

In keeping with Metro's commitment to openness and transparency, the following pages contain Metro's most recent response to the Federal Transit Administration's (FTA) March 4, 2010 audit of the State Safety Oversight (SSO) program monitoring Metro.

The response is divided into five sections.

Section 1 – This section of the document contains the transmittal letter from Metro's Chief Safety Officer to the FTA.

Section 2 – This section contains the audit tracking matrix used by the FTA to track progress on recommendations made to the Tri-State Oversight Committee (TOC) and to Metro. The recommendations to Metro, along with Metro's actions and additional FTA comments begin on page 23 of this section. Metro does not maintain the section containing recommendations to the TOC, and those pages are included merely to maintain the consistency of the document.

Section 3 – This section provides the *proposed* methodology explaining the process by which items are identified, analyzed, prioritized, and included in the Hazard Tracking Log (HTL)/Preliminary Hazard Analysis (PHA) for corrective action. This HTL/PHA and the process defined in this section responds to the resolution of findings 6 and 7 from the FTA's audit, which recommended that Metro identify the technical skills required to perform system-wide hazard analysis, ensure Metro safety department staff were trained in that function, and to develop a hazard management process that ensures that all Metro departments participate in an on-going manner. This methodology is consistent with MIL STD 882C and the State Safety Oversight regulation 49CFR659.

Section 4 – This section contains a draft of the Metro HTL/PHA which incorporates, as an example, the FTA audit recommendations and outlines the status of actions taken to implement them.

Section 5 – This section contains Metro's *draft* technical explanation of the Information Technology architecture that is being developed to support Metro's safety initiatives in FY2011.

Section 1



August 13, 2010

Mr. Michael Flanigon
Director, Office of Safety and Security
Federal Transit Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Subject: SSO Audit Findings Status

Director Flanigon:

Thank you for your letter on July 21, 2010. The Washington Metropolitan Area Transit Authority (WMATA) is working diligently to comply with the recommendations provided by the Federal Transit Authority (FTA) in order to bring our State Safety Oversight (SSO) program into compliance.

WMATA has reviewed the updated Audit Findings Tracking Matrix and provided comments back based upon efforts that have been taken since the time of the previous correspondence. Attached you will find the following information:

- Updated Audit Tracking Matrix. Beginning on page 23 the Matrix reflects WMATA's actions and projected completion date
- Documentation providing an explanation of process by which items included in the Hazard Tracking Log are identified, compiled, prioritized, and the corrective actions taken.
- A draft of WMATA System Preliminary Hazard Analysis (PHA) Matrix showing the status and mitigative actions taken to resolve identified hazards.
- The Safety Initiative Application Architecture which is inclusive of the new Safety Measurement System currently being implemented system wide and the various safety initiatives scheduled for the FY11.

**Washington
Metropolitan Area
Transit Authority**

600 Fifth Street, NW
Washington, DC 20001
202/962-1234

www.metroopensdoors.com

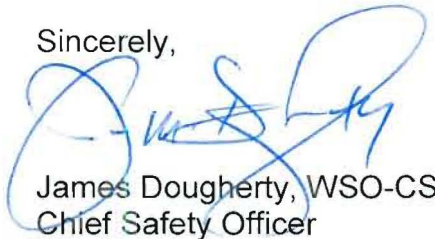
*A District of Columbia,
Maryland and Virginia
Transit Partnership*

Director Michael Flanigan

Page 2

WMATA will continue to provide updates on the status of resolution for all recommendations submitted. If you have any additional questions please contact me personally or have your staff contact Tiffani Rhodes, Systems Operations Officer, at (202) 962-2806.

Sincerely,



James Dougherty, WSO-CSSD
Chief Safety Officer

Enclosure:

WMATA System DRAFT PHA
Audit Findings Tracking Matrix
Task 4- Explanation of the Hazard Tracking Log
Safety Initiatives Application Architecture

cc: GMGR - Mr. Richard Sarles

Section 2

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
<p>Finding #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.</p>	<ul style="list-style-type: none"> Conduct a resource analysis for each jurisdiction (District of Columbia, Maryland and Virginia) to: <ol style="list-style-type: none"> Identify all required TOC SSO Program activities, as described in Part 659 and TOC's Program Standard; Evaluate the resources needed to implement all required SSO activities. 	07/23/10	<p>TOC outlined in a White Paper to FTA entitled "Optimizing State Safety Oversight of the WMATA Metrorail System" specific measures to be implemented in the short- and long-term. The White Paper proposed that TOC's Safety Oversight program for WMATA be carried out in two phases: Phase One, which would involve creation of a strengthened Interim TOC Oversight Program; and Phase Two, which would involve either federal oversight of WMATA's safety oversight functions or legal creation of a Metro Safety Commission (MSC). In order to provide the resources necessary to implement these measures, the three jurisdictions have pledged to allocate an increased level of personnel and financial resources. Currently, Virginia appoints one full-time and one part-time TOC member, while the District of Columbia and Maryland appoint two part-time TOC members each. Moving forward, all three jurisdictions will appoint at least one full-time TOC member and one part-time TOC member. Separately, the three jurisdictions have committed to allocating a higher level of funding (\$804,882.51 per year) for external technical support to bolster the skills and expertise of the TOC members.</p> <p>For fiscal year 2010, the three jurisdictions each contributed \$150,000 in the beginning of the fiscal year. An additional \$122,667 was contributed for external technical support through June 30, 2010. Moving forward, based on analysis of required oversight program activities, and in accordance with policy discussions between the three member jurisdictions, the jurisdictions will allocate \$268,294 each to the oversight program on an annual basis. Maryland and the District of Columbia will also increase the level of personnel effort devoted to the oversight program through the appointment of one full-time TOC member and one part-time TOC member while Virginia will continue to devote internal personnel resources to the oversight program of one full-time appointed TOC member, and one part-time TOC member.</p> <p>On April 20, 2010, Mayor Adrian Fenty, Governor Martin O'Malley, and Governor Robert McDonnell announced their commitment to a robust SSO Program overseeing the WMATA Metrorail system.</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>Because urgent action is needed to enhance transit safety on the WMATA Metrorail system, between now and June 30, 2010, the three jurisdictions have pledged to allocate an additional \$368,000 to fund required oversight program activities.</p> <p>The above referenced white paper and letters of commitment from each TOC jurisdiction outlining the additional resources to be provided to TOC's oversight program have been submitted to FTA.</p> <p>FTA appreciates the steps taken by all three jurisdictions to increase the resources available to TOC and its oversight program.</p> <p>To close this finding, please submit to FTA a copy of the formal resource analysis conducted by each jurisdiction to:</p> <ol style="list-style-type: none"> (1) Identify all required TOC SSO Program activities, as described in Part 659 and TOC's Program Standard; (2) Evaluate the resources needed to implement all required SSO activities. <p>To assist TOC in completing this resource analysis, FTA is providing TOC (as a separate file to this matrix) a resource analysis template that defines the minimum tasks required of all State Safety Oversight (SSO) Agencies to comply with Part 659. This template should be completed by each TOC jurisdiction. The results should then be compiled into a single resource analysis and submitted to FTA. Note that this template can and should be modified to include any additional tasks specific to TOC's oversight program.</p>		
	<ul style="list-style-type: none"> Submit the completed resource analysis to FTA. 	07/23/10	See above.	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> 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. 	07/23/10	<p>On April 20, 2010, Mayor Adrian Fenty, Governor Martin O'Malley, and Governor Robert McDonnell announced their commitment to a robust SSO Program overseeing the WMATA Metrorail system. Because urgent action is needed to enhance transit safety on the WMATA Metrorail system, between now and June 30, 2010, the three jurisdictions have pledged to allocate an additional \$368,000 to fund required oversight program activities.</p> <p>Letters of commitment from each TOC jurisdiction outlining the additional resources to be provided to TOC's oversight program have been submitted to FTA.</p> <p>FTA will close this finding upon receipt of TOC's resource analysis.</p>	OAA	
<p>Finding #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.</p>	<ul style="list-style-type: none"> Conduct an evaluation of the technical and professional skills TOC members need to effectively carry out their oversight duties. 	07/23/10	<p>In order to increase the technical proficiency of the appointed TOC members, the three jurisdictions have determined that all shall receive, at a minimum, a U.S. D.O.T. certificate in the Transit Safety and Security Program. This certificate requires that all TOC members complete the following four Transportation Safety Institute (TSI) classes within a three-year timeframe:</p> <ul style="list-style-type: none"> Transit Rail System Safety (FT00439/FT00453) Transit Rail System Security (FT00432) Effectively Managing Transit Emergencies (FT00456) Transit Rail Incident Investigation (FT00430) or Advanced Rail Incident Investigation (FT00461) <p>TOC will determine which appointed members will need to complete various portions of the certification program, and will provide a general schedule of training, as well as documentation of successful completion, to FTA. The "alternate" member representatives of the TOC will also be subject to the above referenced training requirements if they transition to serving as TOC members. In addition to the Transit Safety and Security Program, TOC members who have at least five (5) years of safety experience in the rail transit industry will be encouraged to obtain the World Safety Organization (WSO) Certified Safety Specialist (CSS-Rail) classification. This certification will require TOC</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>members to take of the following additional TSI courses:</p> <ul style="list-style-type: none"> • Transit System Safety (FT00464), or, • Transit Industrial Safety Management (FT00457) <p>To close this finding, TOC must submit to FTA a schedule of training to be completed by each TOC member. The schedule must identify TOC members by name, the classes they will be completing, and when the anticipated dates of when the classes will be completed. TOC must also submit to FTA documentation that this training has been successfully completed by each TOC member.</p>		
	<ul style="list-style-type: none"> • Provide FTA with a copy of the evaluation results. This must: <ol style="list-style-type: none"> (1) Identify the training needed by each TOC member. (2) Provide a schedule of when needed training will be received by each TOC member. 	07/23/10	See above.	OAA	
	<ul style="list-style-type: none"> • Provide FTA with documentation verifying that training has been received by each TOC member as determined necessary to carry out his or her TOC responsibilities. 	07/23/10	See above.	OAA	
Finding #3: Determine the best method to respond quickly and professionally as WMATA safety situations arise and require coordinated action.	<ul style="list-style-type: none"> • Provide FTA with documentation (i.e., copies of formal reports, evaluations, meeting minutes, etc.) verifying 	07/23/10	<p>TOC, with the direction and concurrence of its jurisdictional policy leadership, will be implementing the following actions:</p> <ul style="list-style-type: none"> • The TOC Program Standards and Procedures will be revised in order to outline the duties and responsibilities of TOC 	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
Consider whether full-time TOC positions can be vested with decision-making authority to act in specific safety situations with WMATA.	that TOC has evaluated how it can best respond to WMATA safety situations.		<p>members in responding to significant WMATA safety incidents. This will include the requirement that a TOC member respond to the scene, participate in the investigation, determine if oversight related "command" decisions are necessary, and decide if other actions are required.</p> <ul style="list-style-type: none"> In addition to "on the scene" issues, the Program Standards and Procedures will be revised to define how the TOC will interact with WMATA in the post-incident environment. This may be necessary in those situations where an oversight related decision is necessary and appropriate or where the TOC takes issue with decisions made by WMATA. It is expected that the updates to the TOC Program Standards and Procedures will be implemented by October 1, 2010. The TOC Memorandum of Understanding (MOU) will be updated (this will occur in conjunction with other revisions necessary based upon the White Paper) to reflect that the TOC has the authority to take actions during safety critical situations, based upon the totality of the circumstances and its oversight responsibilities. It is expected that the revisions to the TOC MOU will be drafted and approved by the three jurisdictions by October 1, 2010. <p>FTA will close this finding upon receipt and review of TOC's revised Program Standards and Procedures documenting how TOC intends to respond to WMATA safety situations and interact with WMATA staff. Please submit to FTA a copy of TOC's MOU updated to reflect that TOC has authority to take actions during safety critical situations.</p>		
	<ul style="list-style-type: none"> 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. 	07/23/10	<p>See above.</p> <p>To close this finding, TOC must 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.</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
Finding #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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>TOC policy leaders have been meeting over the past two months to bolster the policy framework of TOC and its oversight program. An important consideration has been the need to more effectively assure that critical issues identified by TOC become known to the TOC jurisdiction executives; that the executives have an ongoing forum for collaboration; and that they can advocate for TOC to the executive and policy leadership of WMATA. The results of these deliberations have been:</p> <ul style="list-style-type: none"> Development of an "action plan" (White Paper) which has been approved and adopted by the Governors of Maryland and Virginia and the Mayor of the District of Columbia; and Frequent and meaningful meetings between TOC members, the TOC Policy leadership at the jurisdictions' transportation agencies, and WMATA with a focus on transparency, independence, and authority. <p>Several steps have already been initiated and will be institutionalized to become regular events and processes. These include:</p> <ul style="list-style-type: none"> Regular meetings between the appointed TOC members and their jurisdictional policy leadership to report on safety concerns; Regular meetings between the appointed TOC members and the WMATA Board of Directors to highlight safety concerns and other safety program issues; Regular meetings between the appointed TOC members and the WMATA General Manager to discuss current TOC oversight activities, safety concerns, and other safety program issues; Ongoing TOC participation in the WMATA Senior Safety Executive Committee (SSEC), which meets on a monthly basis; and Frequent communications between TOC members and members of WMATA's Executive Leadership Team (ELT), especially the Chief Safety Officer and Chief of the Metro Transit Police Department (MTPD). 	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>With the support of the policymakers from the three jurisdictions and the communications links being forged at all levels between TOC and WMATA, TOC believes that there will be several effective mechanisms to air and resolve unresolved safety or security issues identified by the TOC. In order to formalize these mechanisms, TOC will revise its Program Standards and Procedures to reflect these new forums, and will submit the revised Program Standards and Procedures to FTA.</p> <p>To close this finding, TOC must submit to FTA a copy of its Program Standard revised to reflect the new forums and processes described above are used 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.</p>		
<p>Finding #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.</p>	<ul style="list-style-type: none"> Provide FTA with a 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. 	07/23/10	<p>WMATA's Safety Rules and Procedures Manual were provided by WMATA to FTA as part of the pre-audit documentation submitted in advance of the December 14-17, 2009 TOC SSO Audit. These procedures are very dated and many appear not to exist. An example of an apparent obsolete procedure is 2.2/0, Safety Certification written in 1997. WMATA has a Safety and Security Certification Program Plan (SSCPP) dated October 2007, which appears to supersede 2.2/0.</p> <p>WMATA also has Policy/Instructions (some of which are referenced in the System Safety Program Plan (SSPP)) that appear to address similar topics as those covered by WMATA's Safety Rules and Procedures Manual.</p> <p>On or before June 30, 2010, TOC will meet with WMATA's System Safety and Environmental Management (SAFE) department to review the WMATA Safety Rules and Procedures Manual, and all of the referenced safety-related plans, procedures, policy/instructions, and similar documents. WMATA has indicated that the update of the WMATA Safety Rules and Procedures Manual (along with the SSPP) will be assigned to an outside contractor as part of a larger independent assessment of</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>WMATA's safety program and hazard management program. The Statement of Work (SOW) for this contractor has been completed, and will include (but not be limited to) a determination of the resources required to complete all of the activities described in the SSPP, the WMATA Safety Rules and Procedures Manual, and referenced documentation. WMATA has indicated a deadline of September 2010.</p> <p>TOC will issue specific guidance requiring WMATA to improve the configuration management and accessibility of the WMATA Safety Rules and Procedures Manual and referenced documents. These documents also need to be accurately referenced in the SSPP, and updated to reflect the latest TOC and WMATA requirements defined in the SSPP. TOC will share the minutes of the aforementioned meeting with FTA as part of our regularly-scheduled audit submittals.</p> <p>To close this finding, FTA requested that TOC provide FTA with copy of the formal letter correspondence it sent to WMATA requiring WMATA to complete a full and competent review and update of its Safety Rules and Procedures Manual. Since FTA completed its audit of TOC in December 2009, WMATA has taken steps of its own to review and update its Safety Rules and Procedures Manual. In lieu of this change, to close this finding, TOC must submit to FTA:</p> <ul style="list-style-type: none"> • A copy of the WMATA Contractor Scope of Work that states that the WMATA Safety Rules and Procedure Manual and referenced documentation will be reviewed and updated by WMATA. • A copy of the meeting minutes developed from TOC's meeting with WMATA's SAFE department to review the WMATA Safety Rules and Procedures Manual and all referenced safety-related plans, procedures, policy/instructions, and similar documents. • A copy of the "specific guidance" issued to WMATA by TOC requiring WMATA to improve the configuration management and accessibility of the WMATA Safety 		

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			Rules and Procedures Manual and referenced documents.		
	<ul style="list-style-type: none"> 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. 	07/23/10	<p>WMATA has indicated that the update of the WMATA Safety Rules and Procedures Manual (along with the SSPP) will be assigned to an outside contractor as part of a larger independent assessment of WMATA's safety program and hazard management program. The Statement of Work (SOW) for this contractor has been completed, and will include (but not be limited to) a determination of the resources required to complete all of the activities described in the SSPP, the WMATA Safety Rules and Procedures Manual, and referenced documentation.</p> <p>To close this finding, TOC must submit to FTA a copy of the WMATA Contractor Scope of Work that states that the WMATA Safety Rules and Procedure Manual and referenced documentation will be reviewed and updated by WMATA. The Scope of Work must reflect a firm deadline for when revisions to the Safety Rules and Procedures Manual must be completed.</p>	OAA	
	<ul style="list-style-type: none"> Provide FTA with a copy of the fully reviewed and revised Safety Rules and Procedures Manual. 	07/23/10	<p>WMATA has indicated that the update of the WMATA Safety Rules and Procedures Manual (along with the SSPP) will be assigned to an outside contractor as part of a larger independent assessment of WMATA's safety program and hazard management program. The Statement of Work (SOW) for this contractor has been completed, and will include (but not be limited to) a determination of the resources required to complete all of the activities described in the SSPP, the WMATA Safety Rules and Procedures Manual, and referenced documentation.</p> <p>To close this finding, TOC must provide FTA with a copy of WMATA's fully reviewed and revised Safety Rules and Procedures Manual.</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	<ul style="list-style-type: none"> 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). 	07/23/10	<p>WMATA has indicated that the update of the WMATA Safety Rules and Procedures Manual (along with the SSPP) will be assigned to an outside contractor as part of a larger independent assessment of WMATA's safety program and hazard management program. The Statement of Work (SOW) for this contractor has been completed, and will include (but not be limited to) a determination of the resources required to complete all of the activities described in the SSPP, the WMATA Safety Rules and Procedures Manual, and referenced documentation.</p> <p>TOC will review and either approve or provide comments to WMATA within 30 days of receipt of the Recovery Plan and will provide copies to FTA.</p> <p>To close this finding, TOC must provide FTA with documentation verifying that TOC has received, reviewed and approved the final revised Safety Rules and Procedures Manual (such as TOC's formal correspondence to WMATA stating that it has reviewed and approved the revised manual).</p>	OAA	
Finding #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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>After review of WMATA's 2009 Internal Safety Audit (ISA) Annual Report TOC made the following statement:</p> <ul style="list-style-type: none"> <i>"All of the Elements of the SSPP scheduled to be audited in 2009 were completed, albeit in December and not throughout the year. WMATA's recovery was noteworthy, and was indicative of the new spirit and attitude introduced by Michael Taborn as the Acting Chief Safety Officer."</i> <i>While three very experienced APTA auditors conducted the ISA's in a thorough and effective manner, WMATA's SAFE staff accompanied them and may be more capable of conducting ISAs themselves in the future. Over time, WMATA should strive to conduct ISAs themselves as a way for SAFE to establish a more effective working relationship with the other WMATA departments.</i> <i>Elements 1, 2, and 19 were found to be in full compliance.</i> <i>Elements 3 and 11 had a total of three areas of non-compliance and Corrective Action Plans (CAPs) have been developed.</i> 	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<ul style="list-style-type: none"> • <i>Elements 14 (Facilities and Equipment Inspections) and 16 (Training and Certification Program) had 7 and 11 areas of non-compliance, respectively. CAPs are to be developed and submitted to TOC by 4/1/10.</i> • <i>With the ISAs conducted in 2009, WMATA completed an ISA of all 21 Elements of the SSPP over a three-year period, as required.</i> • <i>WMATA's 3-Year Schedule for conducting ISAs in 2010, 2011, and 2012 is fully compliant with TOC requirements.</i> <p><i>Based on the information provided by WMATA in your 2009 ISA Annual Report, it is hereby approved by TOC."</i></p> <p>For the 2010 ISA's schedule to be conducted in May and October, TOC will be encouraging WMATA to conduct them with their own staff and not to rely on APTA's resources. Following FTA's recommendation, before WMATA's May 2010 ISAs, TOC will have a meeting with the WMATA ELT, SAFE, and the Quality Department to define the expectations for an improved ISA Program. This will include stressing the need for WMATA to follow their TOC-approved ISA Procedures, and to use internal WMATA resources and not external resources such as APTA, as has been done in recent years. Since WMATA has ISAs scheduled for May, as part of their month-in-advance notification and submission of checklists, they should demonstrate compliance with their Procedures and conduct the audits with its own staff. TOC plans to closely monitor the ISAs and is available to WMATA for technical assistance and advice. TOC will also approve the proposed CAPs and monitor their implementation.</p> <p>On or before May 15th, 2010, TOC will transmit correspondence to WMATA providing specific guidance on the implementation of their three-year internal audit cycle, and directing WMATA to provide, on or before August 30th, 2010, an Internal Audit Recovery Report. TOC will provide WMATA with a format for the Recovery Report. This report will identify strengths and weaknesses of internal safety audits conducted during 2010, and afford WMATA and TOC the opportunity to make "course corrections" to this process. TOC will</p>		

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			work with WMATA's independent safety assessment contractor to ensure that the review and update of ISA checklists and procedures that are conducted as part of the larger independent safety assessment are completed in accordance with TOC requirements. TOC will also direct WMATA to provide periodic Recovery Reports as necessary throughout the upcoming three-year audit cycle. To close this finding, TOC must 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. TOC must also submit to FTA a copy of WMATA Internal Audit Recovery Report and any follow-up status reports that it receives from WMATA.		
	<ul style="list-style-type: none"> Provide FTA with a copy of the Internal Safety Audit Recovery Plan developed by WMATA. 	07/23/10	See above. To close this finding, TOC must submit to FTA a copy of the Internal Safety Audit Recovery Plan developed by WMATA.	OAA	
	<ul style="list-style-type: none"> 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). 	07/23/10	See above. To close this finding, TOC must submit to FTA documentation verifying that it has received, reviewed and approved WMATA's Internal Safety Audit Recovery Plan (such as TOC's formal correspondence to WMATA stating such).	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
<p>Finding #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.</p>	<ul style="list-style-type: none"> 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. 	07/23/10	<p>TOC has worked closely with WMATA in recent months to address open accident investigations, and has made substantial progress in addressing this finding. However, due to the considerable number of remaining open accident investigations, TOC will work directly with WMATA to develop a recovery plan to complete all open accident investigations in accordance with the TOC Program Standard and Procedures, WMATA's SSPP, and WMATA's Accident Investigation Procedures. WMATA's recovery plan will need to address each of the following issues:</p> <ul style="list-style-type: none"> The large backlog of open investigations for which WMATA has not provided TOC with any reports, status updates, or other information. The backlog of open investigations for which WMATA has provided TOC with an investigation report; however, for various reasons, TOC has been unable to formally adopt these reports, and has provided comments to WMATA. "Incident Fact Reports" that, though they provide space for indication of all of the required information, vary widely in quality and quantity of information provided, dependent upon who is preparing the report. The steps WMATA will take to ensure that Safety Department personnel and others responsible for the investigation of accidents and incidents understand that TOC's notification and reporting requirements are central to the accident investigation process. WMATA's actions to strengthen the processes and procedures that guide investigations to ensure that the Safety Department is involved at every step. <p>In its recovery plan, WMATA will need to identify how it will address each of the above-described issues, which personnel (from both the Safety department and other pertinent departments) will be responsible for implementing the proposed response, and a target date of completion to be approved by TOC.</p> <p>TOC will issue correspondence to WMATA no later than May 15, 2010, requiring WMATA to develop a recovery plan that addresses</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			the above-noted issues. The correspondence will require a response that includes the above-mentioned recovery plan from WMATA no later than June 30, 2010. TOC will submit the noted correspondence as well as WMATA's response and recovery plan to FTA. To close this finding, TOC must submit to FTA a copy of its formal correspondence to WMATA requiring WMATA to develop a recovery plan. TOC must also submit to FTA a copy of WMATA's Accident Investigation Recovery Plan.		
	<ul style="list-style-type: none"> Provide FTA with a copy of the Accident Investigation Recovery Plan developed by WMATA. 	07/23/10	See above. To close this finding, TOC must provide FTA with a copy of the Accident Investigation Recovery Plan developed by WMATA.	OAA	
	<ul style="list-style-type: none"> 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). 	07/23/10	See above. To close this finding, TOC must provide FTA with documentation verifying that it has received, reviewed, and approved WMATA's Accident Investigation Recovery Plan (such as TOC's formal correspondence to WMATA stating such).	OAA	
Finding #8: Document the Corrective Action Plan Technical Review process in TOC's Program Standard and Procedures and WMATA's System Safety Program Plan.	<ul style="list-style-type: none"> 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. 	07/23/10	TOC will review the language on CAPs that is contained in the TOC Program Standard and Procedures and WMATA's SSPP, and work with WMATA to revise as necessary to have full compliance with the SSO Rule, 49 CFR Part 659, FTA guidance, and a process that TOC will develop with WMATA to assure a compliant CAP implementation program. TOC will also review its procedures for approving, documenting, tracking, and closing CAPs with the goal of minimizing the number of CAPs that are open and the time to close CAPs. When CAPs are defined that take a long time to implement, alternatives will be explored to reduce any hazardous conditions while the CAP is being advanced.	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>This will often include the use of operational solutions such as changes in rules and procedures, inspections and monitoring, and training while a capital project is being planned, programmed, and implemented.</p> <p>TOC will submit the revised Program Standard and Procedures to FTA no later than August 30, 2010, and ensure that WMATA's revised System Safety Program Plan reflects TOC's updated CAP technical review process.</p> <p>To close this finding, TOC must provide FTA with a copy of its Program Standard and a copy of WMATA's SSPP revised to accurately describe the CAP Technical Review Process used by TOC and WMATA.</p>		
	<ul style="list-style-type: none"> Provide FTA with a copy of TOC's final revised Program Standard documenting the Corrective Action Plan Technical Review process. 	07/23/10	<p>See above.</p> <p>To close this finding, TOC must provide FTA with a copy of its Program Standard revised to document the CAP Technical Review Process.</p>	OAA	
	<ul style="list-style-type: none"> Provide FTA with a copy of WMATA's final revised and approved System Safety Program Plan, documenting the Corrective Action Plan Technical Review process. 	07/23/10	<p>See above.</p> <p>To close this finding, TOC must provide FTA with a copy of WMATA's final and approved SSPP, documenting the CAP Technical Review Process.</p>	OAA	
	<ul style="list-style-type: none"> 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 	07/23/10	<p>See above.</p> <p>To close this finding, TOC must provide FTA with a copy of TOC's formal correspondence to WMATA stating that it has reviewed and approved the revised WMATA SSPP. This must include a copy of the completed checklist used by TOC to conduct its review of the revised WMATA SSPP.</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	of the completed checklist used by TOC to conduct its review of the revised WMATA System Safety Program Plan.				
Finding #9: Work with WMATA to ensure that there is a process in place for evaluating Corrective Action Plan alternatives that may be necessary as a result of capital and operating program resource limitations.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>As described in the previous finding, TOC will encourage WMATA to examine a full range of CAPs to address findings of non-compliance from audits and recommendations resulting from investigations. While WMATA should promptly implement any action to address an immediate hazardous situation without needing to consult TOC, a more rigorous analysis should be conducted to find the most effective solution. This may require a capital project that takes a lengthy period of time for planning, programming, and implementation. In the period of time prior to the implementation of the optimal solution, more operational strategies may need to be considered such as more frequent inspections, smaller scale interim corrective actions, changes in procedures, and monitoring coupled with appropriate training.</p> <p>Other operational changes recently used by WMATA may need to be considered such as slow orders, manual versus automated operations, and less frequent service. Such corrective actions should be reviewed with TOC to get their approval if time permits, and their effectiveness should be monitored by WMATA and TOC. If needed, adjustments to the interim CAP should be made. In situations where a long term solution is proposed, it should be planned and programmed to include interim milestone, the implementation of which should be carefully monitored. This applies to a major capital improvement project and to a complex system wide administrative change, such as implementing a comprehensive configuration management program.</p> <p>TOC Program Standard and Procedures will be reviewed to see if additional requirements are needed to have WMATA routinely consider such CAP alternatives, and if required, modifications will be made.</p> <p>TOC will place this audit finding as the lead item of discussion for</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			the Corrective Action Plan Technical Review Entity (CAPTURE) meeting scheduled for May 2010. TOC will submit minutes of that meeting to FTA no later than June 30th, 2010. To close this finding, TOC must 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.		
	<ul style="list-style-type: none"> 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. 	07/23/10	See above. To close this finding, TOC must 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.	OAA	
	<ul style="list-style-type: none"> Ensure WMATA revise its SSPP to accurately reflect and document the process developed by TOC and WMATA to evaluate CAP alternatives. 	07/23/10	See above. To close this finding, TOC must provide FTA with WMATA's final revised and approved SSPP, accurately documenting TOC and WMATA processes to evaluate CAP alternatives including the CAP Technical Review Process.	OAA	
	<ul style="list-style-type: none"> Provide FTA with a copy of WMATA's final revised and approved System Safety Program Plan, documenting the Corrective Action Plan Technical Review process. 	07/23/10	See above. To close this finding, TOC must provide FTA with WMATA's final revised and approved SSPP, accurately documenting TOC and WMATA processes to evaluate CAP alternatives including the CAP Technical Review Process.	OAA	
	<ul style="list-style-type: none"> Provide FTA with a copy of TOC's formal correspondence to 	07/23/10	See above. To close this finding, TOC must provide FTA with a copy of	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	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.		TOC's formal correspondence to WMATA stating that it has reviewed and approved the revised WMATA SSPP. This must include a copy of the completed checklist used by TOC to conduct its review of the revised WMATA SSPP.		
Finding #10: Require WMATA to develop and implement a comprehensive and system-wide hazard management program (as specified in 49 CFR Part 659.31).	<ul style="list-style-type: none"> 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. 	07/23/10	<p>TOC will work with WMATA to develop and implement a comprehensive and system-wide hazard management program that will help WMATA better identify, investigate, and resolve hazardous conditions. Currently, the WMATA Safety Department provides TOC with the Hazard Identification and Resolution Matrices (HIRMs) on a monthly basis. The HIRMs are a good means of logging hazardous conditions; however, at the time of this audit, WMATA did not have a system-wide approach to the identification, analysis, and mitigation of hazards. Rather, the Safety Department was charged with hazard management in isolation of other WMATA departments. In accordance with the TOC Program Standard and Procedures and WMATA's SSPP (currently under TOC review), TOC will require that WMATA's hazard management program includes formalized coordination between the Safety Department and other departments to identify, analyze, and mitigate hazardous conditions, such as through Local Safety Committees, Departmental Safety Committees, and the Standing Safety Executive Committee.</p> <p>The TOC will hold a special meeting with WMATA to gather information and provide input and guidance on this specific issue no later than July 30th, 2010. TOC will notify WMATA of its intention to hold such a meeting, as well as request participation of specific WMATA personnel, no later than May 15th, 2010. FTA will be invited to observe this meeting, and TOC will also examine areas for potential improvement during its 2010 Triennial Audit, scheduled for June of this year. TOC will also modify its Program Standard and Procedures according to the February 8, 2010 letter</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			<p>to WMATA clarifying hazard reporting and classification. Subsequently, TOC will require WMATA to update its SSPP accordingly to better address hazard management. WMATA has initiated an Interdepartmental Safety Working Group who, along with the independent safety assessment contractor, will work with TOC to address this finding. WMATA has indicated their intent to integrate the hazard management process into a web-based tool, as well as other structural and process changes that will strengthen the hazard management program to be completed by September 30, 2010. Upon implementation of the strengthened hazard management program, TOC will conduct an audit of WMATA's implementation of its hazard management program. TOC will submit a status report on hazard management to FTA no later than September 30th, 2010</p> <p>To close this finding, TOC must 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. TOC must provide FTA with copies of the meeting minutes developed from the "special meeting" held with WMATA to gather information and provide input and guidance on the hazard management program.</p>		
	<ul style="list-style-type: none"> 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. 	07/23/10	<p>See above.</p> <p>To close this finding, TOC must 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.</p>	OAA	
	<ul style="list-style-type: none"> Provide FTA with documentation verifying that this hazard 	07/23/10	<p>See above.</p> <p>To close this finding TOC must provide FTA with</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	management program is being administered as required by TOC's Program Standard and WMATA's System Safety Program Plan.		documentation verifying that this hazard management program is being administered as required by TOC's Program Standard and WMATA's System Safety Program.		
Finding #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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>TOC has been aware of FTA's clarifications of the annual certification of compliance as part of the last two audits of TOC's SSO Program. TOC communicated FTA's position to WMATA in its 2/19/10 comments on the 2009 Internal Safety and Security Audit Annual Reports as described below:</p> <p>"TOC's role is not to approve the Certification Letters, but just to forward them to FTA as part of TOC's 2009 Annual Report that is due on 3/15/10. Please note FTA's clarification that the General Manager Letters (both for safety and security) are to certify Metrorail's compliance with its SSPP and SEPP, respectively, not just those areas subject to internal audits in the previous year. For areas not in compliance, the transit agency is required to identify the activities to be undertaken to achieve compliance. Note that WMATA's GM Certification letter for safety only references the ISAs conducted in 2009 and makes no mention of the large number of open investigations and CAPs."</p> <p>In the future TOC will work with WMATA to assure that their GM Annual Certification Letters meet FTA requirements. TOC encourages FTA, however, to further clarify its requirement in this regard in future SSO technical workshops, annual meetings, and documentation of requirements. TOC encourages FTA to supply rail transit agencies as well as SSOs with specific guidance and clarification on the matter of the GM Annual Certification Letter. Additionally, TOC encourages FTA to provide a suggested format or template to SSOs and RTAs which would reduce the potential for confusion.</p> <p>TOC will continue to submit WMATA's Certification Letters as part of its annual report to FTA, the next of which will be transmitted in March 2011.</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
			To close this finding, TOC must 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.		
	<ul style="list-style-type: none"> Provide FTA with a copy of WMATA's annual certification of compliance for 2009. 	07/23/10	<p>See above.</p> <p>TOC submitted to FTA a copy of WMATA's annual certification of compliance for calendar year 2009. The certification letter does not provide a General Manager's certification of compliance or non-compliance as required by Part 659, nor does it state what actions will be taken by WMATA to achieve compliance. In addition, the letter is specific to WMATA's safety program, failing to address WMATA's security program as required by Part 659.</p> <p>To close this finding, TOC must provide FTA with a copy of WMATA's annual certification of compliance letter from the WMATA General Manager to TOC that complies with the requirements of Part 659. The letter must definitively state that the WMATA General Manager certifies that WMATA is in compliance with the requirements of its SSPP and System Security Plan. If internal audit findings indicate that WMATA is not in compliance with the plans, the letter must state that WMATA is not compliant and must identify the actions that will be taken to achieve compliance.</p>	OAA	
	<ul style="list-style-type: none"> 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 	07/23/10	<p>TOC communicated FTA's position to WMATA in its 2/19/10 comments on the 2009 Internal Safety and Security Audit Annual Reports as described below:</p> <p>"TOC's role is not to approve the Certification Letters, but just to forward them to FTA as part of TOC's 2009 Annual Report that is due on 3/15/10. Please note FTA's clarification that the General Manager Letters (both for safety and security) are to certify Metrorail's compliance with its SSPP and SEPP, respectively, not just those areas subject to internal audits in the previous year. For areas not in compliance, the transit agency is required to identify the activities to be undertaken to achieve compliance. Note that</p>	OAA	

Audit Finding	Action Required for Closeout	Next Response	Prior TOC Activity (in standard font) FTA Response (in bold font)	Status	TOC Action/ Projected Completion Date
	why the annual certification was rejected and the actions TOC is requiring WMATA to take to correct the annual certification of compliance.		<p>WMATA's GM Certification letter for safety only references the ISAs conducted in 2009 and makes no mention of the large number of open investigations and CAPs."</p> <p>To close this finding, TOC must 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. TOC must provide FTA with a copy of WMATA's annual certification of compliance letter from the WMATA General Manager to TOC that complies with the requirements of Part 659. The letter must definitively state that the WMATA General Manager certifies that WMATA is in compliance with the requirements of its SSPP and System Security Plan. If internal audit findings indicate that WMATA is not in compliance with the plans, the letter must state that WMATA is not compliant and must identify the actions that will be taken to achieve compliance.</p>		

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
Recommendation #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.	<ul style="list-style-type: none"> 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. <p>(1) Identify all required Safety Department activities, as described in these documents.</p> <p>(2) Evaluate the resources needed to implement all required activities.</p>	07/23/10	<p>WMATA has hired a new Chief Safety Officer, James Dougherty, who began his duties on April 19, 2010. WMATA has also filled six of twelve new positions. These new positions will help WMATA to effectively investigate incidents/accidents, review and document safety policies and procedures, ensure safety protocols are in place and implemented, and analyze safety trends and identified hazards. WMATA is also arranging for needed training for safety personnel with the Transportation Safety Institute.</p> <p>WMATA has also developed a Statement of Work (SOW) for contractor support. Board approval for initiating and awarding the contract was received April 22, 2010. The contractor will be conducting an assessment of WMATA's Safety Department to identify resource and expertise needs. The final report from these activities, including identified needs and recommendations, is anticipated by August 2010.</p> <p>To close this finding, WMATA should provide FTA with a copy of the completed assessment. The assessment should identify all required safety department activities as described in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual, and provide an evaluation of the resources needed to implement all required activities, including those required to perform system-wide hazard analysis. The completed assessment should also provide an action plan (including recommendations) for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by Safety Department staff to be capable of performing system-wide hazard analysis.</p>	OAA	<p>1.) WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities.</p> <p>2.) The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating administrative procedures, and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents.</p> <p>3.) Position descriptions have been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise.</p> <p>4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.</p> <p>The draft report for these activities will be completed by August 30, 2010 and will include</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>Anticipated completion date for WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>
	<ul style="list-style-type: none"> Provide FTA with a copy of the completed assessment. 	07/23/10	To close this finding, WMATA should provide FTA with a copy of the completed assessment. The assessment should identify all required safety department activities as described in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual, and provide an evaluation of the resources needed to implement all required activities, including those required to perform system-wide hazard analysis. The completed assessment should also provide an action plan (including recommendations) for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by Safety Department staff to be capable of performing system-wide hazard analysis.	OAA	<ol style="list-style-type: none"> WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities. The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating administrative procedures,

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents.</p> <p>3.) Position descriptions have been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise.</p> <p>4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.</p> <p>The draft report for these activities will be completed by August 30, 2010 and will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>Anticipated completion date for</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>
Recommendation #2: Use the results of the assessment to ensure adequate staffing levels and expertise within the Safety Department.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>The development of a Resource Recovery Plan is included in the Contractor Statement of Work, which received Board approval for initiation and award on April 22, 2010. The issuance of a Safety Department Staffing and Recruitment Plan is anticipated by August 2010.</p> <p>To close this finding, WMATA should provide FTA with a copy of the Safety Department Staffing and Recruitment (i.e., Resource Recovery Plan).</p>	OAA	<p>1.) WMATA has filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>2.) The report developed in response to Recommendation #1 above will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>The anticipated completion date for these activities is August 30, 2010.</p>
	<ul style="list-style-type: none"> Provide FTA with a copy of the Resource Recovery Plan. 	07/23/10	<p>To close this finding, WMATA should provide FTA with a copy of the Safety Department Staffing and Recruitment (i.e., Resource Recovery Plan).</p>	OAA	<p>1.) WMATA has filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>2.) The report developed in response to</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>Recommendation #1 above will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>The anticipated completion date for these activities is August 30, 2010.</p>
<p>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.</p>	<ul style="list-style-type: none"> Provide FTA with documentation verifying that WMATA has taken steps to increase the Safety Department's access to operating and maintenance information and reports. 	07/23/10	<p>WMATA has begun several new communication initiatives to address this finding. To improve communications between the Safety Department and operational personnel, safety officers are assigned to each bus and rail division. These safety officers participate in regular meetings of the front-line staff in their division, as well as interact on a daily basis with operations employees on safety related matters. In addition, "Safety Action Report Out" meetings are being held with front-line superintendents on a regular basis.</p> <p>A cross-departmental Safety Action Team has also been created and tasked with finding ways to create a safer organization and strengthen the integration of safety into all operations and maintenance efforts. This Team's first initiative is designed to further improve communications with front-line employees to ensure that safety-related information, and other messages reach all employees regardless of work location. The team is now receiving monthly reports on operations and maintenance. A review process for information sharing and quality of information shared will be developed next. This process is expected to be formalized by August 2010.</p> <p>To close this finding, WMATA should provide FTA with documentation verifying that it has taken steps to increase the</p>	OAA	<p>1.) In addition to the communication initiatives previously identified in WMATA's last audit follow-up submittal (i.e., stationing of safety officers at rail and bus divisions, Safety Action Report Out meetings, and the cross-departmental Safety Action Team), WMATA has met with external agencies (TOC and FTA) to identify and compile outstanding items and concerns that may have safety implications and require formal hazard analysis.</p> <p>2.) WMATA is reviewing interdepartmental documentation and communication processes that feed into the hazard management program.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
			Safety Department's access to operating and maintenance information and reports, such as copies of meeting minutes, analyses, correspondence between departments, presentations, or other forms of documentation.		<p>3.) SAFE staff is regularly attending front-line meetings of operations and maintenance departments.</p> <p>4.) SAFE has assigned a senior manager from its Department to attend weekly Department of Operation's senior manager staff meetings. This has been done to establish a direct and regular communications link between SAFE and Operations.</p> <p>5.) WMATA has also appointed a dedicated Safety Analyst to review failure and reliability data from Maximo on a daily basis. This analyst will then perform trend analysis and distribute analysis results to the SAFE Department for use in the Hazard Management Program.</p> <p>WMATA will provide FTA with documentation of SAFE's increased access to operations and maintenance documentation once developed/received.</p>
	<ul style="list-style-type: none"> Provide FTA with copies of analyses conducted by the Safety Department using operating and maintenance information and reports. 	07/23/10	To close this finding, WMATA should provide FTA with copies of analyses conducted by the Safety Department using operating and maintenance information and reports.	OAA	<p>1.) WMATA's hazard management program has been evaluated to identify what elements of the current program are being implemented by WMATA. Industry hazard management procedure models are being</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>collected to support the development of system-wide hazard management procedures that can be implemented by WMATA. A draft comprehensive inventory matrix will be developed once the system-wide hazard management process is finalized.</p> <p>2.) The revised hazard management process, including a TOC compliant hazard matrix will be presented to executive management and TOC representatives.</p> <p>3.) WMATA is developing a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. The Bus Operations component of this system is currently active; the Rail Operations component is expected to be active by the fall of 2010. WMATA intends to next develop a process for identifying and evaluating maintenance-related safety issues through this system.</p> <p>4.) WMATA has also appointed a dedicated Safety Analyst to review failure and reliability data from Maximo on a daily basis. This analyst will then</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>perform trend analysis and distribute analysis results to the SAFE Department for use in the Hazard Management Program.</p> <p>WMATA will provide FTA with copies of analyses conducted by SAFE using operating and maintenance information and reports once the revised system-wide hazard management program has been fully implemented.</p> <p>The anticipated completion date for these activities is October 2010.</p>
Recommendation #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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>WMATA is developing a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. Initial development is expected to be complete by the end of August 2010. WMATA will next develop a process for identifying and evaluating maintenance-related safety issues.</p> <p>To close this finding, WMATA should 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.</p>	OAA	<p>1.) WMATA is developing a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. The Bus Operations component of this system is currently active; the Rail Operations component is expected to be active by the fall of 2010. WMATA intends to next develop a process for identifying and evaluating maintenance-related safety issues through this system.</p> <p>2.) In addition to the communication initiatives previously identified in</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>WMATA's last audit follow-up submittal (i.e., stationing of safety officers at rail and bus divisions, Safety Action Report Out meetings, and the cross-departmental Safety Action Team), WMATA has met with external agencies (TOC and FTA) to identify and compile outstanding items and concerns that may have safety implications and require formal hazard analysis.</p> <p>3.) WMATA is also reviewing interdepartmental documentation and communication processes that feed into the hazard management program.</p> <p>4.) SAFE staff is regularly attending front-line meetings of operations and maintenance departments.</p> <p>5.) SAFE has assigned a senior manager from its Department to attend weekly Department of Operation's senior manager staff meetings. This is being done to establish a direct and regular communications link between SAFE and Operations.</p> <p>6.) WMATA has also appointed a dedicated Safety Analyst to review failure and reliability</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					data from Maximo on a daily basis. This analyst will then perform trend analysis and distribute analysis results to the SAFE Department for use in the Hazard Management Program. Initial development is expected to be complete by the end of August 2010 with full integration and operation by June 2011.
	<ul style="list-style-type: none"> Revise the WMATA System Safety Program Plan to accurately document and describe this process. 	07/23/10	To close this finding, WMATA should revise its System Safety Program Plan to accurately document and describe how safety related information will be communicated across departments using the new web-based tool.	OAA	1.) The SSPP has been reviewed in its entirety and is being revised. A draft of the revised SSPP is expected to be completed by September 24, 2010.
	<ul style="list-style-type: none"> Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process. 	07/23/10	To close this finding, WMATA should provide FTA with a copy of the final revised WMATA System Safety Program Plan, approved by TOC that documents and describes how safety related information will be communicated across departments using the new web-based tool.	OAA	1.) The SSPP has been reviewed in its entirety and is being revised. A draft of the revised SSPP is expected to be completed by September 24, 2010.
Recommendation #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.	<ul style="list-style-type: none"> 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. 	07/23/10	WMATA has hired a new Chief Safety Officer, James Dougherty, who began his duties on April 19, 2010. Mr. Dougherty reports directly to the General Manager. WMATA also intends to continue holding weekly meetings between the General Manager and Chief Safety Officer to discuss safety program issues. The SSPP will be revised to document these meetings. To close this finding, WMATA should 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. This should include a copy of WMATA's organization chart indicating the reporting	OAA	1.) The CSO continues to report directly to the WMATA General Manager and meetings between the CSO and GM continue to be held weekly. The SSPP will be revised to document these meetings. Draft revisions to the SSPP are expected to be completed by September 24, 2010. 2.) WMATA is developing a web-based tool to allow for

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
			relationship between the Chief Safety Officer and General Manager.		<p>communication of safety-related information, including identified hazards and tracking across departments. The Bus Operations component of this system is currently active; the Rail Operations component is expected to be active by the fall of 2010. WMATA intends to next develop a process for identifying and evaluating maintenance-related safety issues through this system.</p> <p>3.) WMATA has appointed a dedicated Safety Analyst to review failure and reliability data from Maximo on a daily basis. This analyst will then perform trend analysis and distribute analysis results to the SAFE Department for use in the Hazard Management Program.</p> <p>WMATA will provide FTA with a copy of the revised SSPP, which will include the new organization chart identifying the reporting relationship between the CSO and GM, once the plan is fully revised.</p> <p>A draft of the revised SSPP is expected to be completed by September 24, 2010.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> Revise the WMATA System Safety Program Plan to accurately document and describe this process. 	07/23/10	To close this finding, WMATA should revise its SSPP to accurately document and describe the processes that have been put into place for the Chief Safety Officer to communicate safety priorities to the General Manager in a timely, consistent, and ongoing manner.	OAA	1.) The CSO continues to report directly to the WMATA General Manager and meetings between the CSO and GM continue to be held weekly. 2.) The SSPP will be revised to document these meetings. Draft revisions to the SSPP are expected to be completed by September 24, 2010.
	<ul style="list-style-type: none"> Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process. 	07/23/10	To close this finding, WMATA should provide FTA with a copy of its TOC approved SSPP revised to document and describe the processes that have been put into place for the Chief Safety Officer to communicate safety priorities to the General Manager in a timely, consistent, and ongoing manner.	OAA	1.) The CSO continues to report directly to the WMATA General Manager and meetings between the CSO and GM continue to be held weekly. 2.) The SSPP will be revised to document these meetings. Draft revisions to the SSPP are expected to be completed by September 24, 2010.
Recommendation #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.	<ul style="list-style-type: none"> 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. 	07/23/10	WMATA has developed a Statement of Work (SOW) for contractor support. Board approval for initiating and awarding the contract was received April 22, 2010. The contractor will be conducting an assessment of WMATA's Safety Department to identify resource and expertise needs, including those needed to fully carry out the activities specified in WMATA's SSPP and Safety Rules and Procedures Manual. The final report from these activities, including identified needs and recommendations, is anticipated by August 2010. To close this finding, WMATA should provide FTA with a copy of the completed assessment. The assessment should identify	OAA	1.) WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities. 2.) The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
	<p>(1) Identify the technical skills required by the Safety Department to perform system-wide hazard analysis.</p> <p>(2) Identify what training is needed by Safety Department staff to be capable of performing such hazard analyses.</p>		<p>all required safety department activities as described in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual, and provide an evaluation of the resources needed to implement all required activities, including those required to perform system-wide hazard analysis. The completed assessment should also provide an action plan (including recommendations) for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by Safety Department staff to be capable of performing system-wide hazard analysis.</p>		<p>administrative procedures, and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents.</p> <p>3.) Position descriptions have been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise.</p> <p>4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.</p> <p>The draft report for these activities will be completed by August 30, 2010 and will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>Anticipated completion date for WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>
	<ul style="list-style-type: none"> Provide FTA with a copy of the completed assessment. 	07/23/10	<p>To close this finding, WMATA should provide FTA with a copy of the completed assessment. The assessment should identify all required safety department activities as described in WMATA's System Safety Program Plan and Safety Rules and Procedures Manual, and provide an evaluation of the resources needed to implement all required activities, including those required to perform system-wide hazard analysis. The completed assessment should also provide an action plan (including recommendations) for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by Safety Department staff to be capable of performing system-wide hazard analysis.</p>	OAA	<p>1.) WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities.</p> <p>2.) The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating administrative procedures, and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents.</p> <p>3.) Position descriptions have</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise.</p> <p>4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.</p> <p>The draft report for these activities will be completed by August 30, 2010 and will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>Anticipated completion date for WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> Develop a Training Plan to ensure Safety Department staff receives the training necessary to conduct system-wide hazard analyses. 	07/23/10	<p>WMATA has established several safety-related priorities, which include filling remaining safety department vacancies and increasing training.</p> <p>To close this finding, WMATA should develop a Training Plan to ensure Safety Department staff receives the training necessary to conduct system-wide hazard analyses.</p>	OAA	<ol style="list-style-type: none"> 1.) WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities. 2.) The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating administrative procedures, and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents. 3.) Position descriptions have been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise. 4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary. <p>The draft report for these activities will be completed by August 30, 2010 and will include</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>Anticipated completion date for WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>
	<ul style="list-style-type: none"> Provide FTA with a copy of the Training Plan. This must include a schedule identifying: <ol style="list-style-type: none"> Safety Department staff by name, title and primary responsibility. The training to be completed by each staff member. When the training will 	07/23/10	To close this finding, WMATA should provide FTA with a copy of the Training Plan developed for the Safety Department. The Training Plan should identify Safety Department staff by name, title and primary responsibility; the training to be completed by each staff member; and a schedule for when the training will be received.	OAA	<ol style="list-style-type: none"> WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities. The SSPP, Safety Rules and Procedures Manual, Safety Certification Plan, Metrorail Safety Rules and Procedures Handbook, job position descriptions, operating administrative procedures,

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
	be received.				<p>and various other documents and procedures have been reviewed to identify key Department activities and responsibilities. A responsibility matrix has been developed to map SAFE employees to the responsibilities contained within each of these documents.</p> <p>3.) Position descriptions have been reviewed and SAFE staff has been interviewed to identify department qualifications and areas of expertise.</p> <p>4.) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.</p> <p>The draft report for these activities will be completed by August 30, 2010 and will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.</p> <p>WMATA has also filled the original 12 vacancies that existed at the time of FTA's audit.</p> <p>Anticipated completion date for</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>WMATA Actions 1 – 2 above, is August 30, 2010.</p> <p>Anticipated completion date for WMATA Action 3 (training of WMATA SAFE staff) is June 2011. WMATA will provide FTA with a training plan that identifies Safety Department staff by name, title and primary responsibility; the training to be completed by each staff member; and a schedule for when the training will be received. Anticipated completion date for this activity is September 30, 2010.</p> <p>Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.</p>
	<ul style="list-style-type: none"> Provide FTA with documentation that Safety Department staff have received the training identified in the Training Plan. 	07/23/10	To close this finding, WMATA should provide FTA with documentation that Safety Department staff have received the training identified in the Training Plan.	OAA	WMATA will provide FTA with training records as staff training is completed.
Recommendation #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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>WMATA is developing a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. Initial development is expected to be complete by the end of August 2010. WMATA will next develop a process for identifying and evaluating maintenance-related safety issues.</p> <p>WMATA is also taking steps to improve and encourage near-miss reporting, including the development of an anonymous hotline and</p>	OAA	<p>1.) The SSPP has been reviewed in its entirety and is being revised.</p> <p>A draft of the revised SSPP is expected to be completed by September 24, 2010.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
			improved whistleblower protection. A cross-departmental Safety Action Team has also been created and tasked with finding ways to create a safer organization and strengthen the integration of safety into all operations and maintenance efforts. This Team's first initiative is designed to further improve communications with front-line employees to ensure that safety-related information, and other messages reach all employees regardless of work location. The team is now receiving monthly reports on operations and maintenance. A review process for information sharing and quality of information shared will be developed next. This process is expected to be formalized by August 2010 and completed by September 2010.		
	<ul style="list-style-type: none"> Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process. 	07/23/10	To close this finding, WMATA should provide FTA with copy of its TOC approved SSPP revised to document and describe WMATA's hazard management process, including tools for ensuring all WMATA departments participate in an ongoing manner.	OAA	<p>1.) The SSPP has been reviewed in its entirety and is being revised.</p> <p>A draft of the revised SSPP is expected to be completed by September 2010.</p>
Recommendation #8: Institute a process to ensure that changes in operating rules are analyzed for safety impacts before system-wide implementation.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>Over the next six to nine months, WMATA intends to complete work on a new set of rules for right of way works. It also intends to update the Metrorail Safety Rules and Procedures Handbook with rules and procedures that are clear, up-to-date, and effective. Revisions to the Safety Rules and Procedures Handbook are expected to be completed by September 2010.</p> <p>WMATA has also established a cross-departmental Roadway Worker Protection Work Group, which includes representatives from several WMATA departments, union representatives, as well as representatives from FTA, TOC, peer agencies, and the Federal Railroad Administration (FRA). This group will create a new Roadway Worker Protection Manual, will develop a new roadway worker training plan, and will test and evaluate new technologies and processes for use in the WMATA system. These activities are expected to be complete by October 2010.</p> <p>WMATA also reached out to peer agencies to learn from them and</p>	OAA	<p>1.) WMATA is currently revising the Metrorail Safety Rules and Procedures Handbook and the Roadway Worker Protection Manual. The SAFE Department has been actively involved in the revision process of both documents. To manage the changes, WMATA has established a cross-departmental Roadway Worker Protection Work Group, which includes representatives from several WMATA departments including SAFE, as well as union representatives.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
			<p>to share best practices. WMATA conducted a workshop in January with peer transit agencies, FTA, TOC and union representatives. WMATA also held a roundtable discussion in April with FRA and intercity rail operators. The results of these discussions will be reflected in the new manual and training component being developed by the working group. WMATA intends to continue outreach activities to peer agencies and the union as it revises its rulebook.</p> <p>To close this finding, WMATA should provide 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. This should be reflected in a clear configuration management program and documented in WMATA's SSPP.</p>		<p>Representatives from FTA, TOC, peer agencies, and the Federal Railroad Administration (FRA) have also participated in meetings of the Work Group.</p> <p>2.) WMATA's SSPP has been reviewed in its entirety with specific attention provided to SSPP Section 6 and Procedure #2.1/0 and is being revised. Draft revisions to the SSPP are expected to be completed by September 24, 2010.</p> <p>WMATA will provide FTA with documentation that rules and procedure changes are being analyzed through the hazard management process as well as documentation of an implemented configuration management program once developed.</p>
	<ul style="list-style-type: none"> Revise the WMATA System Safety Program Plan to accurately document this process. 	07/23/10	<p>To close this finding, WMATA should provide 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. This should be reflected in a clear configuration management program and documented in WMATA's SSPP.</p>	OAA	<p>1.) WMATA is currently revising the Metrorail Safety Rules and Procedures Handbook and the Roadway Worker Protection Manual. The SAFE Department has been actively involved in the revision process of both documents. To manage the changes, WMATA has established a cross-departmental Roadway Worker Protection Work</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					<p>Group, which includes representatives from several WMATA departments including SAFE, as well as union representatives. Representatives from FTA, TOC, peer agencies, and the Federal Railroad Administration (FRA) have also participated in meetings of the Work Group.</p> <p>2.) WMATA's SSPP has been reviewed in its entirety with specific attention provided to SSPP Section 6 and Procedure #2.1/0 and is being revised. Draft revisions to the SSPP are expected to be completed by September 24, 2010.</p> <p>WMATA will provide FTA with documentation that rules and procedure changes are being analyzed through the hazard management process as well as documentation of an implemented configuration management program once developed.</p>
	<ul style="list-style-type: none"> Provide FTA with a copy of the WMATA System Safety Program Plan, approved by TOC, revised to document this process. 	07/23/10	To close this finding, WMATA should provide FTA a copy of its TOC approved SSPP revised to document the process used by WMATA to ensure changes in operating rules are analyzed for safety impacts before system-wide implementation	OAA	<p>1.) WMATA SSPP has been reviewed in its entirety with specific attention provided to SSPP Section 6 and Procedure #2.1/0 and is being revised.</p> <p>Draft revisions to the SSPP are</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					expected to be completed by September 24, 2010.
Recommendation #9: 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.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>Over the next six to nine months, WMATA intends to complete work on a new set of rules for right of way works. It also intends to update the Metrorail Safety Rules and Procedures Handbook with rules and procedures that are clear, up-to-date, and effective. Revisions to the Safety Rules and Procedures Handbook are expected to be completed by September 2010.</p> <p>WMATA has also established a cross-departmental Roadway Worker Protection Work Group, which includes representatives from several WMATA departments, union representatives, as well as representatives from FTA, TOC, peer agencies, and the Federal Railroad Administration (FRA). This group will create a new Roadway Worker Protection Manual, will develop a new roadway worker training plan, and will test and evaluate new technologies and processes for use in the WMATA system. These activities are expected to be complete by October 2010, with rollout of the new training program occurring the same month.</p> <p>WMATA also reached out to peer agencies to learn from them and to share best practices. WMATA conducted a workshop in January with peer transit agencies, FTA, TOC and union representatives. WMATA also held a roundtable discussion in April with FRA and intercity rail operators. The results of these discussions will be reflected in the new manual and training component being developed by the working group. WMATA intends to continue outreach activities to peer agencies and the union as it revises its rulebook.</p> <p>To close this finding, WMATA should 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 and approved by TOC.</p>	OAA	<p>1.) WMATA is currently revising the Metrorail Safety Rules and Procedures Handbook and the Roadway Worker Protection Manual. The SAFE Department has been actively involved in the revision process of both documents. To manage the changes, WMATA has established a cross-departmental Roadway Worker Protection Work Group, which includes representatives from several WMATA departments including SAFE, as well as union representatives. Representatives from FTA, TOC, peer agencies, and the Federal Railroad Administration (FRA) have also participated in meetings of the Work Group.</p> <p>WMATA will provide FTA with the finalized RWPM and associated training program materials once they are complete. Completion of the RWPM is anticipated for January 2011.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
	<ul style="list-style-type: none"> 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. 	07/23/10	To close this finding, WMATA should provide FTA with documentation (in the form of training records and summary reports) verifying that all right-of-way employees and contractors have received this training before accessing the right-of-way.	OAA	WMATA will provide FTA with the finalized RWPM and associated training program materials once they are complete. Completion of the RWPM is anticipated for January 2011.
Recommendation #10: Implement the configuration management program described in the WMATA System Safety Program Plan.	<ul style="list-style-type: none"> 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. 	07/23/10	<p>WMATA has developed a Statement of Work (SOW) for contractor support. Board approval for initiating and awarding the contract was received April 22, 2010. The contractor will be conducting an internal audit of WMATA's configuration management program as requested by this finding. It is anticipated that an action plan and training program based on the audit results will be created by the end of September 2010.</p> <p>To close this finding, WMATA should provide FTA with a copy of the results from its internal safety audit of the configuration management program and a copy of the plan developed by WMATA to address audit findings.</p>	OAA	<p>1.) WMATA is developing an internal audit process that incorporates formal audit procedures, checklists and schedules.</p> <p>2.) WMATA is also evaluating the availability of in-house WMATA technical expertise to conduct internal safety audits.</p> <p>WMATA will provide FTA with results from the internal safety audit of the configuration management program and a copy of the plan to address audit findings once completed.</p>
	<ul style="list-style-type: none"> 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. 	07/23/10	To close this finding, WMATA should provide FTA with a copy of the results from its internal safety audit of the configuration management program and a copy of the plan developed by WMATA to address audit findings.	OAA	<p>1.) WMATA is developing an internal audit process that incorporates formal audit procedures, checklists and schedules.</p> <p>2.) WMATA is also evaluating the availability of in-house WMATA technical expertise to conduct internal safety audits.</p>

Audit Recommendations	Action Required for Closeout	Date Due	Prior WMATA Activity (in standard font) FTA Response (in bold)	Status	WMATA Action/ Projected Completion Date
					WMATA will provide FTA with results from the internal safety audit of the configuration management program and a copy of the plan to address audit findings once completed.

Section 3

Task 4 - Explanation of the Hazard Tracking Log To Provide Identification, Compilation, Prioritization, and Corrective Actions to the FTA/TOC Audit Findings

1.0 Introduction

The Federal Transit Administration (FTA) Final Audit Report to the Tri-State Oversight Committee (TOC) and the Washington Metropolitan Area Transit Authority (WMATA), dated March 4, 2010, included an "Audit Recommendations Tracking Matrix." This matrix is used by FTA to communicate and track the actions requested by FTA to be taken by WMATA in response to FTA's audit findings.

Task 4b, c and f of the "WMATA Technical Assistance Project" contractor Scope of Work (SOW) requests:

- Support to identify and compile all outstanding items and concerns (pertaining to the TOC and FTA audit findings) that may have safety implications,
- Support to evaluate and prioritize and identify items that may need formal hazard analysis, and
- Support to develop corrective actions, identification of resources, and timeframes.

In response to this scope, FTA's Audit Recommendations Tracking Matrix was thoroughly reviewed and follow-up meetings were held with both FTA and TOC to identify outstanding items. In addition, WMATA Safety and Environmental Management (SAFE) department staff were interviewed (as required by Tasks 1-3 of the SOW) to identify and evaluate WMATA's current hazard management practices. Peer agencies were also contacted and interviewed (as required by Task 5 and 6 of the SOW) to identify and examine the hazard management practices of peer agencies and to identify potential best practices.

As requested by FTA, WMATA updated the Audit Recommendation's Tracking Matrix to document the results of these and other activities taken in response to FTA recommendations. WMATA also met with FTA and TOC on August 5, 2010 to provide a status update on all of the activities that have been taken by WMATA in response to each of FTA's recommendations.

Following the August 5, 2010 meeting with FTA and TOC, and to further support completion of Tasks 4b, c and f, a Preliminary Hazard Analysis (PHA) was developed using the information detailed in FTA's Audit Recommendations Tracking Matrix. The PHA, formally known as a Hazard Tracking Log (HTL), was developed to map FTA audit findings into associated hazards, causes, effects, risks and mitigation actions. The HTL will then serve as a tool to categorize, track, and report the results of the PHA process. By evaluating the FTA recommendations in this manner, WMATA

demonstrates that it has established a true hazard management program that incorporates a risk-based approach to evaluate and mitigate hazards and safety findings. This directly responds to recommendations made in FTA's March 4, 2010 Final Audit Report (recommendations 6 and 7) that request that WMATA identify and implement the technical skills necessary for the organization to perform system-wide hazard analysis as required by 49 CFR Part 659 and TOC's Program Standard.

Additional benefits of incorporating issues and hazards into an HTL include:

- 1) The HTL provides a single, consolidated location for the existence of hazards in a simple matrix format for all to view.
- 2) The HTL enables 360 degree analysis with thorough evaluation of cause, effect, resolution, severity, probability and status of hazards.
- 3) The HTL facilitates ranking and prioritization of hazards by categorizing each hazard with a Hazard Risk Index (HRI). The HRI ultimately helps management decide how to strategize efforts and where to concentrate resources.
- 4) The HTL provides a single effective working tool for the safety department, executive management, and/or safety committees to identify, track, and mitigate hazards.

Also, as more hazards are identified they can be entered into the HTL. Hazards are given a status rating of "Open" or "Closed" and the HTL provides an easy tool for WMATA to view overall safety status on a task or system with number of open/closed items.

- 6) The HTL can be easily customized to suit the needs of a single project or to meet the needs of an entire system. In this case, the HTL was customized to analyze the hazards associated with the FTA recommendations.

Developing and using an HTL will help establish a safety methodology that is proven and effective. In the future when a Safety Management System is in place, the HTL should be one of the reporting tools. Implementing the use of an HTL now will help ease the transition into the use of a global management system and train employees how to utilize information obtained from data within the global management system. Overall the HTL matrix provides an effective, efficient, and strategic tool and process to identify, prioritize, resolve and track hazards on a defined system level, ensuring a comprehensive system safety approach and methodology.

2.0 Methodology

The "WMATA TOC and FTA PHA" was developed using the information contained in FTA's Audit Recommendations Tracking Matrix. Each recommendation in the audit matrix was thoroughly evaluated to identify potential hazards that could result from the

subject issue. Hazard causes and effects were assessed and documented, and the hazards were then assigned severity and probability ratings via qualitative analysis performed by a consulting committee. These two ratings combine to form the HRI. The HRI is key to prioritizing hazard mitigation strategies in accordance with allocating resources to addressing the highest risk hazards first. It should be noted that the Hazard Resolution Matrix found in the WMATA Safety Rules and Procedure Manual (SRPM), consistent with MIL-STD-882C, was used for this analysis (See Table 1).

After the initial HRI's were determined, resolution activities were assigned based on recommendations from the FTA/TOC, current WMATA safety activities and industry best practices. Once these activities are performed and agreement is made by committee, the hazard can be closed. Until all hazards are closed, the HTL should be a living and working document.

Table 1. Hazard Resolution Matrix

	A. Frequent	B. Probable	C. Occasional	D. Remote	E. Improbable
I. Catastrophic	(I-A) UNACCEPTABLE	(I-B) UNACCEPTABLE	(I-C) UNACCEPTABLE	(I-D) UNDESIRABLE	(I-E) ACCEPTABLE / REVIEW
II. Critical	(II-A) UNACCEPTABLE	(II-B) UNACCEPTABLE	(II-C) UNDESIRABLE	(II-D) UNDESIRABLE	(II-E) ACCEPTABLE / REVIEW
III. Marginal	(III-A) UNACCEPTABLE	(III-B) UNDESIRABLE	(III-C) UNDESIRABLE	(III-D) ACCEPTABLE / REVIEW	(III-E) ACCEPTABLE / REVIEW
IV. Negligible	(IV-A) ACCEPTABLE / REVIEW	(IV-B) ACCEPTABLE / REVIEW	(IV-C) ACCEPTABLE	(IV-D) ACCEPTABLE	(IV-E) ACCEPTABLE
Note: Shaded cells denote UNACCEPTABLE HAZARD categories which must be resolved to an acceptable level.					

Section 4

WMATA System DRAFT PHA (Currently including FTA and TOC recommendations)

Hazard Identification						Hazard Rating (Pre-Resolution)			Hazard Resolution			Hazard Rating (Post-Resolution)			Hazard Closure	
						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC				
Seq. No.	Control No.	Finding (based on FTA/TOC Audit)	Potential Hazard	Potential Cause(s)	Effect(s)	Hazard Severit y (I, II, III, IV)	Hazard Prob. (A - E)	Hazard Risk Index: UN UD AC/WR AC	FTA/TOC Recommendations	Action(s) Required for Close-Out	WMATA Action	Hazard Catego ry	Hazard Prob.	Hazard Risk Index: UN UD AC/WR AC	Status (Open / Closed)	Notes or Current Action(s) Required
1	1.01	REC #1: Conduct an assessment to identify the resources and expertise necessary for the Safety Department to carry out the activities specified in WMATA's SSPP and SRPM.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) SSPP and/or procedures inadequate to properly implement an effective hazard management program. 2) Resources/staffing inadequate to effectively identify, assess, track and mitigate hazards. 3) Lack of training/education on how to properly manage hazard risks.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -The completed assessment, which should include 1) all required safety department activities as described in WMATA's SSPP and SRPM and 2) an evaluation of the resources needed to implement all required activities.	1) Identify all required Safety Department activities, as described in WMATA's SSPP and SRPM. 2) Evaluate the resources needed to implement all required activities and conduct a system-wide hazard analysis. 3) Provide FTA with a copy of the completed assessment. 4) Evaluate the gaps in training needs associated with executing a hazard management program. 5) Review the current SSPP and hazard management rules/procedures and update to reflect industry best practices and applicability to new WMATA safety mission.	1) WMATA has conducted an assessment to identify the resources and expertise needed by the SAFE Department to fully carry out its responsibilities. 2) WMATA has reviewed all appropriate documentation to identify key Department activities and responsibilities and mapped employees to a responsibility matrix. 3) WMATA has surveyed all current SAFE staff and identified areas requiring further training/education and is evaluating future training programs to mitigate issue. 4) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary. 5) WMATA has filled the original 12 vacancies that existed at the time of FTA's audit.	I	E	IE-AC/WR	Open	Anticipated completion date for WMATA Actions 1 - 2 is August 30, 2010. Anticipated completion date for WMATA Action 3 (training of SAFE staff) is June 2011. Anticipated completion date for WMATA Action 4 (draft revision of SSPP) is September 24th, 2010.
2	2.01	REC #2: Use the results of the assessment to ensure adequate staffing levels and expertise are established within the Safety Department.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Staffing levels and expertise within safety department are inadequate.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -A copy of the Resource Recovery Plan.	1) Develop a Resource Recovery Plan to ensure adequate staffing levels and expertise are obtained (if needed) and maintained by WMATA's Safety Department.	1) WMATA has filled 12 vacancies in the SAFE Department since April 2010. 2) The report developed in response to Recommendation #1 above will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff.	I	E	IE-AC/WR	Open	Anticipated completion date for these activities is August 30, 2010.

WMATA System DRAFT PHA (Currently including FTA and TOC recommendations)

Hazard Identification						Hazard Rating (Pre-Resolution)			Hazard Resolution			Hazard Rating (Post-Resolution)			Hazard Closure	
						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC				
Seq. No.	Control No.	Finding (based on FTA/TOC Audit)	Potential Hazard	Potential Cause(s)	Effect(s)	Hazard Severit y (I, II, III, IV)	Hazard Prob. (A - E)	Hazard Risk Index: UN UD AC/WR AC	FTA/TOC Recommendations	Action(s) Required for Close-Out	WMATA Action	Hazard Catego ry	Hazard Prob.	Hazard Risk Index: UN UD AC/WR AC	Status (Open / Closed)	Notes or Current Action(s) Required
3	3.01	REC #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.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Communication between SAFE, maintenance, and operations is void or lacking. 2) Safety personnel unable to access safety critical information. 3) Safety critical issue goes unnoticed or is found and not communicated to proper departments.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -Documentation that verifies steps taken to increase the Safety Department's access to operating and maintenance information. -Copies of analyses conducted by the Safety Department using operating and maintenance information and reports.	1) Provide FTA with documentation verifying that WMATA has taken steps to increase the Safety Department's access to operating and maintenance information and reports. 2) Provide FTA with copies of analyses conducted by the Safety Department using operating and maintenance information and reports.	1) Implement recommendation and supply verification that interdepartmental communications and evaluation processes feed into the hazard management program. 2) Verify that WMATA has taken steps to increase SAFE's access to operating and maintenance information and reports. 3) Implement recommendation and supply verification that a SAFE senior manager attend the weekly Department of Operations senior manager staff meeting to establish direct and regular communication link between SAFE and Operations. 4) Implement and verify the development of a web-based tool to allow for communication of safety-related information, including unidentified hazards and tracking across departments. 5) Station safety officers at rail and bus divisions, continue to hold Safety Action Report Out Meetings, and continue to use the Safety Action Team to communicate safety issues. 6) Meet with external agencies (TOC and FTA) to identify outstanding items requiring formal hazard analysis.	I	E	IE-AC/WR	Open	WMATA Action Task 1 is being addressed now and anticipated to be completed by June 2011. WMATA Action Task 2 is being addressed and anticipated to be completed by TBD. WMATA Action Task 3 is being implemented. WMATA Action Task 4 is being worked (procurement of new SMS system) and anticipated to be integrated by June 2011. WMATA Action Tasks 5 and 6 are ongoing.

WMATA System DRAFT PHA (Currently including FTA and TOC recommendations)

Hazard Identification						Hazard Rating (Pre-Resolution)			Hazard Resolution			Hazard Rating (Post-Resolution)			Hazard Closure	
Seq. No.	Control No.	Finding (based on FTA/TOC Audit)	Potential Hazard	Potential Cause(s)	Effect(s)	Hazard Severity (I, II, III, IV)	Hazard Prob. (A - E)	Hazard Risk Index: UN UD AC/WR AC	FTA/TOC Recommendations	Action(s) Required for Close-Out	WMATA Action	Hazard Category	Hazard Prob.	Hazard Risk Index: UN UD AC/WR AC	Status (Open / Closed)	Notes or Current Action(s) Required
4	4.01	REC #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.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Communication between SAFE, maintenance, and operations is void or lacking. 2) Safety personnel unable to access safety critical information. 3) Safety critical issue goes unnoticed or is found and not communicated to proper departments. 4) Budget restraints cause reduction in safety activities/resources and safety issues go undetected.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -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. -A copy of the revised and approved SSPP which should describe how safety related information will be communicated across departments using the new web-based tool.	1) 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. 2) Revise the WMATA SSPP to accurately document and describe this process and provide copy (approved by TOC) to FTA.	1) Implement and verify the development of a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. 2) Implement and verify process for identifying and evaluating maintenance-related safety issues. 3) Supply FTA with a copy of WMATA's global HTML. 4) Implement recommendation and supply verification that a SAFE senior manager attend the weekly Department of Operations senior manager staff meeting to establish direct and regular communication link between SAFE and Operations. 5) Implement recommendation and supply verification that SAFE appointed a dedicated data analyst or a QA analyst to review failure and reliability data from Maximo on a daily basis. 6) Provide FTA with copy of revised and approved SSPP. 7) Appoint a dedicated Safety Analyst to review failure and reliability data from Maximo on a daily basis. This analyst will then perform trend analysis and distribute analysis results to the SAFE Department for use in the Hazard Management Program.	I	E	IE-AC/WR	Open	WMATA has procured and is integrating a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. Initial development is expected to be complete by the end of August 2010 with integration and operation by June 2011. Revisions to the SSPP are expected to be completed by September 24, 2010.
5	5.01	REC #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.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Safety critical issue goes unnoticed or is found and not communicated to proper departments. 2) Resources and senior oversight not available to assure hazards are managed, mitigated and closed in a timely manner.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	D	ID-UD	WMATA should provide FTA with the following: -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. -A copy of WMATA's organization chart indicating the reporting relationship between the Chief Safety Officer and General Manager. -A copy of the new SSPP which includes the processes that have been put into place.	1) 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. 2) Revise the WMATA SSPP to accurately document and describe this process. 3) Provide FTA with a copy of WMATA's organization chart indicating the reporting relationship between the Chief Safety Officer and General Manager. 4) Provide FTA with a copy of the WMATA SSPP, approved by TOC, revised to document this process.	1) The CSO continues to report directly to the WMATA General Manager and meetings between the CSO and GM continue to be held weekly. 2) The SSPP will be revised to document these meetings Revisions to the SSPP are expected to be completed by September 2010. 3) WMATA is developing a web-based tool to allow for communication of safety-related information, including identified hazards and tracking across departments. 4) WMATA will next develop a process for identifying and evaluating maintenance-related safety issues. 5) Implement recommendation and supply verification that SAFE appointed a dedicated Safety Analyst or a QA analyst to review failure and reliability data from Maximo on a daily basis.	I	E	IE-AC/WR	Open	WMATA will provide FTA with a copy of the revised SSPP, which will include the new organization chart identifying the reporting relationship between the CSO and GM, once the plan is fully revised. A draft of the revised SSPP is expected to be completed by September 24, 2010.

WMATA System DRAFT PHA (Currently including FTA and TOC recommendations)

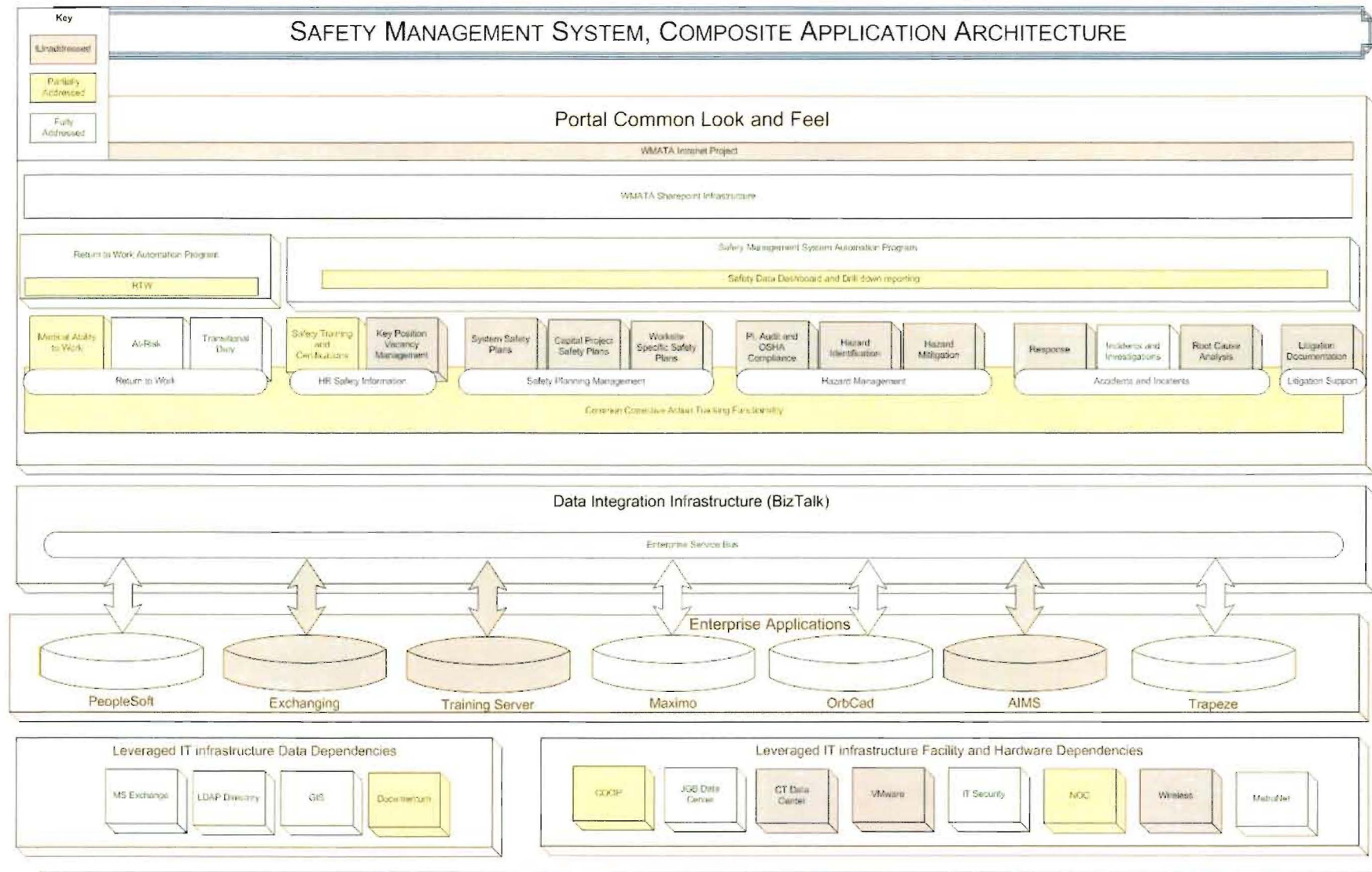
Hazard Identification						Hazard Rating (Pre-Resolution)			Hazard Resolution			Hazard Rating (Post-Resolution)			Hazard Closure	
						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC				
Seq. No.	Control No.	Finding (based on FTA/TOC Audit)	Potential Hazard	Potential Cause(s)	Effect(s)	Hazard Severit y (I, II, III, IV)	Hazard Prob. (A - E)	Hazard Risk Index: UN UD AC/WR AC	FTA/TOC Recommendations	Action(s) Required for Close-Out	WMATA Action	Hazard Catego ry	Hazard Prob.	Hazard Risk Index: UN UD AC/WR AC	Status (Open / Closed)	Notes or Current Action(s) Required
6	6.01	REC #6: : Identify the technical skills required to perform system-wide hazard analysis. Ensure WMATA Safety Department staff does is provided training as soon as practicable.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Safety critical issue goes unnoticed or is found and not communicated to proper departments. 2) Currently no system is in place to properly identify, track, communicate, and mitigate system-wide hazards. 3)Staff is not properly trained to identify, record and mitigate system-wide hazards.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -A copy of the completed assessment implementing these changes. -The completed assessment should also provide an action plan (including recommendations) for how and when necessary resources and expertise will be obtained by WMATA. -A Training Plan. -Verification that the Training Plan was implemented.	1) Conduct an assessment of WMATA's Safety Department. -Identify the technical skills required by the Safety Department to perform system-wide hazard analysis. -Identify what training is needed by Safety Department staff to be capable of performing such hazard analyses. 2) Provide FTA with a copy of the completed assessment. 3) Develop a Training Plan to ensure Safety Department staff receives the training necessary to conduct system-wide hazard analyses and provide to FTA. 4) Provide verification that the Training Plan was implemented.	1) WMATA's hazard management program has been evaluated to identify what elements of the current program are being implemented by WMATA 2) WMATA has conducted an assessment of the SAFE Department and documentation. 3) A responsibility matrix has been developed to map employees to their stated responsibilities. SAFE staff has been interviewed and interview results have been analyzed. 4) The final report will include an evaluation of current resources, recommendations, and an action plan for how and when necessary resources and expertise will be obtained by WMATA, including what training is needed by SAFE staff. 5) WMATA has interviewed peer agencies and reviewed the SSPP to begin updating as necessary.	I	E	IE-AC/WR	Open	Revisions to the SSPP are expected to be completed by September 24, 2010.
7	7.01	REC #7: Update the WMATA SSPP to develop a hazard management process that ensures that all WMATA departments participate in an on-going manner.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Safety critical issue goes unnoticed or is found and not communicated to proper departments. 2) System and procedures in place do not properly identify, track, communicate, and mitigate system-wide hazards.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -A copy of its TOC approved SSPP revised to document and describe WMATA's hazard management process, including tools for ensuring all WMATA departments participate in an ongoing manner.	1) Revise the WMATA SSPP to accurately document and describe WMATA's hazard management process and ensure all WMATA departments participate in an ongoing manner. 2) Provide FTA with a copy of the WMATA SSPP, approved by TOC, revised to document this process.	1) WMATA SSPP has been reviewed in its entirety and is being revised. Revisions to the SSPP are expected to be completed by September 24, 2010.	I	E	IE-AC/WR	Open	WMATA SSPP has been reviewed in its entirety and is being revised. Revisions to the SSPP are expected to be completed by September 24, 2010.
8	8.01	REC #8: Institute a process to ensure that changes in operating rules are analyzed for safety impacts before system-wide implementation.	Changes in operating rules create safety issues that go undetected, assessed and mitigated.	1) Changes are made to operating rules and not evaluated thoroughly or properly.	Safety issue escalates into unmitigated hazard leading to severe accident that causes death, serious injury, prolonged loss of service, or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -Documentation that the 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. -A copy of the TOC approved SSPP revised to document the process.	1) Provide FTA with documentation that the 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. 2) Revise the WMATA SSPP to accurately document this process. 3) Update the SSPP and Hazard Management procedure to require that all changes in operating rules have hazard analysis performed prior to final implementation. 4) Provide FTA with a copy of the WMATA SSPP, approved by TOC, revised to document this process.	1) WMATA is currently revising the Metrorail Safety Rules and Procedures Handbook and the Roadway Worker Protection Manual. 2) WMATA's safety contractor has also participated in the review of the RWPM 3)WMATA SSPP has been reviewed in its entirety.	I	E	IE-AC/WR	Open	WMATA will provide FTA with documentation that rules and procedure changes are being analyzed through the hazard management process as well as documentation of an implemented configuration management program once developed.

WMATA System DRAFT PHA (Currently including FTA and TOC recommendations)

Hazard Identification						Hazard Rating (Pre-Resolution)			Hazard Resolution			Hazard Rating (Post-Resolution)			Hazard Closure	
						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC						UNACCEPTABLE = UN UNDESIRABLE = UD ACCEPTABLE WITH REVIEW = AC/WR ACCEPTABLE = AC				
Seq. No.	Control No.	Finding (based on FTA/TOC Audit)	Potential Hazard	Potential Cause(s)	Effect(s)	Hazard Severit y (I, II, III, IV)	Hazard Prob. (A - E)	Hazard Risk Index: UN UD AC/WR AC	FTA/TOC Recommendations	Action(s) Required for Close-Out	WMATA Action	Hazard Catego ry	Hazard Prob.	Hazard Risk Index: UN UD AC/WR AC	Status (Open / Closed)	Notes or Current Action(s) Required
9	9.01	REC #9: 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.	Proper procedures not followed during right-of-way activities.	1) Personnel improperly trained with ROW protection rules. 2) Operating rules inadequate to direct employees of proper procedures.	Collision or serious personnel injury occur resulting in death, serious injury or system loss.	I	C	IC-UN	WMATA should provide FTA with the following: -A copy of WMATA's finalized right-of-way protection rules and associated training program, including documentation that they have been received, reviewed and approved by TOC. -Verification that employees have been trained with the new rules.	1) 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. 2) Provide FTA with documentation verifying that all right-of-way employees and contractors have received this training before accessing the right-of-way.	1) WMATA is currently revising the Metrorail Safety Rules and Procedures Handbook and the Roadway Worker Protection Manual. The SAFE Department has been actively involved in the revision process of both documents. 2) Staff training needs currently being evaluated along with evaluation of update to right-of-way procedures.	I	E	IE-AC/WR	Open	WMATA will provide FTA with the finalized RWPM and associated training program materials once they are complete. Completion of the RWPM is anticipated for January 2011.
10	10.01	REC #10: Implement the configuration management program described in the WMATA SSPP.	Safety issue or concern not properly identified, reported, assessed, or mitigated.	1) Configuration Control infrastructure inadequate to properly store and track safety related documentation. 2) "Safety culture" associated with organization not conducive to taking the required steps to report/assess/track/close identified issues. 3) No primary point of contact tasked with the responsibility of assuring identified hazards are being properly managed.	Safety issue escalates into catastrophic failure leading to severe accident that causes death, serious injury, or large system loss.	II	C	IIC-UD	WMATA should provide FTA with the following: -A copy of the results from its internal safety audit of the configuration management program. -A copy of the plan developed by WMATA to address audit findings.	1) A documentation tracking system should be integrated that stores, tracks, reports and alerts appropriate staff of required updates. This system should also serve a central location for staff to access current and up to date information/documentation. 2) Conduct an internal safety audit of WMATA's configuration management program. 3) Provide FTA with a copy of the internal safety audit results and a copy of the plan developed by WMATA to address the audit findings.	1) WMATA is developing an internal audit process that incorporates formal audit procedures, checklists and schedules. In addition, WMATA is evaluating the availability of in-house WMATA technical expertise to conduct internal safety audits. 2) WMATA's safety contractor has identified, collected and reviewed a vast number of SAFE documents.	II	E	IIE-AC/WR	Open	WMATA will provide FTA with results from the internal safety audit of the configuration management program and a copy of the plan to address audit findings once completed.

Section 5

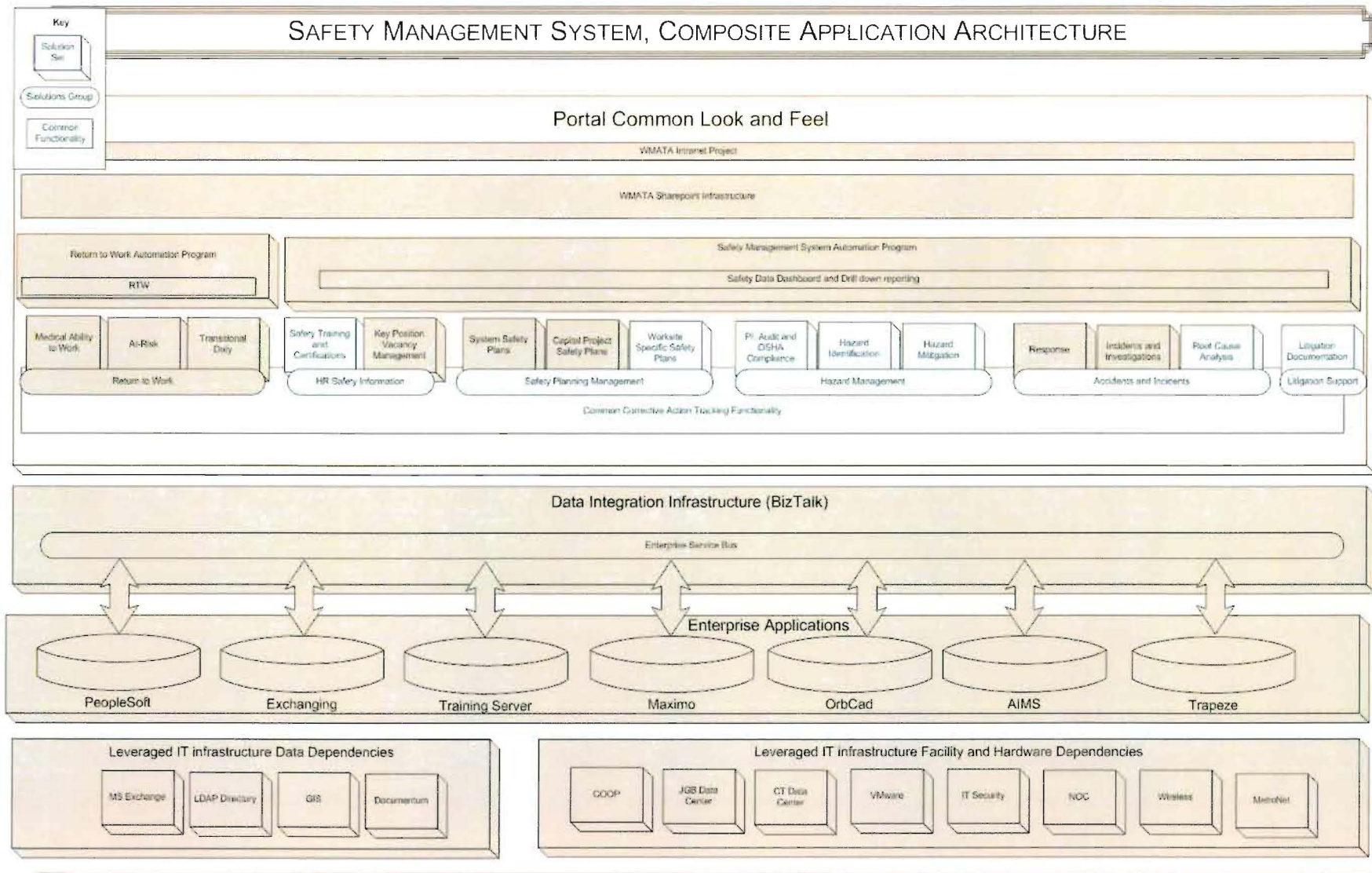
Safety Initiatives Application Architecture



Audit Finding Solution Statement

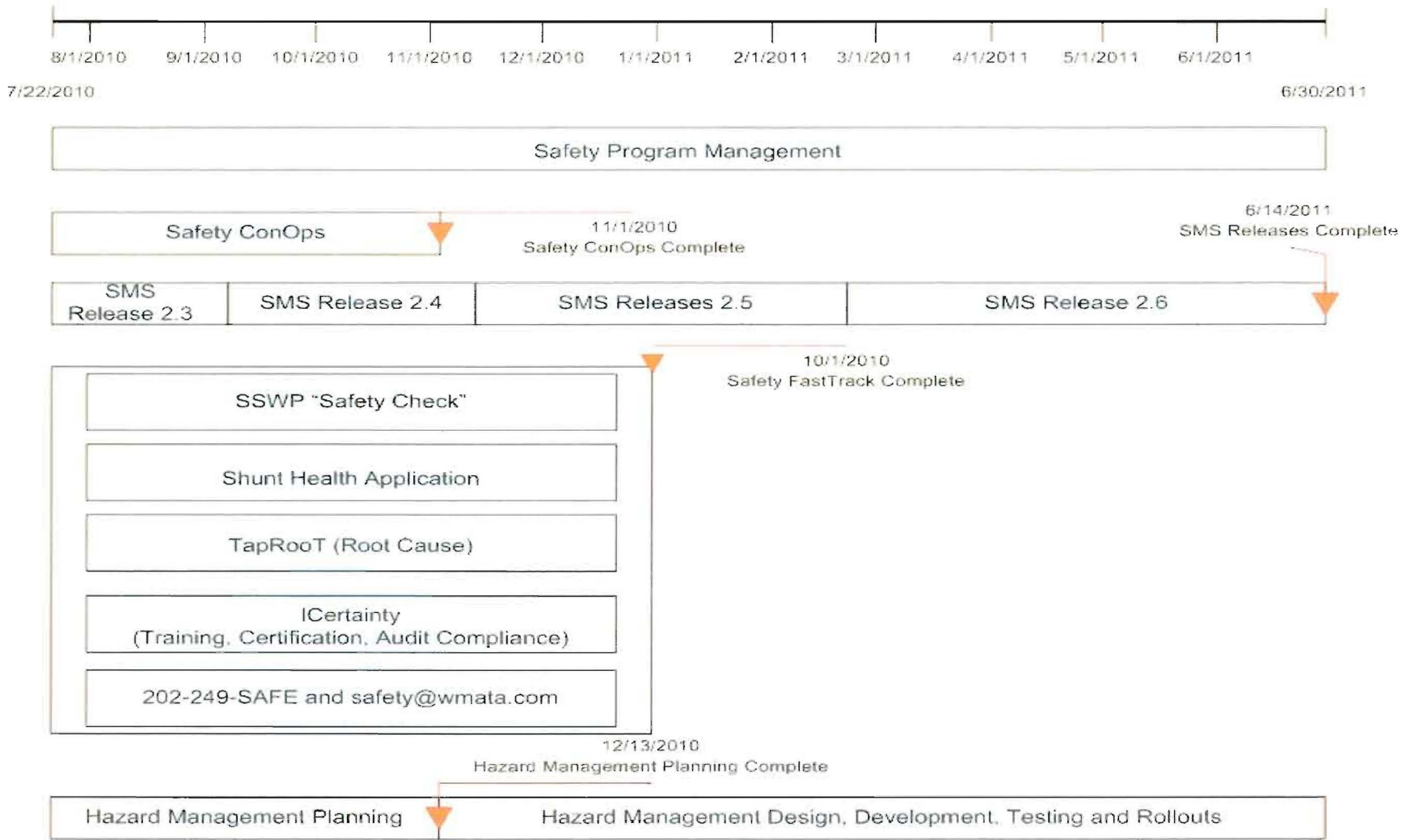
FTA Audit Recommendations	WMATA IT Solution Set	Products Being Evaluated
1. WMATA does not have a process, including a single point of responsibility, which ensures the timely identification and evaluation of safety hazards.	Common Corrective Action Tracking Functionality Develop functional and technical requirements documents to identify target business processes and develop common tracking application features and data sets to centralize hazard identification, evaluation, and mitigation.	Maximo SharePoint InteleX
2. 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.	Hazard Identification Provide Executive Leadership centralized access to hazard information via a Safety Portal. The hazard information will be centralized within a hazard identification tool to streamline the capture of potential hazards. Provide tools by which disparate hazard identification processes can collect hazard information and provide to the central repository. The system must allow for the assessment, prioritization, and tracking of identified hazards.	Maximo SharePoint 202-249-SAFE Shunt Health App.
3. There is no evidence of safety analyses being performed to prioritize hazards for elimination or mitigation.	Hazard Mitigation Implement a hazard mitigation tool that provides identified hazards into dashboards and analysis tools to identify hazard elimination or mitigation actions.	Maximo SharePoint TapRoot
4. WMATA must ensure that Authority personnel have received training prior to performing work tasks, including right-of-way access.	Safety Training and Compliance/Audit and OSHA Compliance Implement a training monitoring system that is available to Authority-wide personnel to ensure that all persons performing work have received adequate training with regards to WMATA operating and safety procedures, as well as all federally required training.	ICertainty Training Server PeopleSoft ELM
5. WMATA is not using hazard analysis tools and techniques to support the identification, assessment, elevation and resolution of safety concerns.	Root Cause Analysis Deploy an industry standard root cause analysis tool to Safety personnel and provide adequate training on the usages of the tool.	TapRoot
6. 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.	Site Specific Safety Plans Implement a document management solution to collect Authority-wide Safety documents, track document versions, manage document approval and change processes, and make approved documents available in a timely fashion.	SSWP "Safety Check" (Documentum, SharePoint)
7. Overall document management throughout WMATA is poor. No central repository or accessible location exists and/or is widely communicated for document accessibility. This lack of document management is an Authority-wide problem.	Litigation Documentation Implement a document management solution to compile the requisite documents needed post-incident, extending to supporting needs for any WMATA involved litigation.	Documentum SharePoint ICertainty

Safety Initiatives Application Architecture – Proposed FY11 End State



FY11 Safety Initiatives Through CY10

Safety Systems Automation Program – FY11 (through 6/30/2011)



Program Assumptions

1. The approach will allow for the rapid deployment of applications to address the FTA Audit Report.
2. SMS will continue to roll out new functionality of an expanding scope.
3. Fast Track Initiatives have been identified and are to be released at the end of the summer.
4. Hazard management is more complex and requires more planning to ensure that the correct solution is put into place.
5. The program will analyze and assess options by exploring an appropriate balance of the speed to implement, the ability to leverage of existing assets, and the identification of repeatable business processes.
6. In parallel, a Safety Concepts of Operations will information future functionality in planned deliverables.

Safety Concept of Operations

To develop an Safety Concept of Operations document to memorialize the processes for which the Safety Division and all other agencies interact with regards to safety protocols. This effort will explore and document the following:

- Capture the background and scope of safety initiatives and operations
- Identify stakeholders and resources to be consulted and utilized during Safety Initiatives
- Provide a description of business and user requirements
- Develop business goals, objectives, and strategy
- Conceptualize as-is and target architectures, and outline application gap analysis and transition plans
- Document performance measures and best practices in Safety management
- Communicate proposed benefits of each system and the impacts on business and IT infrastructure
- Assess the level of effort to achieve the initiatives including architecture and standards, constraints, training and deployment, and phasing and timelines

FastTrack Initiatives

SSWP "Safety Check" - To integrate the Documentum solution with key safety planning documents. The scope of our involvement with Site Specific Work Plans will include a description of the construction and/or maintenance activities to be performed at specific locations where track access or other interface with the operating system is required and making these documents available through the Safety Portal.

Shunt Health Application - To produce a Shunt Health application that will show key changes in shunt health throughout the Metrorail system in real-time. The purpose of this application is to proactively search for Loss of Shunt defects on WMATA's mainline track circuits.

TapRoot - To re-implement the purchased TapRoot root-cause analysis tool within the Safety department and train users on the usage of this tool. The tool will allow for the Safety Department to use one program to analyze incident root causes, develop corrective actions, write and approve reports, track fixes, validate the effectiveness of the fixes and trend performance in a secure, password protected environment.

ICertainty - To purchase and deploy the ICertainty product for the purpose of assessing the Authority's compliance to national standards for training and certifications. Compliance to national standards such as FTA, NTSB and OSHA is a fairly straightforward concept of acting in accordance with established laws, regulations, protocols, standards, and specifications. Training and certification compliance and internal controls are needed within the Safety Department to meet a growing number of laws and regulations, as well as the growing number of internationally accepted standards.

202-249-SAFE - To implement a tracking system to log and track to resolution call data received via the Safety Hotline (202-249-SAFE), emails to safety@wmata.com, or face-to-face reported safety concerns.

Hazard Management System

To develop an application to provide the following high-level features:

- Form for entering hazards from various sources into a complete safety hazard activity list
- Graphical dashboard to quickly identify all pending and overdue actions
- Automatic email notification of reviews and single-click access to feedback forms
- Review and assessment of reported hazards
- Assess actual hazards for severity and frequency compliant with FTA regulations
- Automatic task notifications to keep the Safety department informed and aware of upcoming tasks
- Assignment of responsible parties for all actions in the system and status tracking against those tasks
- Work-flow to allow the filtering, assessment, and tracking of reported hazards
- Corrective Action Plans management associated with identified hazards of a particular assessment level
- Monthly Corrective Action Plan Report to Tri-State Oversight Committee
- Reports for various management levels regarding all hazards
- Quick View widgets of hazards and work-flow check points
- Escalation work-flow for pending and overdue tasks
- Review and audit scheduling for safety hazards which need to be monitored and inspected on a frequent basis

Solution Trade-Off Analysis

We intend to take 60 days to determine the best approach to automating Hazard Management.

Options being evaluated include:

- Purchasing COTS solution (e.g. Intelix)
- Extending existing applications (e.g. Maximo)
- Leveraging SOA architecture (e.g. Sharepoint)
- As well as solutions that use more than one of these approaches

Proposed FY11 WMATA Safety Initiatives Plan

Architecture	Deliverable	Days	Start	End	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
	Program Management	253	7/13/10	6/30/11	\$145,320											
	EA ConOps	88	7/13/10	11/12/10	Paid for in EA BPI											
Worksite Specific Safety Plans	SSWP “Safety Check” Implementation	58	7/13/10	9/30/10	Paid for in Document Management BPI											
Root Cause Analysis	TapRoot COTS Implementation	34	8/16/10	9/30/10	\$33,495											
Safety Training and Certifications, PI Audit and OSHA Compliance Litigation Documentation	ICertainty COTS Implementation	45	8/2/10	9/30/10	\$111,530											
Hazard Identification	Shunt Health Application	58	7/13/10	9/30/10	\$39,555											
	202-249-SAFE Implementation	29	8/23/10	9/30/10	\$39,975											
	Hazard Management System V1.0 Planning	37	7/13/10	9/1/10	\$54,105											
	Hazard Management System V1.0 Implementation	87	9/2/10	12/31/10			\$199,320									
Hazard Mitigation	Hazard Management System V2.0 Implementation	129	1/3/11	6/30/11							\$370,825					

Total Cost = \$994,125

Project SWOT Analysis

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> ✓ These Safety Initiative Projects provide a fast-track alternative towards compliance with FTA's State Safety Oversight Programs March 2010 Audit Report ✓ These Safety Initiative Projects capitalize on the in-place intellectual property to meet the proposed solutions ✓ The proposed solutions are the best technology alternatives to alter current cultural, attitudinal, and behavioral manners 	<ul style="list-style-type: none"> ✓ The quality of system-of-record data is poor ✓ We would be addressing scope for the Safety and Environmental Management Safety Department and not the WMATA Enterprise ✓ Additional safety specific business analysts are needed which may be difficult to locate ✓ The Safety technology budget is limited and is only appropriated until June 2011 ✓ The detailed business and technical requirements have not yet been created beyond the visioning phase ✓ End-user adaptation of the proposed solutions may not be Enterprise-wide
<u>Opportunities</u>	<u>Threats</u>
<ul style="list-style-type: none"> ✓ The direction of a new GM may alter the likelihood of a long-term vendor/client partnership sought through these projects ✓ New niche application may become available in the marketplace which causes directional rethinking ✓ Provides the ability to move quickly to address audit findings due to the emergency procurement authorization to expend fund to resolve the identified actions 	<ul style="list-style-type: none"> ✓ Federal intervention before the proposed solution is fully implemented ✓ Technology may be selected before legitimate business need is identified ✓ The System Safety and Environmental Management Department is awed by product suite success stories, dynamite product demonstrations and industry colleagues' evaluation of technology ✓ Creating and tracking ROI for a non-revenue initiative is difficult ✓ Re-work may be required as requirements change and new opportunities are identified ✓ No best practice models exist among transit authorities across the nation with regards to information technology enterprise architecture.

Project Risk Management

Risk	Mitigation
The primary beneficiary of this initiative is the Safety and Environmental Management Safety Department is not operationally-based	Ensure that all of the WMATA operating divisions become active members of the Project Stakeholders Council to adopt this initiative and to validate gate completions.
The quality of the system-of-record data is poor.	Implement an authority-wide data audit system to assess data quality, validity and reliability. Without a well-designed and well-implemented authority-wide data audit system, the technology solutions cannot have confidence in the quality of the information coming out of the Safety Systems.
The detailed business and technical requirements have not yet been created beyond the visioning phase.	Ensure that the Safety and Environmental Management Safety Department's business processes are known, mapped and fully documented. Gain end-to-end agreement and signoff that the business and technical requirements are an accurate representation of what needs to be built.
A common vision (or goals) and expected project outcomes across key stakeholders may not shared authority-wide.	Involve leaders and managers in the development of the project vision and ensure that all anticipated benefits are clearly understood and agreed upon. Identify specific success criteria. Define the boundaries of the project by knowing what is in and out of scope.
The speed in which the project plans to execute the outlined deliverables may result in rework.	Minimize the spending on high-risk application development until the Concept of Operations document is completed.