of the implementation of the System Safety Program Plan.” The System Safety Program Plan requires WMATA to audit each of the 21 System Safety Program Plan elements at least once over a three-year period. According to the System Safety Program Plan, WMATA conducts the internal safety audits using guidance provided in the “Safety Rules and Procedures Manual, Procedure No. 2.3/1; Internal Safety Audit Process.” In addition, checklists are developed by the System Safety and Environmental Management Department consistent with TOC Program Procedures, the WMATA Internal Safety Audit Procedure and applicable WMATA procedures, practices, codes and regulations. These checklists are provided to the responsible department being audited and to the TOC in advance of the audit. TOC also is notified a minimum of 30 days in advance of the audit, as required in TOC’s Program Standard and Procedures.

The System Safety Program Plan also states that, annually, WMATA will develop and submit a comprehensive Internal Safety Audit schedule to TOC, detailing when they will audit the 21 System Safety Program Plan elements over the next three-year period. The schedule is revised as necessary to meet TOC requirements.



In 2005 and 2007, FTA determined that WMATA had not conducted internal safety audits according to approved schedules and requirements. Independent reviews conducted by TOC in 2004 and 2007 identified the same deficiency.

WMATA began its new internal safety audit cycle in 2009 by submitting an audit schedule and audit checklists to TOC. WMATA failed, however, to meet approved schedules and has not performed the audits in an on-going manner as required by TOC Program Standards and Procedures and 49 CFR Part 659. Instead, each of the internal safety audits scheduled for 2009 was conducted over a two-week period in December 2009 with the assistance of the American Public Transportation Association (APTA). TOC personnel and contractors observed the audits.

Over the last five years, TOC and FTA have made repeated findings regarding the inability of WMATA's System Safety and Environmental Management Department to work with other WMATA departments to develop and manage an effective internal audit program. In interviews, WMATA personnel explained that they did not have the resources or training to conduct internal safety audits without APTA or other contracted support. In an effort to provide training support, FTA, working with the Transportation Safety Institute (TSI), piloted its recently developed internal safety audit course at WMATA in October 2009.

At the current time, the personnel in the System Safety and Environmental Management Department primarily conduct audits to assess compliance with Occupational Health and Safety Administration (OSHA) and environmental rules and requirements and to ensure the use of appropriate Personal Protective Equipment (PPE) at work sites. These personnel do not routinely design and execute methodologies to effectively review documentation and records, interview personnel, and conduct field observations to determine compliance with specific rules and procedures. Further, these personnel do not have on-going access to critical systems and information that would facilitate the design and execution of an on-going internal safety audit process.

Based on interviews with WMATA's Executive Leadership Team and Quality Director, it appears that WMATA views this type of internal safety audit program as largely a quality function, conducted first by supervision in the given department and second by Quality Department personnel. Interviews with WMATA representatives revealed that there is general confusion regarding why the Safety Department would need to conduct or manage internal audits of other departments. Further, while safety personnel positions have been cut, additional engineers and auditors have been added to the Quality Department.

In interviews, WMATA personnel observed that FTA provides no clear guidance or standard regarding how exactly internal safety audits should be conducted. Further, WMATA safety personnel reiterated the importance of coordinating safety, quality and departmental audits and activities. With financial constraints and budget cuts, WMATA personnel noted the importance of maximizing the resources available to address findings; rather than auditing multiple times and leaving things undone. WMATA's Executive Leadership Team indicated that internal audits occurred throughout the agency in an on-going manner, the problem is coordinating information and sharing and tracking findings among departments.

Whether the internal audits are being done and the information is not being shared with the System Safety and Environmental Management Department, or whether the implementation of specific elements of the System Safety Program Plan are not being audited, FTA is concerned that, over the last decade, WMATA has failed to develop an effective internal safety audit process. While TOC has monitored this process, and noted its deficiencies, FTA finds that TOC should take a more active role in ensuring that WMATA implements this critical process.



## Findings

- 6. Require WMATA to develop (and TOC to review and approve) an internal WMATA safety audit recovery plan for calendar year 2010 and calendar year 2011. Before WMATA develops this plan, TOC should sponsor a meeting with WMATA's Safety Department, Quality Department, and Executive Leadership Team to explain the internal safety audit program requirements and TOC's expectations regarding WMATA's internal safety audit recovery plan.**

## 5.0 Three-Year Safety Reviews

This section of FTA's SSO audit evaluated TOC's performance of three-year safety reviews to assess WMATA's implementation of its System Safety Program Plan as specified in 49 CFR 659.29.

### Discussion of Requirement

49 CFR 659.29 requires that, at least every three years beginning with the initiation of rail transit agency passenger operations, the state oversight agency must conduct an on-site review of the rail transit agency's implementation of its System Safety Program Plan. Alternatively, the on-site review may be conducted in an on-going manner over the three-year timeframe. At the conclusion of the review cycle, the state oversight agency must prepare and issue a report containing findings and recommendations resulting from that review, which, at a minimum, must include an analysis of the effectiveness of the System Safety Program Plan and a determination of whether either should be updated.

### Observations

TOC conducted its last three-year review of WMATA in June 2007 and its next three-year review of WMATA is scheduled to take place in the summer of 2010. TOC's June 2007 review identified a total of sixty-five (65) findings. At the time of FTA's 2010 audit, approximately 20 findings from this 2007 review remain open. TOC's June 2007 review employed effective document review, records review, interview, field observation, and field verification techniques.

In December 2009, TOC completed its follow-up review regarding WMATA's implementation of its right-of-way worker safety program and the specific rules identified in Special Order 07-06. As a result of this assessment, TOC issued 18 additional findings to WMATA. Because of TOC's assessment regarding the serious nature of these findings, TOC requested that the initial corrective action plan be submitted by the end of January 2010.

As in 2005 and 2007, FTA finds that TOC's commitment to an active three-year safety review process fully addresses 49 CFR Part 659 requirements. FTA encourages TOC to build on the clarification of authority expressed in Amendment I to the TOC MOU, and conduct additional on-site assessments and reviews to support oversight of WMATA's internal safety audit program and WMATA's hazard management process.

## Findings

No finding.



## 6.0 Accident Notifications, Investigations, and Corrective Actions Plans

This section of FTA's State Safety Oversight program audit evaluated TOC's policies and procedures for performing and overseeing accident notifications, investigations, investigation reports, and corrective action plan development and tracking as specified in 49 CFR 659.33, 659.35, and 659.37.

### Discussion of Requirement

#### Accident Notification

49 CFR 659.33 establishes the minimum thresholds for accident notification. FTA requires rail transit agencies to notify the state oversight agency within two (2) hours of any incident involving a rail transit vehicle or taking place on rail transit-controlled property meeting any of the thresholds identified in Section 659.33(a):

1. A fatality at the scene; or where an individual is confirmed dead within thirty (30) days of a rail transit-related incident;
2. Injuries requiring immediate medical attention away from the scene for two or more individuals;
3. Property damage to rail transit vehicles, non-rail transit vehicles, other rail transit property or facilities and non-transit property that equals or exceeds \$25,000;
4. An evacuation due to life safety reasons;
5. A collision at a grade crossing;
6. A main-line derailment;
7. A collision with an individual on a rail right of way; or
8. A collision between a rail transit vehicle and a second rail transit vehicle, or a rail transit non-revenue vehicle.

#### Accident Investigation

Section 659.35 establishes that for each accident meeting a threshold in Section 659.33, the oversight agency must investigate the accident, or cause it to be investigated. If the oversight agency chooses to investigate, it must use its own procedures or procedures that have been adopted from the rail transit agency. In either case, the procedures must have been submitted to FTA. If the oversight agency has delegated accident investigation authority to the rail transit agency, it must ensure that the rail transit agency investigates the accident in accordance with oversight agency approved procedures.

#### Investigation Report

All reportable accidents must be documented in a final investigation report. This report must include, at a minimum, the following information:

- A description of the investigation activities;
- Identified causal and contributing factors; and
- A corrective action plan.

Each final investigation report must be formally adopted by the oversight agency. This includes accidents investigated by a third party, such as the rail transit agency. If the oversight agency does not concur with findings from an investigation conducted by the rail transit agency, the oversight agency must either



conduct its own investigation or formally transmit its dissent to the rail transit agency and ensure resolution on the findings is reached.

### **Corrective Action Plans**

Section 659.37 establishes that each oversight agency must require the development of corrective action plans for, at a minimum, the following:

- Results from investigations in which it is determined corrective actions are necessary; and
- Findings from the oversight agency's three-year safety and security reviews.

Section 659.37 requires that each plan identify:

- The action to be taken by the rail transit agency;
- An implementation schedule; and
- The individual or department responsible for implementation.

Section 659.37 also requires the oversight agency to review and approve each corrective action plan and monitor and track the implementation of each plan.

### **Observations**

TOC is required by Section 659.35 to investigate, or cause to be investigated, at a minimum, any incident involving a rail transit vehicle or taking place on rail transit-controlled property meeting the notification thresholds identified in Section 659.33(a).

Primarily, TOC delegates accident investigation responsibility to WMATA (customary for most state oversight agencies). However, TOC has participated in the investigations of large accidents as well as those investigated by the National Transportation Safety Board. All final investigation reports must be reviewed and formally adopted by TOC for each investigation of an accident meeting TOC's reporting thresholds.

TOC has not reviewed and adopted accident investigation reports according to the timeframe required in its Program Standards and Procedures. TOC's Accident-Incident Matrix (dated November 23, 2009) identifies sixty-three open accident/incident investigations, dating from April 10, 2006 through October 6, 2009. Of these, TOC had not ensured the identification of an accident cause for fifty-seven of the accidents. The majority of these fifty-seven accidents have not yet been investigated by WMATA due largely to resource limitations.

As part of this audit document review process, FTA reviewed all accident investigation reports submitted by TOC and WMATA for 2009 and noted that in several instances the Metro Transit Police Department Reportable Incident Investigation Coversheets identified individuals who no longer work for TOC as being notified of the accident. Further, in discussion with both TOC and WMATA personnel, there was evidence that, occasionally, WMATA notified TOC twelve to twenty-four hours late regarding the occurrence of a reportable accident.

To comply with Section 659.37, TOC must require the development of a corrective action plan for:

- Results from investigations, which requiring corrective actions; and
- Findings from safety reviews performed by the oversight agency.



Each corrective action plan must identify the action to be taken by the rail transit agency, an implementation schedule, and the individual or department responsible for implementation. TOC is required to review and formally approve submitted corrective action plans, and must establish a process to resolve disputes between itself and WMATA resulting from the development or enforcement of a corrective action plan. Further, TOC must identify the process by which findings from an NTSB accident investigation will be evaluated to determine whether or not a corrective action plan should be developed by either the oversight agency or WMATA to address NTSB findings. Finally, TOC must also monitor and track the implementation of each approved corrective action plan.

WMATA must provide TOC with verification that each corrective action(s) has been implemented as described in the corrective action plan, or that a proposed alternate action(s) has been implemented subject to TOC's review and approval. WMATA must also provide TOC with periodic reports describing the status of each corrective action(s) not completely implemented, as described in the corrective action plan.

Over the last seven years, WMATA has compiled corrective action plans resulting from accident investigations, NTSB recommendations, TOC three-year reviews, FTA audits, and APTA and other peer reviews. At one point in 2007, TOC and WMATA were tracking over 250 open corrective action plans.

During audits in 2005 and 2007, FTA made findings regarding the need for action to enhance WMATA responsiveness to TOC findings and to close open corrective action plans. Further, FTA noted that neither TOC nor WMATA were following their specified procedures for corrective action plan management. At the end of October 2009, there was some improvement; however, as approximately 140 open corrective action plans were being tracked.

During the six weeks before the completion of FTA's on-site audit (December 17, 2009), TOC and WMATA closed over seventy corrective action plans and reported that only sixty-six corrective action plans remained open. TOC and WMATA representatives attributed the success of the expedited corrective action plan resolution to the presence of members from WMATA's Executive Leadership Team at Corrective Action Plan Technical Review Entity meetings between the two agencies.

TOC reported that Corrective Action Plan Technical Review Entity meetings now require the presence of Rail Operations Delivery, Rail Transportation, and Track Structure and Systems Maintenance executives and managers and that this brought additional focus and attention to the open corrective action plans. TOC stated that all of the closed corrective action plans were verified through review of documents.

The Corrective Action Plan Technical Review Entity meeting process is not documented in WMATA's System Safety Program Plan or TOC's Program Standards and Procedures. Rail Operations Delivery does not have a written procedure in place for prioritizing and closing corrective action plans, and WMATA has not developed a process for evaluating corrective action plan alternatives that may be necessary as a result of capital and operating program resource limitations.

## Findings

- 7. Require WMATA to develop a recovery plan to complete all open accident investigations following procedures established in TOC's Program Standard, WMATA's System Safety Program Plan and WMATA's Accident Investigation Procedures.**
- 8. Document the Corrective Action Plan Technical Review process in TOC's Program Standard and Procedures and WMATA's System Safety Program Plan.**



9. **Work with WMATA to ensure that there is a process in place for evaluating Corrective Action Plans (CAP) alternatives that may be necessary as a result of capital and operating program resource limitations.**

## 7.0 Oversight of Rail Transit Agency Hazard Management Process

This section of FTA's State Safety Oversight audit evaluated TOC's policies to require WMATA to implement a hazard management program and TOC's processes for tracking the resolution of identified hazards as specified in 49 CFR 659.31.

### Discussion of Requirement

The hazard management process is key to an effective system safety process, although it is one of the more difficult Part 659 requirements to implement. Section 659.31(a) specifies that each state oversight agency must require the rail transit agencies in its jurisdiction "to develop and document in their System Safety Program Plans a process to identify and resolve hazards during their operation." This process must include "any hazards resulting from subsequent system extensions or modifications, operational changes, or other changes within the rail transit environment." Section 659.31(b) further clarifies what the process must include:

1. Define the rail transit agency's approach to hazard management and the implementation of an integrated system-wide hazard resolution process;
2. Specify the sources of, and the mechanisms to support, the ongoing identification of hazards;
3. Define the process by which identified hazards will be evaluated and prioritized for elimination or control;
4. Identify the mechanism used to track through resolution the identified hazard(s);
5. Define minimum thresholds for the notification and reporting of hazard(s) to oversight agencies; and;
6. Specify the process by which the rail transit agency will provide on-going reporting of hazard resolution activities to the oversight agency.

### Observations

Section 10 of TOC's Program Standards and Procedures establishes the requirements that must be met by WMATA in identifying, reporting, analyzing, controlling, and tracking hazards and hazardous conditions within its rail transit operations. Section 6.0 of WMATA's System Safety Program Plan responds to the requirements of TOC's Program Standards and Procedures by establishing WMATA's processes for hazard identification, investigation, and resolution. This includes WMATA's process for coordinating and communicating hazards to TOC and for determining hazard classifications based on quantitative and qualitative measures of hazard probability and severity (consistent with the processes prescribed by Mil-Std-882).

The hazard management program required by TOC's Program Standard and Procedures and by WMATA's System Safety Program Plan is not being implemented as specified. WMATA does not have a process, including a single point of responsibility, which ensures the timely identification and evaluation of safety hazards. There is no evidence that safety analysis is being performed to prioritize hazards for elimination and mitigation, and the Safety Department does not appear to have adequate technical capability and capacity to conduct thorough hazard analyses on an on-going basis. This is exemplified by the fact that at the time of the audit, WMATA and TOC representatives were unable to identify the agency's top ten safety concerns or hazards.



The Safety Department noted that it is currently working with WMATA's Information Technology (IT) Department to create a software application that will allow the Safety Department to better identify, analyze, and track system information that can be used to support the hazard management program. This system is currently about 40% complete and it is anticipated that it will take minimum of a year before it can be fully deployed.

At the current time, WMATA reports that it intends the Hazard Identification and Resolution Matrix to track, analyze, categorize and report system hazards to management on an on-going basis. However, it does not appear that the Hazard Identification and Resolution Matrix is currently being used for this purpose. The Hazard Identification and Resolution Matrix is not defined in WMATA's System Safety Program Plan and therefore its true purpose and function within the organization is unclear.

In addition, there is no evidence that WMATA or TOC is conducting analysis of Hazard Identification and Resolution Matrix data to identify repetitive hazards, possible trends and/or to escalate the hazard classification of certain incidents. For example, the fiscal year 2010 Hazard Identification and Resolution Matrix lists fifty-four door incidents, forty-eight of which were platform overruns classified as IV-E—a negligible hazard of remote possibility. WMATA's System Safety Program Plan defines such a hazard as an occurrence that would result in "less than minor injury, occupational illness, or system damage" and that could be expected to occur at a rate of  $5 \times 10^{-6}$  during the life of the fleet. By WMATA's own definition, forty-eight occurrences of door incidents occurring in a single fiscal year should not be classified as IV-E.

Although TOC receives copies of the Hazard Identification and Resolution Matrix, it failed to identify these (and other) classifications as errors. Instead, as stated in its July 6, 2009 letter to WMATA, TOC became aware of this issue by reading an article in the "Washington Post on Monday, June 8, 2009, alleging numerous instances of improper door opening on Metro." TOC also stated in its July 6, 2009 letter to WMATA that "at no point in our monthly review of the WMATA Hazard Identification and Resolution Matrices did it appear that WMATA was tracking these incidents. However at the June 10, 2009 monthly meeting between TOC and WMATA, we learned that the Safety Department had also learned of these incidents for the first time from the Post article." TOC representatives further stated during the audit that they just recently began developing a process for reviewing recurring hazards and incidents to identify trends and the potential need for escalating hazards classifications.

While TOC communicates with WMATA regarding specific hazards, FTA finds that TOC, through the course of its oversight, TOC has not ensured that WMATA implements a system-wide approach to hazard identification.

During the audit, FTA recommended that TOC work with WMATA leadership and the Safety and Quality Departments to design a monthly report to collect necessary information and distribute the report to all departments. At a minimum, FTA recommended that the report be used by the operating and maintenance departments to capture information on accidents, incidents, near misses, safety rules violations, open and closed corrective action plans, safety and quality audit results and open and closed findings, hazards identified in committee meetings by each Metro Department, and other activities which demonstrate the on-going implementation of the agency's hazard management program.

## Findings

### **10. Require WMATA to develop and implement a comprehensive and system-wide hazard management program as required by 49 CFR Part 659.**



## 8.0 Reporting to FTA

This section of FTA's State Safety Oversight audit evaluated TOC's policies and procedures for certifying and reporting to FTA, as specified in 49 CFR 659.39 and 659.43.

### Discussion of Requirement

Section 659.39 establishes the minimum reporting requirements by the State Safety Oversight agency to FTA. State safety oversight agencies must make an annual submission to FTA before March 15 of each year. The annual report must include a publicly available annual report summarizing the state oversight agency's oversight activities for the preceding twelve months, including a description of the causal factors of investigated accidents, status of corrective actions, updates and modifications to rail transit agency program documentation, and the level of effort used by the oversight agency to carry out its oversight activities.

The annual report must document and track findings from three-year safety review activities and state whether a three-year safety review has been completed since the last annual report was submitted. The annual report must also state if the program standard and supporting procedures have changed during the preceding year and must include the oversight agency's certification that any changes or modifications to the rail transit agency SSPP or Security Plan have been reviewed and approved by the oversight agency. Section 649.43 requires oversight agencies to annually certify to FTA that they have complied with the requirements of Part 659.

### Observations

TOC is required by Section 659.43 to annually certify to FTA that it has complied with the requirements of 49 CFR Part 659. WMATA is required by TOC's Program Standards and Procedures to submit to TOC an annual certification of its compliance with its System Safety Program Plan, signed by the Chief Executive Officer. In the past, TOC has allowed WMATA to make this certification without reference to actions required to address known deficiencies, such as not performing internal safety audits according to established schedules, not implementing a system-wide hazard management process, and not implementing corrective actions as required by agreed upon and approved corrective action plans.

### Findings

- 11. Require WMATA to strictly adhere to the annual certification of compliance with its System Safety Program Plan (as specified in 49 CFR 659.43), including identifying areas where WMATA is not in compliance with its System Safety Program Plan as well as specific actions WMATA is taking to achieve compliance.**



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## **PART TWO: EVALUATION OF WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA) SAFETY PROGRAM IMPLEMENTATION**

### **9.0 WMATA Safety Department Resources and Capabilities**

WMATA's Safety Department is led by a Chief Safety Officer who currently reports directly to the General Manager. The General Manager in turn reports to a Board of Directors that provides safety management oversight of WMATA activities through the Board Customer Service, Operations and Safety Committee. The General Manager is supported by the Executive Leadership Team, which directs senior managers to include safety requirements, responsibilities and objectives into the work plans of managers and supervisors. WMATA's Safety Department is currently in a time of transition. WMATA's Transit Police Chief is acting as WMATA's Chief Safety Officer while the agency conducts a search for a full-time individual to fulfill the roles and responsibilities of the Chief Safety Officer position.

Since 2005, WMATA's Safety Department has been re-organized six (6) times. It has been known as System Safety and Risk Prevention, System Safety and Risk Management, and now System Safety and Environmental Management. Its status as a direct report has changed several times. Its responsibilities have changed as well. For instance, as the result of reorganization in 2007, the Safety Department lost both its quality division and its access to key employees with engineering, auditing, and systems analysis expertise. Since 2007, four different individuals have been in charge of safety. The recurring reorganization of the Safety Department, its resource levels and expertise, and its reporting structure, may contribute to the identified disconnects in safety communication.

The Safety Department is responsible for managing all aspects of WMATA's system safety program. This includes supporting modal operations and facilities safety, administering and monitoring employee occupational safety and health programs, workers' compensation and third party liability claims management, accident and incident investigations, and environmental protection. The Safety Department is broken into three primary divisions—Regulatory Compliance, System Safety, and Environmental Services.

The Regulatory Compliance Division is responsible for WMATA's corporate safety function. Activities such as management of the DuPont Sustainability Solutions contract and management of worker's compensation and third party liability claims no longer reside within this division and are now managed by Financial Services.

The System Safety Division provides safety support to each of WMATA's modal operations and is responsible for bus and rail operations, maintenance and facilities safety. Safety Officers from this Division have been assigned to each of WMATA's modal operations to monitor the day-to-day implementation of WMATA's safety program from a modal level. This entails supporting accident and incident investigations, identifying and tracking reported hazards, conducting inspections and audits, and supporting safety certification and industrial safety activities.

The Environmental Services Division is responsible for monitoring WMATA's compliance with applicable environmental laws and regulations including those established by the Environmental Protection Agency.

FTA was provided an organizational chart for the Safety Department. During interviews, FTA learned the following regarding positions and vacancies:



- The Safety Department currently consists of forty-one staff positions (as indicated by the current organization chart).
- Ten positions (almost twenty-five percent) are vacant.
- The Regulatory Compliance Division houses twelve positions. Six of these positions are currently vacant.
- The System Safety Division houses fifteen positions. Four of these positions are currently vacant.
- The Environmental Services Division consists of nine positions with no current vacancies.

During interviews, WMATA leadership indicated that it has been unable to fill past vacancies internally with staff that possess operational experience in different disciplines. These same representatives stated that they have had great difficulty hiring individuals with sufficient engineering and/or public transportation experience. Three employees of the Safety Department have obtained Transportation Safety Institute (TSI) certifications, a program sponsored by FTA to provide safety training to transit professionals.

In 2007, the Quality Assurance/Quality Control functions were removed from the Safety Department and the technical expertise of these functions, which was relied upon by the Safety Department, has not been replaced. In addition, there is currently no plan in place at WMATA to identify how incoming resources can be used to fill critical gaps in safety functions such as those related to hazard identification, analysis and mitigation. Subject matter expertise and engineering analysis is not currently available to the Safety Department on a consistent basis to perform these functions.

WMATA's System Safety Program Plan serves as the primary mechanism for addressing the requirements of TOC's Program Standards and Procedures and those of FTA's 49 CFR Part 659. This includes describing macro-level tasks to be performed by the Safety Department to implement the System Safety Program Plan. WMATA's processes for hazard management, safety data acquisition, accident and incident notification, investigation and reporting, internal safety audits and reviews, rules and procedures compliance and review, facilities and equipment inspections, maintenance audits and inspections, and configuration management.

WMATA uses Policy/Instructions and other procedures to implement these and other safety program activities and to formalize the processes identified in the System Safety Program Plan. However, despite being addressed by the System Safety Program Plan, WMATA has failed to fully implement the System Safety Program Plan as required. Examples of key elements of the System Safety Program Plan and related Policy/Instructions that FTA identified as not being fully implemented by WMATA's Safety Department include:

- System-wide hazard identification, analysis, reporting and resolution;
- Timely investigation for all TOC reportable accidents;
- Submission of final accident investigation reports per defined timeframes;
- Internal safety audits according to approved schedules; and
- WMATA's configuration management program.

WMATA representatives stated during interviews that recent accidents have placed additional burdens on the Safety Department's ability to carry out its daily activities, such as identified above. In addition, the same representatives stated that unfilled vacancies limit the Safety Department's ability to ensure System Safety Program Plan implementation as required.



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## Recommendations

To address this situation, FTA makes the following recommendations to WMATA:

- 1. Conduct an assessment to identify the resources and expertise necessary for the Safety Department to carry out the activities specified in WMATA’s System Safety Program Plan and Safety Rules and Procedures Manual.**
- 2. Use the results of the assessment to ensure adequate staffing levels and expertise within the Safety Department.**

## 10.0 WMATA Processes for Communication and Coordination regarding Safety Issues and Concerns

In 1997, in response to its investigation into a fatal accident that occurred near Shady Grove station, the National Transportation Safety Board made findings regarding the need for a strong and independent Safety Department at WMATA with a direct report to the General Manager. In its investigation into this accident, the NTSB noted that WMATA concentrated decision-making authority in a small group of executive leaders. The NTSB determined that an independent and technically proficient Safety Department was necessary to provide an important check on this authority, ensuring that hazards would be identified, prioritized and resolved, and that passengers and employees were not placed at risk.

Following up on this concern, the NTSB, as part of its investigation into the 2004 Woodley Park collision, recommended that FTA “assess the adequacy of WMATA’s current organizational structure and ensure that it effectively identifies and addresses safety issues.” (R-06-4) While NTSB has since classified this recommendation as “Closed – Acceptable Action,” FTA has continued to monitor the situation, along with TOC. Over the years, FTA has supported several TOC letters issued to different WMATA General Managers advocating on behalf of the Safety Department for resources and a direct report.

In 2007, FTA found during its audit of TOC that WMATA was not consistently implementing its Standing Safety Executive Committee as required in its System Safety Program Plan. FTA was concerned that without the Standing Safety Executive Committee, there was no consistent and dedicated mechanism to ensure that identified safety concerns were reaching the highest levels of WMATA management. As a result of its audit, FTA recommended that WMATA either (1) re-convene the Standing Safety Executive Committee structure as specified in P/I No. 10-2/1, or (2) determine if another committee structure would provide a more effective way to coordinate on agency-wide safety issues. The purpose of the recommendation was to ensure coordination at the highest levels of the organization regarding safety issues.

During the December 2009 audit, WMATA provided FTA with minutes from Standing Safety Executive Committee meetings for September, October and November 2009. Members from WMATA’s Executive Leadership Team are present during the meetings. Absent from the meeting minutes are discussions regarding system hazard identification and resolution activities and the ongoing accident investigation by the NTSB. There is no indication from the meeting minutes that high priority safety issues were presented to the Executive Leadership Team. Interviews with Executive Leadership Team members revealed that they had not been presented with a list of top safety concerns by the Safety Department.

FTA requested a list of the “top 10” safety concerns for the agency and was told that WMATA did not have such a list but that concerns were being investigated in accidents and incidents experienced by



WMATA. At no time was FTA presented with documentation that either the Standing Safety Executive Committee or the Chief Safety Officer had briefed the General Manager on top safety priorities. While WMATA has taken steps to implement its Standing Safety Executive Committee as recommended in 2007, the highest levels of WMATA management do not receive on-going reporting regarding safety concerns and issues.

Throughout FTA's audit, there was evidence that WMATA's Safety Department is not "plugged-in" to critical conversations, decision-making meetings and reporting systems that provide information on hazards and potential safety concerns throughout the agency. Key documents, reports and decisions are not consistently shared with the Safety Department. For example, the Safety Department does not receive and review available monthly reports from Rail Operations, Quality, or Maintenance. The Assistant General Manager for Rail Operations indicated that these reports are available on the agency's intranet. Safety Department representatives indicated during interviews that they are neither aware of the location of the reports, nor are they copied on distribution. On numerous occasions during the audit interviews, Safety Department representatives indicated that they were learning for the first time that information of a safety nature was being documented by operating departments.

Based on discussions and record reviews at WMATA's Track Structures and System Maintenance, it does not appear that there is effective interdepartmental coordination regarding the identification and management of maintenance-related safety hazards between Rail Operations Delivery, Rail Transportation, Track Structures and Systems Maintenance, Vehicle Engineering, the Infrastructure Renewal Project Group, and Engineering Services. Further, through interviews and records reviews, FTA determined that there is no formal process for identifying and managing the likely safety impacts of budgetary decisions affecting maintenance.

For example, FTA requested and reviewed Track Structures and Systems Maintenance's proposed Operating and Capital Business Plans for Fiscal Year 2011. WMATA's Safety Department had not reviewed these documents, in which Track Structures and Systems Maintenance identifies unmet funding needs that have not been analyzed by the Safety Department for potential hazards, such as the following:

- Limited performance of right-of-way drain maintenance (which contributes to infrastructure deterioration and exacerbates stray current and negative return problems, increasing the corrosiveness of the environment);
- Reduced personnel resources to inspect and maintain expanding and aging track infrastructure (due to the condition of the track, new requirements for measuring and managing wheel burns, corrugation, and base corrosion increase the time needed to perform base inspections and the number of special safety inspections is increasing, yet the number of inspectors remains the same);
- Potential fatigue issues with existing right-of-way track inspectors and workers (documented evidence of seventy and eighty hour work weeks on the tracks; in the first quarter of FY 2010, the department went through eighty-one percent of the overtime funding allotted for the entire year);
- Failure to provide resources to calibrate test equipment throughout the agency (almost 2,000 pieces of test equipment are currently beyond the recommended calibration date);
- Reduced level of employee supervision over key safety sensitive positions in Shops and Maintenance (a ratio of twenty-one union employees to one supervisor);
- Need for additional safety equipment to set up protected work areas along the right-of-way (shunt straps, lanterns, rubber mats, etc.); and
- The need for additional specialty training for maintenance employees in key disciplines.



During time on-site at Track Structures and Systems Maintenance, FTA interviewed several Track Walkers at the end of their shift as they entered identified defects for that day into WMATA's maintenance management information system Maximo. The current procedure requires inspectors to hand-write noted defects found in the field, which are then entered into the Maximo system upon returning to the maintenance facility. FTA also requested and reviewed sample Maximo reports documenting several rail burns, rail corrugations, and rail cracks being monitored as a priority #2 (yellow) repair level.

FTA found that hazards identified through inspections and assessments are not elevated for priority analysis. FTA was presented with documentation that indicated that Track Structures and Systems Maintenance employees and managers are very active in Local Safety Committees. While these committees are intended to serve as a means for employees to report hazards, they are primarily focused on reducing workplace injuries and illnesses and associated workers' compensation claims (as documented by meeting minutes). Nevertheless, based on interviews, it appears that a great deal of safety information is collected during these meetings. While a representative from the DuPont WorkSafe Program is normally present at each Local Safety Committee meeting, and while representatives from the Safety Department attend division-level and departmental committee meetings, there is no mechanism in place for the Safety Department to collect and analyze data gathered through each of these committee meetings to identify system-wide hazards. There was no documented evidence of how hazards reported through the committee structure were identified, communicated to management and the Safety Department, are analyzed, tracked and resolved.

The lack of communication from operating and maintenance departments to the Safety Department, coupled with the lack of communication of top safety priorities from the Safety Department to the General Manager presents a disconnect in the flow of critical safety information within and throughout WMATA.

## Recommendations

- 3. Increase the Safety Department's access to operating and maintenance information and reports to ensure that this information is being analyzed for potential impacts on the safety of WMATA.**
- 4. Develop an internal process to require the communication of safety-related information across all WMATA departments, including the impacts of budget reductions and resource constraints on the performance of safety-related maintenance activities and requirements.**
- 5. Define and implement the process for the top Safety Department position to communicate safety priorities to the General Manager in a timely and consistent manner.**

## 11.0 WMATA's Hazard Management Program

Despite having key elements in place, WMATA does not have a process, including a single point of responsibility, which ensures the timely identification and analysis of hazards. As mentioned previously, WMATA's Executive Leadership Team and Safety Department personnel were unable to provide a comprehensive matrix or assessment that identified the agency's on-going evaluation and management of its most serious safety hazards and concerns. Upon questioning, several different WMATA managers indicated that these issues had been identified already in the accidents that were being investigated at WMATA. This WMATA approach is reactive and prevents getting value from the proactive aspects of the hazard management process.



During interviews, WMATA representatives stated that, due to a lack of resources, formal hazard analysis is not routinely performed on system-wide issues. For example, while Safety Department concurrence is required for rules changes, safety analysis is not required to be performed. WMATA personnel also pointed out that WMATA's Board of Directors rarely requests formal hazard analysis or other information on how operating, maintenance or budget decisions may have safety impacts or how the agency is addressing safety-related concerns.

Representatives from WMATA's Safety Department stated during interviews that the department lacks sufficient skills and resources to conduct on-going hazard analyses. WMATA officials explained that the Regulatory Compliance Division, housed within the Safety Department, is responsible for WMATA's corporate safety analysis functions, which included hazard analysis. Due to reductions in work force and on-going budget issues, it was explained to FTA that there are limited resources available. All four analyst positions within the Regulatory Compliance Division have been vacant for over a year.

The primary tool used to identify and assess hazards at WMATA is the Hazard Identification and Resolution Matrix. As being implemented by WMATA, the Hazard Identification and Resolution Matrix does not comply with Procedure Number 2.1/0 or the more general description of this process included in Section 6 of the WMATA System Safety Program Plan. Review of the Hazard Identification and Resolution Matrix indicated that it largely contains incidents reported to the Rail Operations Control Center (that did not meet 49 CFR Part 659 accident reporting criteria but that WMATA personnel believe are significant incidents.) The Hazard Identification and Resolution Matrix is shared with TOC, and files are kept by fiscal year.

The hazards included in the Hazard Identification and Resolution Matrix are limited in source and type and repetitive in kind. For example, all hazards reported in the fiscal year 2010 Hazard Identification and Resolution Matrix were identified by the Rail Operations Control Center and occurred during revenue operations. No hazards were identified from any other source, such as passenger complaints, the results of Quality audits, reports on rules violations compiled by supervisors, assessments of maintenance records, internal safety audits, or analysis of the impacts of unmet budget requests.

## Recommendations

- 6. Identify the technical skills required to perform system-wide hazard analysis (as required in 49 CFR Part 659 and TOC's Program Standard). To the extent that WMATA Safety Department staff does not currently possess the needed skills, provide training as soon as practicable.**
- 7. Update the WMATA System Safety Program Plan (specifically Procedure #2.1/0 and Section 6) to develop a hazard management process that ensures that all WMATA departments participate in an on-going manner.**

## 12.0 WMATA Rules Compliance and Right-of-Way Safety

Section 12 of TOC's Program Standards and Procedures requires WMATA to address rules compliance and procedures reviews in its System Safety Program Plan. This must include a review of the rules and procedures subject to review, the process for ensuring rules compliance, including compliance techniques for operations and maintenance personnel, as well as supervisory personnel, and WMATA's process for documenting its rules compliance program.



Section 13 of WMATA's System Safety Program Plan responds to this requirement by establishing the rules and procedures compliance and review process used by the agency. The System Safety Program Plan states that rules and procedures are evaluated via spot audits conducted by the Safety Department and as part of the incident and accident investigation process. Supervisors and managers evaluate compliance with and the adequacy of the WMATA rulebook and make recommendations for modifications or additions as part of their review of incident reports filed by employees. Employees are also tested during initial and refresher training to ensure they remain cognizant of the WMATA rules and procedures, and the Quality Assurance/Quality Control Department conducts spot audits of rail operations to monitor rulebook compliance.

WMATA's current rulebook has been in a state of revision since 2006. A rulebook committee, which includes Union representation and members from different WMATA departments including the Safety Department, has been created to manage the rulebook revision process. To date, the first four sections of the rulebook have been revised, reviewed and fully approved by the rulebook committee. WMATA hopes to complete the remaining revisions and to reissue the rulebook by June 2010. In addition, TOC has involved in the rulebook revision process.

During the audit, FTA requested that TOC and WMATA discuss the development, implementation and enforcement processes that have been used by the agency to create and issue Special Order 07-06. WMATA personnel explained that Special Order 07-06 was developed in response to National Transportation Safety Board recommendations made as a result of the Dupont Circle and Eisenhower Avenue accidents that occurred in 2006 and resulted in the deaths of two track workers.

WMATA's rail operations department led the development of Special Order 07-06, and although WMATA representatives stated that other departments, including the Safety Department, were involved in its development, WMATA representatives could not produce evidence that analysis was performed to determine and evaluate how rule changes may or may not impact safety. In addition, although the Special Order was a corrective action resulting from a reportable accident, TOC stated that it was not consulted during the development of this Special Order.

WMATA representatives stated that all applicable employees have been trained regarding Special Order 07-06 and that employees are required to sign for all Special Orders. WMATA's Rail Operations Delivery Department typically issues two notifications within thirty days of a new rule or procedure being implemented to heighten employee awareness and to afford employees an opportunity to review rule changes before they are implemented. FTA learned that the primary component of the training consisted of supervisors providing the Special Order to employees and having them sign that they understand the rule.

WMATA has monitored compliance with Special Order 07-06 through supervisory spot checks of train operators conducted by Rail Transportation, through unannounced observations of inspectors and maintainers conducted by Track Structures and Systems Maintenance, and through rule compliance audits conducted by the Quality Assurance/Quality Control Department. WMATA representatives also stated that the Quality Assurance/Quality Control Department tests new rules and procedures immediately after they are implemented. However, representatives from the Quality Assurance/Quality Control Department later clarified that of the three hundred total audits that have been performed by the Department over the last fourteen months; twenty were related to right-of-way safety and compliance with Special Order 07-06. Representatives from the Safety Department stated that the department does not perform rules compliance audits.

TOC has also conducted audits of WMATA's track worker safety rules and procedures. In 2007, TOC's measure of WMATA compliance with Special Order 07-06 was only 45%. WMATA representatives



stated that their own rule compliance checks of Special Order 07-06 have yielded similar results. In response, and as a result of recent track worker fatalities that occurred in August and September, 2009, WMATA is again revising Special Order 07-06. The Safety Department has not been tasked to conduct a safety analysis of the pending revisions.

On December 2nd and 10th, 2009, TOC conducted additional reviews of WMATA's roadway worker protection program to monitor compliance with Special Order 07-06. TOC's preliminary findings from these activities were issued to WMATA on December 11, 2009. The preliminary report highlights a number of safety issues and states that "TOC observed numerous violations of WMATA's roadway worker protection rules and procedures, and as such believes that WMATA's roadway worker protection program is not effective as it is currently written, applied, and enforced." TOC also reported, and WMATA personnel confirmed, that there is some degree of antagonism between employees working on the right-of-way and train operators. In addition, WMATA has not established a formal procedure and training program for TOC access to the right-of-way.

Before the TOC audit, WMATA was not tracking any open hazard or corrective action plan specifically related to enhancing compliance with Special Order 07-06 or revisiting the requirements. During interviews, Safety Department representatives stated that they focused on Personal Protective Equipment issues at work sites and did not actively assess compliance with Special Order 07-06 in the field. Aside from the Quality audits, WMATA was not collecting in-depth information on train speeds approaching moving work crews or the accuracy of the announcement made by the controllers regarding the locations of workers on the ROW. The quality checks performed by Rail Transportation supervisors did not include Special Order 07-06 elements as a programmed feature.

Interviews conducted by FTA with train operators and supervisors and track and structures inspectors and supervisors demonstrated the serious nature of the challenges in implementing Special Order 07-06. Supervisors and operators stated that communications from the Rail Operations Control Center do not specify the exact location of right-of-way workers that on the alignment. Announcements are generalized and at times right-of-way workers are in a different location than the operators expected given the announcement. Operators stated that in some cases they do not know right-of-way workers are on the alignment until they have visual contact, and when this occurs in "blind spots" operators have limited ability to slow the train. Operators further stated that there is an expectation for schedule adherence, notwithstanding slow zones, and they do not understand why schedules are not adjusted when right-of-way workers are on the alignment. Train operators and supervisors and track and structures inspectors and supervisors all presented ideas to FTA for how to improve the design of Special Order 07-06 and to enhance safety on the right-of-way, including the use of flaggers, the use of a "blue light" or flag system (as used in the yard), lowering operating speeds at specific times of day, whistle boards, and additional training.

As a result of the TOC safety audit; WMATA assembled a Track Safety Task Force to perform an extensive review of its existing right-of-way safety program, including Special Order 07-06. During the period January 11 to 13, 2010, FTA and TOC both participated in a WMATA-led Right-of-Way Safety Workshop along with representatives from the Bay Area Rapid Transit (BART) District, the Maryland Transit Administration (MTA), New York City Transit Authority (NYCTA), and the Southeastern Pennsylvania Transportation Authority (SEPTA). Amalgamated Transit Union (ATU) Local 689 also participated in the Task Force.

As WMATA moves forward in addressing the issues identified by TOC and the results from its Task Force Workshop, FTA makes the following recommendations to WMATA:



## Recommendations

8. **Institute a process to ensure that changes in rules are analyzed for safety impacts before system-wide implementation.**
9. **Finalize the right-of-way protection rules, develop training to implement the new rules and ensure all right-of-way employees and contractors receive this training before accessing the right-of-way.**

## 13.0 WMATA's Configuration Management Program

A number of safety critical documents were presented during the field review of Track Structures and Systems Maintenance including the recently revised WMATA Track Inspection Manual. None of the documents reviewed contained control numbers, the person to which the document is assigned, or a revision history. Track Structures and Systems Maintenance managers present stated that there was no formal procedure for document control. Document control is a critical element of configuration management. Configuration management is defined in WMATA's System Safety Program Plan January 2010 in Section 17.0 and notes five basic program elements, i.e. Program Management, Technical Requirements, Change Control, Document Control, and Audits and Self Assessments. Ostensibly, WMATA is not ensuring that manuals, standards, inspection procedures, or other asset modification documentation is part of their configuration management program as described in their System Safety Program Plan. To address this issue, FTA makes the following recommendations to WMATA:

## Recommendations

10. **Implement the configuration management program described in the WMATA System Safety Program Plan.**



## Appendix A: Materials Received

WMATA System Safety Program Plan (SSPP)
WMATA Accident/Incident Investigation Procedure
WMATA Corrective Action Plan (CAP) Tracking Matrix
Hazard/Incident Reporting Matrix
TOC Accident-Incident Matrix
TOC's 2007 Three-Year Review of WMATA
Updated matrix tracking the status of WMATA activity to address findings and recommendations
Results of any follow-up assessments to the 2007 Three-Year Review
Organization Chart for WMATA (if not included in the SSPP)
List of all rail Safety Committees at WMATA, their members, and the schedule for their meetings (if not included in SSPP)
Statement of Work for DuPont Safety Consulting Program used by WMATA
Overview of DuPont Safety Program, its organization, the key activities it has performed, and its past and current role in WMATA's Safety Program
Current Metrorail Safety Rules and Procedures Handbook (MSRPH) and a copy of the annual refresher training currently provided on the MSRPH
DRAFT REVISED Metrorail Safety Rules and Procedures Handbook
Copies of key Special Orders used to govern Operations, including Special Order 07-06
Copies of all accident investigation reports for 2009 submitted by WMATA to TOC
TOC's detailed response to WMATA and all follow up correspondence between WMATA and TOC regarding WMATA's 2008 internal safety audit of its Rules Compliance Program
Copies of all TOC-WMATA monthly meeting minutes, including attachments
Several sample Metrorail "Safety Rules of the Week"
Rail Quality Check Form and current "Performance Plan" for Management with specified targets for Supervisors to conduct their checks and for Operators to be checked
Sample Rule Violations Weekly Summary Report (reviewed by Line Services Directors) from the last month
WMATA P/I No. 1.13/0 establishing the SSPP
WMATA P/I No. 10-2/1 establishing the Standing Safety Executive Committee (SSEC)
WMATA P/I No. 1.11/0, which governs Accident Notification of CEO and Board
WMATA Safety Rules and Procedures Manual (SRPM)
Section 7.0 of the Accident, Incident and UHC Investigation Procedure, No. 2.4/1 of the SRPM, which governs hazard investigation
Procedure No. 2.2/1 of the SRPM, which governs safety certification
SRPM No. 2.3/1: Internal Safety Audit Process, which provides guidelines for the Internal Safety Audit Process



## Appendix B: TOC Audit Findings Tracking Matrix

Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
<p><b>Finding #1:</b> Assess the level of resources necessary from each jurisdiction (District of Columbia, Maryland and Virginia) to meet TOC’s responsibilities. Use the results of this assessment to establish resource commitments from each jurisdiction to TOC for the next three calendar years. Resources should be committed and onboard before the beginning of the next Federal audit cycle.</p>	<ul style="list-style-type: none"> <li>• Conduct a resource analysis for each jurisdiction (District of Columbia, Maryland and Virginia) to:               <ol style="list-style-type: none"> <li>(1) Identify all required TOC SSO Program activities, as described in Part 659 and TOC’s Program Standard;</li> <li>(2) Evaluate the resources needed to implement all required SSO activities.</li> </ol> </li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>• Submit the completed resource analysis to FTA.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>• Provide formal commitment letters from each jurisdiction to FTA, stating the level of resources that will be committed to TOC by each jurisdiction for the next three calendar years.</li> </ul>	05/04/10		OAA	
<p><b>Finding #2:</b> Evaluate the technical and professional skills that TOC representatives need to effectively carry out their oversight duties. To the extent that TOC representatives do not currently possess these skills, ensure training is provided as soon as practicable to each TOC member.</p>	<ul style="list-style-type: none"> <li>• Conduct an evaluation of the technical and professional skills TOC members need to effectively carry out their oversight duties.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>• Provide FTA with a copy of the evaluation results. This must:               <ol style="list-style-type: none"> <li>(1) Identify the training needed by each TOC member.</li> <li>(2) Provide a schedule of when needed training will be received by each TOC member.</li> </ol> </li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that training has been received by each TOC member as determined necessary to carry out their TOC responsibilities.</li> </ul>	05/04/10		OAA	
<p><b>Finding #3:</b> Determine the best method to respond quickly and professionally, as WMATA safety situations arise and require coordinated action. Consider whether full-time TOC positions can be vested with decision-making authority to act in specific safety situations with WMATA.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., copies of formal reports, evaluations, meeting minutes, etc.) verifying that TOC has evaluated how it can best respond to WMATA safety situations.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with documentation identifying which full-time TOC positions have been vested with decision making authority to act in specific safety situations with WMATA.</li> </ul>	05/04/10		OAA	
<p><b>Finding #4:</b> Identify and formalize a mechanism to ensure that critical unresolved WMATA safety concerns identified by TOC members are elevated to the highest levels of each TOC jurisdictional agency and WMATA for immediate action.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC has created and is using a formal mechanism to ensure unresolved WMATA safety concerns identified by TOC members are elevated to the highest levels of each TOC jurisdictional agency and WMATA for immediate action.</li> </ul>	05/04/10		OAA	
<p><b>Finding #5:</b> Require WMATA to complete a timely, thorough, and competent review and update of WMATA’s Safety Rules and Procedures Manual. This review and update must reflect actual current practices and needed improvements</p>	<ul style="list-style-type: none"> <li>Provide FTA with copy of the formal letter correspondence TOC sends to WMATA requiring WMATA to complete a full and competent review and update of its Safety Rules and Procedures Manual.</li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
<p>identified by TOC and by FTA in this audit report.</p>	<ul style="list-style-type: none"> <li>Establish a firm deadline for WMATA to complete the review and revision of its Safety Rules and Procedures Manual. Inform FTA of the established deadline.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the fully reviewed and revised Safety Rules and Procedures Manual.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC has received, reviewed and approved the final revised Safety Rules and Procedures Manual (i.e., TOC's formal correspondence to WMATA stating such).</li> </ul>	05/04/10		OAA	
<p><b>Finding #6:</b> Require WMATA to develop (and TOC to review and approve) an internal WMATA safety audit recovery plan for calendar year 2010 and calendar year 2011. Before WMATA develops this plan, TOC should sponsor a meeting with WMATA's Safety Department, Quality Department, and Executive Leadership Team to explain the internal safety audit program requirements and TOC's expectations regarding WMATA's internal safety audit recovery plan.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., correspondence, meeting minutes, presentations, etc.) verifying that TOC held a meeting with WMATA's Safety Department, Quality Department, and Executive Leadership Team to explain the internal safety audit program requirements of its Program Standard and Part 659, and TOC's expectations regarding WMATA's internal safety audit recovery plan.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the Internal Safety Audit Recovery Plan developed by WMATA.</li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC has received, reviewed, and approved WMATA's Internal Safety Audit Recovery Plan (i.e., TOC's formal correspondence to WMATA stating such).</li> </ul>	05/04/10		OAA	
<p><b>Finding #7:</b> Require WMATA to develop a recovery plan to complete all open accident investigations following procedures established in TOC's Program Standard, WMATA's System Safety Program Plan and WMATA's Accident Investigation Procedures.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC is requiring WMATA to develop an Accident Investigation Recovery Plan to complete all open accident investigations following the procedures established in TOC's Program Standard, WMATA's System Safety Program Plan, and WMATA's Accident Investigation Procedures.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the Accident Investigation Recovery Plan developed by WMATA.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC has received, reviewed, and approved WMATA's Accident Investigation Recovery Plan (i.e., TOC's formal correspondence to WMATA stating such).</li> </ul>	05/04/10		OAA	
<p><b>Finding #8:</b> Document the Corrective Action Plan Technical Review process in TOC's Program Standard and Procedures and WMATA's System Safety Program Plan.</p>	<ul style="list-style-type: none"> <li>Revise TOC's Program Standard and WMATA's System Safety Program Plan to accurately describe the Corrective Action Plan Technical Review Process used by TOC and WMATA.</li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of TOC's final revised Program Standard documenting the Corrective Action Plan Technical Review process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of WMATA's final revised and approved System Safety Program Plan, documenting the Corrective Action Plan Technical Review process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of TOC's formal correspondence to WMATA stating its review and approval of the revised WMATA System Safety Program Plan. This must include a copy of the completed checklist used by TOC to conduct its review of the revised WMATA System Safety Program Plan.</li> </ul>	05/04/10		OAA	
<p><b>Finding #9:</b> Work with WMATA to ensure that there is a process in place for evaluating Corrective Action Plan (CAP) alternatives that may be necessary as a result of capital and operating program resource limitations.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., correspondence, meeting minutes, presentations, etc.) verifying that TOC has met with WMATA to develop a process for evaluating Corrective Action Plan alternatives that may be necessary as a result of capital and operating program resource limitations.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with an explanation of the process developed by TOC and WMATA to evaluate CAP alternatives necessary as a result of capital and operating program resource limitations.</li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Ensure WMATA revise its SSPP to accurately reflect and document the process developed by TOC and WMATA to evaluate CAP alternatives.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of WMATA's final revised and approved System Safety Program Plan, documenting the Corrective Action Plan Technical Review process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of TOC's formal correspondence to WMATA stating its review and approval of the revised WMATA System Safety Program Plan. This must include a copy of the completed checklist used by TOC to conduct its review of the revised WMATA System Safety Program Plan.</li> </ul>	05/04/10		OAA	
<p><b>Finding #10:</b> Require WMATA to develop and implement a comprehensive and system-wide hazard management program (as specified in 49 CFR Part 659.31).</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., correspondence, reports, meeting minutes, etc.) verifying that TOC has required WMATA to develop and implement a comprehensive and system-wide hazard management program as specified in 49 CFR Part 659.31 and TOC's Program Standard.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Conduct an audit of WMATA's implementation of its hazard management program and provide FTA with a copy of the audit results including all findings and recommendations made by TOC.</li> </ul>	05/04/10		OAA	



Audit Finding	Action Required for Closeout	Date Due	Prior TOC Activity FTA Response	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that this hazard management program is being administered as required by TOC's Program Standard and WMATA's System Safety Program Plan.</li> </ul>	05/04/10		OAA	
<p><b>Finding #11:</b> Require WMATA to strictly adhere to the annual certification of compliance with its System Safety Program Plan (as specified in 49 CFR 659.43), including identifying areas where WMATA is not in compliance with its System Safety Program Plan as well as specific actions WMATA is taking to achieve compliance.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., correspondence, meeting minutes, reports, etc.) verifying that TOC is requiring WMATA to strictly adhere to the annual certification of compliance requirements of Part 659.43 and TOC's Program Standard.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of WMATA's annual certification of compliance for 2009.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that TOC has received reviewed, and accepted (or disapproved) WMATA's annual certification of compliance. If TOC does not approve WMATA's annual certification of compliance, provide FTA with documentation as to why the annual certification was rejected and the actions TOC is requiring WMATA to take to correct the annual certification of compliance.</li> </ul>	05/04/10		OAA	



### Appendix C: WMATA Audit Recommendations Tracking Matrix

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity FTA Response	Status	WMATA Action/ Projected Completion Date
<p><b>Recommendation #1:</b> Conduct an assessment to identify the resources and expertise necessary for the Safety Department to carry out the activities specified in WMATA’s System Safety Program Plan and Safety Rules and Procedures Manual.</p>	<ul style="list-style-type: none"> <li>Conduct an assessment of WMATA’s Safety Department to identify the resources and expertise necessary to fully carry out the activities specified in WMATA’s System Safety Program Plan and Safety Rules and Procedures Manual.</li> <li>(1) Identify all required Safety Department activities, as described in these documents.</li> <li>(2) Evaluate the resources needed to implement all required activities.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the completed assessment.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #2:</b> Use the results of the assessment to ensure adequate staffing levels and expertise within the Safety Department.</p>	<ul style="list-style-type: none"> <li>Using the results from recommendation #1 above, develop a Resource Recovery Plan to ensure adequate staffing levels and expertise are obtained (if needed) and maintained by WMATA’s Safety Department.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the Resource Recovery Plan.</li> </ul>	05/04/10		OAA	
<p><b>Recommendations #3:</b> Increase the Safety Department’s access to operating and maintenance information and reports to ensure that this information is being analyzed for potential impacts on the safety of WMATA.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that WMATA has taken steps to increase the Safety Department’s access to operating and maintenance information and reports.</li> </ul>	05/04/10		OAA	



Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity FTA Response	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Provide FTA with copies of analyses conducted by the Safety Department using operating and maintenance information and reports.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #4:</b> Develop an internal process to require the communication of safety-related information across all WMATA departments, including the impacts of budget reductions and resource constraints on the performance of safety-related maintenance activities and requirements.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation that WMATA has developed an internal process for communicating safety-related information across all WMATA departments, including the impacts of budget reductions and resource constraints on the performance of safety-related maintenance activities and requirements.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Revise the WMATA System Safety Program Plan to accurately document and describe this process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #5:</b> Define and implement the process for the top Safety Department position to communicate safety priorities to the General Manager in a timely and consistent manner.</p>	<ul style="list-style-type: none"> <li>Provide FTA with documentation verifying that WMATA has created and implemented a process for the top Safety Department position to communicate safety priorities to the General Manager in a timely, consistent and ongoing manner.</li> </ul>	05/04/10		OAA	



Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity FTA Response	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Revise the WMATA System Safety Program Plan to accurately document and describe this process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #6:</b> Identify the technical skills required to perform system-wide hazard analysis (as required in 49 CFR Part 659 and TOC's Program Standard). To the extent that WMATA Safety Department staff does not currently possess the needed skills, provide training as soon as practicable.</p>	<ul style="list-style-type: none"> <li>Conduct an assessment of WMATA's Safety Department to identify the resources and expertise necessary to fully carry out the activities specified in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual.               <ol style="list-style-type: none"> <li>Identify the technical skills required by the Safety Department to perform system-wide hazard analysis.</li> <li>Identify what training is needed by Safety Department staff to be capable of performing such hazard analyses.</li> </ol> </li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the completed assessment.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Develop a Training Plan to ensure Safety Department staff receives the training necessary to conduct system-wide hazard analyses.</li> </ul>	05/04/10		OAA	



Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity FTA Response	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>• Provide FTA with a copy of the Training Plan. This must include a schedule identifying:               <ol style="list-style-type: none"> <li>(1) Safety Department staff by name, title and primary responsibility.</li> <li>(2) The training to be completed by each staff member.</li> <li>(3) When the training will be received.</li> </ol> </li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>• Provide FTA with documentation that Safety Department staff have received the training identified in the Training Plan.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #7:</b> Update the WMATA System Safety Program Plan (specifically Procedure #2.1/0 and Section 6) to develop a hazard management process that ensures that all WMATA departments participate in an on-going manner.</p>	<ul style="list-style-type: none"> <li>• Revise the WMATA System Safety Program Plan to accurately document and describe WMATA’s hazard management process that ensures all WMATA departments participate in an ongoing manner.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>• Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #8:</b> Institute a process to ensure that changes in operating rules are analyzed for safety impacts before system-wide implementation.</p>	<ul style="list-style-type: none"> <li>• Provide to FTA documentation that the WMATA Safety Department and Executive Leadership Team have met to develop a process for ensuring that changes in operating rules are analyzed for safety impacts before system-wide implementation.</li> </ul>	05/04/10		OAA	



Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity FTA Response	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> <li>Revise the WMATA System Safety Program Plan to accurately document this process.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #9:</b> Finalize the right-of-way protection rules and develop training to implement the new rules. Ensure all right-of-way employees and contractors receive this training before accessing the right-of-way.</p>	<ul style="list-style-type: none"> <li>Provide FTA with a copy of WMATA’s finalized right-of-way protection rules and associated training program, including documentation that they have been received, reviewed by and approved by TOC.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with documentation (i.e., training records) verifying that all right-of-way employees and contractors have received this training before accessing the right-of-way.</li> </ul>	05/04/10		OAA	
<p><b>Recommendation #10:</b> Implement the configuration management program described in the WMATA System Safety Program Plan.</p>	<ul style="list-style-type: none"> <li>Conduct an internal safety audit of WMATA’s configuration management program to identify all elements of the program that are not being implemented and to develop recommendations and a plan for addressing these findings.</li> </ul>	05/04/10		OAA	
	<ul style="list-style-type: none"> <li>Provide FTA with a copy of the internal safety audit results (pertaining to the configuration management program) and a copy of the plan developed by WMATA to address the audit findings.</li> </ul>	05/04/10		OAA	