all (b)(6)

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Medenia Dashiell		
FWSO Inspector in Charge Signature	MEDENIA DASHIELL Digitally signed by MEDENIA DASHIELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHIELL Date: 2015.12.04 14:08:40 -05'00'		
Subject	Track Inspection and Maintenance		
Report Number	TRST-1		
Date	December 1, 2015		
Type of Activity	Briefing Presentations, Interviews and Records Reviews		
Purpose of Inspection	Track Geometry Vehicle (TGV) procedures and requirements; De-stressing program for Continuous Welded Rail (CWR)		
Relevant FTA Safety Findings / Required Actions	SMI Required Action R-4-28-A SMI Required Action R-3-25-A SMI Required Action R-3-26-A SMI Required Actions R-2-16-A through –D SMI Required Actions R-8-44-A and -B		
Issues or Concerns	• TRST rail de-stressing program and TRST Track Geometry Vehicle (TGV)		
References	• WMATA Corrective Action Plan for FTA's Safety Management Inspection, approved on September 24, 2015 • TRST 1000 – Track Maintenance and Inspection Manual. Revision 6. January 1, 2015. • TRST 2000 – Track and Structures Maintenance Control Policy. Revision 6. February 20, 2015. • Metrorail Safety Rules and Procedures Handbook. April 9, 2015 (Electronic Update). • Operations Administrative Procedure 208-01. Track Maintenance Management, Maintenance of Way. July 31, 2006. • Operations Administrative Procedure 208-02. Structures Maintenance Management, Maintenance of Way. July 31, 2006. • Roadway Worker Protection Manual. June 2014.		
Time of Review	9:00am to 5:00pm	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	Medenia Dashiell, [redacted]	**WMATA Point of Contact**	[redacted] General Superintendent, Office of Track and Structures [redacted]
Location	Alexandria Rail Yard 3201 Eisenhower Avenue Alexandria, VA 22314	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	No	**Interviews**	Yes – See above persons
Ride-alongs	Follow-up Riding Track Inspection – Scheduled for 12/2	**Records Reviews**	Maximo Report, Updated TRST Documentation
Field Observations	No	**Field Inspection**	Follow-up Observations of Walking Track Inspections – Scheduled for 12/2 and 12/3

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector In Charge	Medenia Dashiell		
FWSO Inspector In Charge Signature	MEDENIA DASHIELL Digitally signed by MEDENIA DASHIELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHIELL Date: 2015.12.04 14:14:11 -05'00'		
Subject	Track Inspection and Maintenance		
Report Number	TRST-5		
Date	December 3, 2015		
Type of Activity	Riding Track Inspection		
Purpose of Inspection	To observe general condition of track from WMATA vehicle, to discuss track inspection activities and requirements with WMATA TRST personnel		
Relevant FTA Safety Findings / Required Actions	SMI Required Action R-4-28-A SMI Required Action R-3-25-A SMI Required Action R-3-26-A SMI Required Actions R-2-16-A through –D SMI Required Actions R-8-44-A and -B		
Issues or Concerns	• General condition of the track, process for conducting track inspection		
References	• WMATA Corrective Action Plan for FTA's Safety Management Inspection, approved on September 24, 2015 • TRST 1000 – Track Maintenance and Inspection Manual. Revision 6. January 1, 2015. • TRST 2000 – Track and Structures Maintenance Control Policy. Revision 6. February 20, 2015. • Metrorail Safety Rules and Procedures Handbook. April 9, 2015 (Electronic Update). • Operations Administrative Procedure 208-01. Track Maintenance Management, Maintenance of Way. July 31, 2006. • Operations Administrative Procedure 208-02. Structures Maintenance Management, Maintenance of Way. July 31, 2006. • Roadway Worker Protection Manual. June 2014.		
Time of Review	9:00am to 3:00pm	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	Medenia Dashiell	**WMATA Point of Contact**	[redacted] all (b)(6)
Location	Orange Line / Blue Line	**WMATA Person(s) Contacted**	[redacted] Assist. [redacted]
Radio Observations		**Interviews**	Yes – See above persons
Ride-alongs	Riding Track Inspection	**Records Reviews**	Maximo Report, Updated TRST Documentation
Field Observations	No	**Field Inspection**	Riding Track Inspection

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Ambur Daley		
FWSO Inspector in Charge Signature	AMBUR I DALEY Digitally signed by AMBUR I DALEY DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FMCSAHQ, cn=AMBUR I DALEY Date: 2015.12.11 14:34:39 -05'00'		
Subject	ROCC – SMI CAP Status and Verification		
Report Number	ROCC 1		
Date	December 7, 2015		
Type of Activity	Interviews, Record Reviews and Observations		
Purpose of Inspection	SMI Follow-up, Field Observations		
Relevant FTA Safety Findings / Required Actions	SMI Findings R-1 through R-12 and Associated Required Actions		
Issues or Concerns	ROCC staffing, training, procedure and manual updates, radio quality, and shift briefings		
References	Metrorail Safety Rules and Procedures Handbook, March 20, 2015 Electronic Update Rail Operations Control Center Procedures Manual, September 21, 2015		
Time of Review	0830 – 1700	**WMATA Department**	Rail Operations Control Center
FTA Reviewers	Ambur Daley, Rich Green, Rachael Wenger, Annabelle Boyd, Bob Maniuszko	**WMATA Point of Contact**	[redacted]
Location	Carmen Turner Facility	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	[Yes]	**Interviews**	[Yes] – [redacted]
Ride-alongs	[No]	**Records Reviews**	Transfer Log Books, Wayside Worker Daily Locator Sheets, ROCC Communication Quality Control Checklists, Maximo Unusual Occurrences Report Log, Course Evaluation Sheets
Field Observations	[Yes]	**Field Inspection**	[N/A]

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Ambur Daley		
FWSO Inspector in Charge Signature	AMBUR I DALEY Digitally signed by AMBUR I DALEY DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FMCSAHQ, cn=AMBUR I DALEY Date: 2015.12.11 14:38:05 -05'00'		
Subject	ROCC – SMI CAP Status and Verification		
Report Number	ROCC 3		
Date	December 9, 2015		
Type of Activity	Observations and Exit Briefing		
Purpose of Inspection	SMI Follow-up, Field Observations		
Relevant FTA Safety Findings / Required Actions	SMI Findings R-1 through R-12 and Associated Required Actions		
Issues or Concerns	ROCC staffing, training, procedure and manual updates, radio quality, and shift briefings		
References	Metrorail Safety Rules and Procedures Handbook, March 20, 2015 Electronic Update Rail Operations Control Center Procedures Manual, September 21, 2015		
Time of Review	1000 - 1230	**WMATA Department**	Rail Operations Control Center
FTA Reviewers	Ambur Daley, [redacted]	**WMATA Point of Contact**	[redacted]
Location	Carmen Turner Facility	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	[Yes]	**Interviews**	[No]
Ride-alongs	[No]	**Records Reviews**	Transfer Log Books, Wayside Worker Daily Locator Sheets, ROCC Communication Quality Control Checklists
Field Observations	[Yes]	**Field Inspection**	[N/A]

Item #	Topic or SMI Finding	Location
1	ROCC Observations – 12/9/2015	CTF-ROCC

Description: FWSO conducted observations at WMATA's Rail Operations Control Center (ROCC) on December 9, 2015. During observations, FWSO confirmed the following:

1. WMATA has implemented a new written log format that includes the signature for both the Radio Controller and the Button Controller, respectively, documenting the briefing. A copy of the completed Daily Activity Log is attached.
    a. FWSO brought this to the attention of the ROCC Director during the December 7, 2015 observations. The ROCC leadership re-enforced the log signature requirement by:
        i. Issuing a formal memorandum to each Assistant Superintendent and Rail Traffic Controller that details their responsibilities related to the log
        ii. Creating a signature sheet for each individual that received the memorandum that acknowledges receipt and understanding of the memorandum
        iii. Creating the new ROCC Daily Activity Log that include the signature boxes
2. WMATA has not complied with the revision requirements stated within their Metrorail Safety Rules and Procedures Handbook. WMATA will provide a copy of a directive to the ROCC Superintendents that requires them to review and ensure that all documentation within the ROCC is the correct version.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action)***: Provide copy of the Directive to the ROCC Superintendents that requires them to review and ensure that all documentation within the ROCC is the correct version.***	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Item #	Topic or SMI Finding	Location
2	Exit Briefing	CTF – ROCC

Description: FWSO conducted an exit briefing at WMATA's Rail Operations Control Center (ROCC) on December 9, 2015. The following items were discussed:

- Staffing
  - WMATA provided an updated ROCC staff roster (from the previous SMI submittal discussed on December 7, 2015):
    - WMATA has 34 RTCs on staff, with two additional RTCs in on-the-job training, for a total of 36 RTCs – instead of a total of 38 RTCs, as reported in the SMI submission.
    - The materials previously provided to FTA did not reflect that fact that one (1) RTC recently had been terminated and another retired.
    - With the 10 new hire RTCs in training, Rail Transportation has 46 total RTC positions. This is 2 under the 48 total positions previously agreed to in the SMI (out of 52 total authorized positions).
    - Rail Transportation is no longer budgeted for 52 total positions but currently is authorized for 46 positions.
- Staff Certification (b)(6)
  - [redacted] provided an updated status report on the re-certification. The report included the following information:
    - ROCC is currently 38% out of compliance with annual re-certification.
    - By January 9, 2016, the ROCC will be 50% out of compliance.
    - WMATA will provide FWSO with a recovery plan to bring their RTCs into compliance with the annual re-certification requirements by March 31, 2016.
  - RWP Level Training and Qualification
    - 50% of RTCs have completed Level 4 RWP training and qualification, and WMATA expects that all RTCs will be Level 4 qualified by March 31, 2016.
- Transfer Logs
  - As a result of discussion during the FWSO field inspections on Monday, December 7, WMATA issued a memorandum re-enforcing the new briefing procedures established to address SMI finding R-1-9-A, and also issued a new form for documenting these briefings.
  - Throughout the three days, FWSO observed successive improvement in the performance of these briefings using the new procedures and forms.
- Documentation Updates
  - WMATA acknowledged non-compliance with the revision requirements contained within the MSRPH. They took an immediate corrective action in directing supervision within the ROCC to ensure the updates of all ROCC documentation
  - WMATA ROCC leadership also has begun the discussion of a transition to an electronic solution.
- SMI Memorandum
  - WMATA will be issuing a memorandum requesting extensions for responses to SMI findings related to annual re-certification, training, performance standards and efficiency testing program for RTCs, and AIM system upgrades.

December 9, 2015 Exit Briefing
SMI Findings R-1 through R-12 Status Update

R-1-1-a WMATA must fully staff the Rail Operations Control Center.

- WMATA provided an updated ROCC staff roster (from the previous SMI submittal):
  - WMATA has 34 RTCs on staff, with two additional RTCs in on-the-job training, for a total of 36 RTCs – instead of a total of 38 RTCs, as reported in the SMI submission.
    - The materials previously provided to FTA did not reflect that fact that one (1) RTC recently had been terminated and another retired.
  - With the 10 new hire RTCs in training, Rail Transportation has 46 total RTC positions. This is 2 under the 48 total positions previously agreed to in the SMI (out of 52 total authorized positions).
  - Rail Transportation is no longer budgeted for 52 total positions but currently is authorized for 46 positions.
- WMATA increased base salary for the RTC position and recruited 10 new hires in August/September 2015—
  - All new hires are internal and experienced WMATA Metrorail employees:
    - 5 Field Supervisors and 5 Interlocking Operators
  - New hires are scheduled to complete classroom training in March-April timeframe and on-the-job-training in the June-July time frame
    - See R-1-12-a for more information on new RTC training.
- WMATA plans to have its full staffing level of 46 RTCs available by August 31, 2016.

R-1-2-a WMATA must complete and maintain required annual re-certifications for Rail Traffic Controllers.

- WMATA will NOT complete all required annual re-certifications for 2015.
- Due to the lack of training resources available, WMATA currently anticipates that its new RTC annual re-certification process will not be developed and completed until December 31, 2016.
- WMATA plans to submit mitigations to provide a short-term solution until training personnel are available.

R-1-3-a WMATA must establish a program to provide each Rail Traffic Controller with mandatory road days for territory familiarization and to keep up with changing system elements.

- WMATA is beginning this process, sending RTCs to participate in Emergency Exercises and Drills and for limited field observations
- The Maintenance Operations Center (MOC) is also working with Track Allocation Support Services (TASS) to enhance track access efficiency and to address SMI findings R-23 through R-26. Lessons are being shared in multi-discipline teams working to maximize efficiency across departments.
- WMATA is in the process of developing a program of field training and tours that will be fully implemented when the 10 new RTC hires are available to provide relief days.

R-1-3-b WMATA must require all Rail Traffic Controllers to obtain and maintain Level 4 Roadway Worker Protection training and certification.

- WMATA has committed to this activity and has placed approximately 50 percent of its RTCs through this week-long class as of December 7, 2015
- Due to staffing limitations in the ROCC; WMATA can only put 2 RTCs through this course each week

R-1-4-a WMATA must complete its assessment regarding the identification of critical versus non-critical notifications and alarms in the Rail Operations Control Center, and options for removing non-critical notifications must be implemented.

- WMATA has made major progress in this area:
  - Since March 2014, weekly alarms have been reduced 80% from 654,000 to 93,000
  - All alarms are tracked in a weekly and monthly summary report and a Top 10 alarms report
- AIM release scheduled for mid-December includes re-partitioning, which further relocates alarms from the RTC consoles to the MOC and supporting desks
  - In rush hours over 50% of the alarms will be reduced by this upgrade
- Joint committee reviewing alarms, including SAFE, identified most commonly occurring alarms and developed procedures for managing, moving or eliminating them
- Committee also established alarm priorities:
  - Category#1 (Top Alarm Priority): Chemical-Biological Emergency Management Information System (CBEMIS)
  - Category #2: Loss of Shunt – New SOP and Process
  - Category #3: Alarms cannot be removed from screen until resolved:
    - Drainage Pumping Station (DPS) failure alarm
    - Red Signal Overrun alarm
    - Traction Power Circuit Breaker
    - Process Failure alarm (in Interlocking/Automatic Train Control (ATC) system)
    - Intrusion Detection Warning (IDW) alarm

R-1-4-b WMATA must conduct an engineering assessment, and implement the results regarding options to reduce noise in the Rail Operations Control Center, including ambient noise and feedback from the radio system.

- WMATA hired BRT Services to complete assessment; firm conducted on-site review, but did not perform in-depth sound engineering assessment.
- Recommendations in study largely parallel recommendations discussed in SMI report (use of partitions and acoustical treatments (ceiling tiles with noise absorbing capabilities, use of carpet and sound absorption panels on walls and between columns, and separation of emergency management function).
- WMATA is working with its Communications Engineering team to look at implementing the results of the BRT Services study.
- WMATA also has implemented a new Permanent Order preventing other WMATA employees and managers from accessing the RTC consoles and ROCC floor, during emergency events (or at any time), and setting up a staging area for monitoring the radio at the OEM desk.

- New procedures also are being implemented to use phones and intercoms to limit cross talk between consoles

R-1-4-c Until such time as electronic records of train movement are readily available to on-duty Rail Traffic Controllers, WMATA must ensure that its Rail Traffic Controllers maintain a paper-based record of all mainline train movements, signal bypasses, and unusual movements.

- AIM system upgrade currently in procurement (IT upgrade to 64 bit compatibility)
    - Upgrade improves network performance, software-hardware compatibility, includes the Silver Line overlay, and allows WMATA to make future upgrades in a "lab" environment
- DOES NOT include new AIM electronic features to support RTCs in controlling train movement or managing information electronically
    - NO upgrades for "blue line" protection of workers
    - NO request for electronic transfer, notes or any modification to keep proper logs of daily RTC job requirements.
- DOES include training support to help develop better simulations for testing and evaluating RTCs.
- Speed couplers will continue to be used for remote speed control (too expensive to upgrade field equipment to support AIM electronic speed restriction capabilities)

R-1-5-a WMATA must ensure Rail Traffic Controller workload and distraction do not interfere with the safe and efficient movement of trains.

- In addition to the reduction in alarms (R-1-4-a), a plan is in place to move responsibility for managing ventilation fan monthly tests from the RTCs to the PLNT desk.
    - Implementation was delayed due to the loss of an employee, necessitating a new hire
- RTCs still retain responsibilities typically handled by a separate Power desk at many other transit agencies.

R-1-6-a WMATA must establish and enforce a proper protocol for language and terminology that is used over the radio – to include 100 percent word-for-word read-back for safety-related instructions and unusual train movements.

- WMATA is conducting a radio quality survey with Metrorail employees
- WMATA is developing a new training course to clarify repeat-back requirements and to emphasize clear communication techniques and mastery of the alpha-numeric coding system used for WMATA communications.
- WMATA is conducting enhanced quality audits and review of radio communications
    - ROCC Management states that they perform between 20-25 tests on proper radio procedures a month, which show 95% compliance.
    - The 5% in "non-compliance" is given verbal re-instruction or retraining. If problems persist, then formal discipline is assessed.
    - Testing can be recorded or live.
- FTA will conduct assessments of radio quality on December 8 and December 9, 2015.

R-1-6-b As part of the radio protocol required in R-1-6-a, WMATA must establish an approach for communicating and managing all speed restrictions that requires two-way communication between the ROCC and train operator and takes full advantage of available electronic AIM system features.

- WMATA is developing new training and a new SOP for manual speed restrictions that will require repeat-backs.

R-1-7-a WMATA must establish procedural checklists for Rail Operations Control Center staff to implement the Standard Operating Procedures attached to the Metrorail Safety Rules and Procedures Handbook.

- On December 7, 2015, FTA found several older versions of the MSRPH in the ROCC, but not a current one on the entire floor. FTA also found outdated procedures shared with Rail Quality and Training.
- WMATA is developing checklists and a training aid to support use of SOPs, including visual schematics of stations and facilities.
- WMATA is also developing a plan to ensure easy access to an electronic copy of the current rulebook.

R-1-7-b WMATA must enhance RTC reference materials to direct internal operations at the Rail Operations Control Center, including the use of the Advanced Information Management system, visual schematics of WMATA stations and facilities, and internal ROCC administrative policies and procedures.

- WMATA has developed a draft ROCC Procedures Manual and submitted it to FTA for review.

R-1-8-a WMATA must establish a clear policy that prohibits distractions from the use of cell phones and other electronic devices in the Rail Operations Control Center.

- WMATA has largely completed this activity, with an updated Electronic Device Usage Restriction Policy and a new quality audit program.

R-1-9-a Until such time as electronic transfer records are implemented, WMATA must ensure that its Rail Traffic Controller use paper-based logs with formal signatures.

- No electronic transfer records exist at WMATA. IT is working to develop an internal system that will fulfill this critical need.
- On December 7, 2015, FTA reviewed log books for the RTC consoles, and found many missing signatures, dates, and carryover information.
- Wayside log sheets are kept on a separate form and not part of the transfer log.
- Employees still utilize another employee "log on" to the AIMS system.

R-1-10-a WMATA must establish an on-going "efficiency" testing program for Rail Traffic Controllers to evaluate their in-service performance and competency.

- Testing standards are currently due in March 2016. WMATA will be requesting an extension.

R-1-11-a WMATA must establish an independent committee to evaluate and monitor the recruitment of Rail Traffic Controller trainees, the quality and performance their training, and the certification of new candidates.

- Human Resources is developing a report for Rail Transportation; an ad hoc committee will review the report.

R-1-12-a WMATA must overhaul, correct, revise and improve its training program for Rail Traffic Controllers.

- New hire RTCs are being trained using existing materials.
- Updated materials will not be available until the end of 2016.
    - Training resources are limited: 2 PCNs and 2 on-loan trainers.
- Rockwell Collins has been brought in to provide the AIM system training portion of the RTC training.
- New scripts and simulations have been developed to support training.
- Training re-organization is underway, and should bring 7 new staff positions to Rail Transportation training
- Initial set of new RTC student evaluations much stronger than those evaluations reviewed as part of the SMI.

R-1-12-b WMATA must establish performance standards to be qualified for all positions in the Rail Operations Control Center.

- Performance standards were supposed to be developed by the end of December 2015. WMATA will be requesting an extension.

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Terrell Williams		
FWSO Inspector in Charge Signature	TERRELL A WILLIAMS Digitally signed by TERRELL A WILLIAMS DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=TERRELL A WILLIAMS Date: 2015.12.11 14:29:50 -05'00'		
Subject	CMNT – Daily Safety Test (DST) and Yard Storage		
Report Number	CMNT 2		
Date	December 9, 2015		
Type of Activity	Yard Observations		
Purpose of Inspection	Field Observations		
Relevant FTA Safety Findings / Required Actions	None		
Issues or Concerns	Handbrake usage when storing vehicles yards (WMATA rule 3.126)		
References	Metrorail Safety Rules and Procedures Handbook, March 20, 2015 Electronic Update		
Time of Review	2200 – 0130	**WMATA Department**	CMNT-Railcar Maintenance
FTA Reviewers	Terrell Williams, [redacted]	**WMATA Point of Contact**	[redacted]
Location	West Falls Church Yard	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	Yes – Radio tests as part of DST	**Interviews**	No
Ride-alongs	No	**Records Reviews**	No
Field Observations	Yes	**Field Inspection**	Yes

Item #	Topic or SMI Finding	Location
1	Field Observations	West Falls Church Service and Inspection Facility

Description:

FWSO conducted field observations at WMATA's West Falls Church Service and Inspection Facility (WFC) overnight on December 9, 2015. Note: FWSO was not allowed to enter the roadway due to RWP rules (must be Level 2 to enter roadway without Level 4 escort). During observations, FWSO confirmed the following:

1. WMATA is not following Rule 3.126 when securing equipment:
    a. During onsite observations, FWSO observed that no handbrakes were applied per train Rule 3.126, which requires that two handbrakes be applied per train, and more if stored at grade.
        i. Operations employees do not set handbrake when returning to storage yard. The vehicle is constantly supplied with power.
        ii. Handbrakes must be set and disengaged by CMNT mechanic during the DST process.
        iii. Following DST process, CMNT mechanic did not reapply a handbrake.
        iv. FTA observed that consists were stored 3 feet apart measured anti-climber to anti-climber.
2. FWSO observed a thorough DSR for 6 married pairs (6006-6007, 1041-1040, 6155-6154, 6111-6110, 3092-3093, 3265-3264)
    a. FWSO observed compliant DST process, including interior and cab inspection.
        i. Inspector noted all defects and called them into supervisor as required by procedure.
    b. FWSO could not observe exterior inspection due to RWP rules.

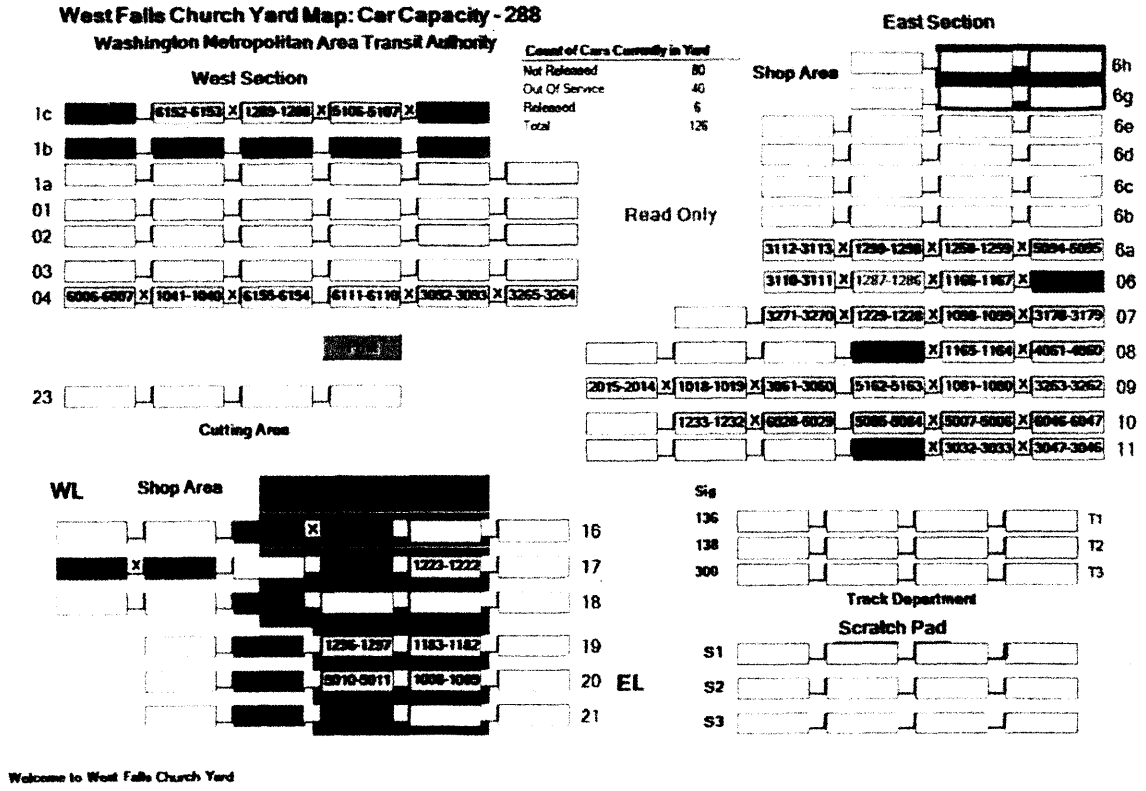
Additionally, FWSO reviewed the process for ensuring that all vehicles have received a DST prior to reentry into revenue service. Each car is noted as yellow until the yard tower receives confirmation from CMNT that it is ready to enter revenue service, at which point it is turned green. A copy of this report is attached.

FWSO representatives used DST procedures date Rev. 0 06/09/2014, WMATA had revised to Rev. 1 09/15/15 and FTA did not have updated document available. FTA requested updated document and was told to submit request through appropriate channels.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action): **Conduct a systemwide audit and implement findings to ensure compliance with Rule 3.126.**	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Railcar Availability Report



FWSO Inspection Report – Page 2

Item #	Topic or SMI Finding	Location
1	ROCC Observations	CTF – ROCC

Description:

FWSO conducted meetings and observations at WMATA's Rail Operations Control Center (ROCC) on December 7, 2015. During observations and records review, FWSO confirmed the following:

1. WMATA is not implementing the required Rail Traffic Controller (RTC) annual re-certifications for 2015.
    a. The FTA brought this to the attention of the ROCC Director and the Director of the Office of Rail Training and Instruction:
        i. Due to the lack of training resources available, WMATA currently anticipates that its new RTC annual re-certification process will not be developed and completed until December 31, 2016.
        ii. WMATA plans to submit mitigations to provide a short-term solution until training personnel are available
2. WMATA has fallen behind its initially proposed SMI schedules for several key deliverables:
    a. Development of "efficiency" testing program for Rail Traffic Controllers to evaluate their in-service performance and competency.
    b. Development of performance standards to be qualified for all positions in the Rail Operations Control Center.
    c. Revision of training program for new Rail Traffic Controllers.
        i. WMATA plans to submit mitigations to provide short-term solutions until resources are available to complete these activities.
3. WMATA is not following requirements for completing thorough briefings at shift changes, and for documenting and signing shift change briefings in the logs as required.
    a. The FTA team brought this to the attention of the Superintendent-on-duty. The Superintendent agreed with the observation and said that WMATA will issue a memorandum to all Assistant Superintendents to review shift briefing requirements, and ensure the log book is completed and signed.
4. MSRPH Updates – the FTA team reviewed three MSRPH binders located on the Assistant Superintendent's desk. Recent revisions to the manual were not included in these books. The (Requirements for rulebook revisions are detailed in section 5.5 of the MSRPH).

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action): **Develop and submit to FTA mitigations/recovery plans for Items 1-4 above.**	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Terrell Williams		
FWSO Inspector in Charge Signature	TERRELL A WILLIAMS Digitally signed by TERRELL A WILLIAMS DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=TERRELL A WILLIAMS Date: 2015.12.11 14:28:18 -05'00'		
Subject	CMNT – SMI CAP Status and Verification		
Report Number	CMNT – 1		
Date	December 8, 2015		
Type of Activity	Interviews, Record Reviews and Observations		
Purpose of Inspection	SMI Follow-up, Field Observations		
Relevant FTA Safety Findings / Required Actions	SMI Finding R-33 Associated Required Action		
Issues or Concerns	CMNT Material Availability and Access, CMNT service requirements and Maintenance Issues related to debris on track		
References	Metrorail Safety Rules and Procedures Handbook, March 20, 2015 Electronic Update		
Time of Review	0900 – 1500	**WMATA Department**	CMNT-Railcar Maintenance
FTA Reviewers	Terrell Williams, Steve Kulm, [redacted]	**WMATA Point of Contact**	[redacted]
Location	West Falls Church Yard	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	To be conducted overnight on December 8, 2015	**Interviews**	[redacted]
Ride-alongs	No	**Records Reviews**	MAXIMO records of inspections, CMNT railcar availability tracking, CMNT railcar defect log
Field Observations	To be conducted overnight on December 8, 2015	**Field Inspection**	To be conducted overnight on December 8, 2015

Item #	Topic or SMI Finding	Location
1	R-33, Shop Observations	West Falls Church Service and Inspection Facility

Description:

FWSO conducted meetings and observations at WMATA's West Falls Church Service and Inspection Facility (WFC) on December 8, 2015. During observations and records review, FWSO confirmed the following:

1. Though WMATA has updated their SOPs, CMNT is still experiencing problems with parts availability:
    a. CMNT Parts availability was the basis of SMI finding R-4-33-A. WMATA has submitted revised SOPs to address these issues. FTA will verify the effectiveness of these procedures in the next 6-9 months:
        i. Specific items have very long lead times, such as Poli rotors needed for certain 1K cars friction brake system
            1. WFC is the home base for 50 percent of 1K cars, and currently has multiple cars out of service awaiting the arrival of these rotors.
            2. CMNT anticipates these rotors not being available until April 2016.
            3. Additionally, some railcars need new Converter Functional Modules (CFMs) which require multiple components to rebuild. CMNT stated that it will be at least a few months until they have the parts required to put the vehicles back in service.
    b. CMNT supervisors do not have access to parts stored in REMSTAR material storage units. Since there is not consistent 24 hour staffing of the parts room, CMNT employees must frequently travel to other facilities in order to get needed parts notwithstanding parts available in the inaccessible REMSTAR.
    c. All railcar facilities are not consistently stocked with needed parts, CMNT employees must travel to other facilities to get parts.
2. Due to demands for service, CMNT is consistently struggling to meet requirements for revenue service:
    a. Increasing to 8-car trains and the addition of the Silver Line have greatly increased the percentage of trains required to make full revenue service each day.
        i. During the interview process, CMNT superintendents stated that they frequently must reduce from 8 car trains to 6 car trains and move railcars around in order to make revenue service.
            1. **Note:** Total number of cars required include backup trains placed strategically throughout the system for faster responses to mechanical problems
        ii. CMNT superintendents also stated the current service levels are set to include the expected number of 7K cars to be included, which WMATA does not have, creating a shortfall.
3. CMNT is also experiencing mechanical problems during service as a result of debris and materials storage left on and near the tracks, such as spare rail, cover boards, and fasteners, empty 5 gallon pails, etc that have been left by the other maintenance departments:
    a. CMNT superintendents stated that impacts with debris is causing mechanical issues, including the loss of collector shoes, and impacts with various undercar systems.
        i. FWSO verified the presence of TRST maintenance materials on the tracks during a prior inspection of track
4. CMNT has developed a clear and repeatable process for ensuring that all PMs are performed

Item #	Topic or SMI Finding	Location
1	R-33, Shop Observations	West Falls Church Service and Inspection Facility

as required and to procedure:

a. CMNT has two computer based systems in place to ensure that all PMs are performed on time and that railcars that are more than 3 days past their required inspection date are not put into revenue service.
b. WFC performs two major (i.e. A, B and C) inspections per day.
    i. FWSO observed two PM-A inspections in progress while onsite
c. CMNT mechanics are required to carry the SOP for the task area that they are inspecting in addition to the signoff sheet for that area at all times.
    i. Compliance with this process is observed by CMNT supervisors
d. All PM inspections receive a final review by the CMNT supervisor prior to being released into revenue service.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

December 8, 2015
SMI Finding R-33 Status Update

R-4-33-A Each WMATA Department impacted by inventory stockouts must develop a recovery or corrective action plan to ensure equipment availability and to manage delays.

- WMATA submitted a memorandum to respond to deliverable 4.1.1 on the FTA SMI CAP to address Safety Finding No. R-33. The memo defines the process established by WMATA to define critical stock levels for materials and the process executed by the Supply Chain Analysts that are embedded within the operation groups. The memorandum describes the WMATA three step approach to systematically analyze inventory levels and the use of the "Danger Zone" report and daily automated Maximo reports to review on hand, demand and on order levels of all materials. A purchase requisition is automatically generated for items that do not meet the demand level.
- WMATA submitted SOP #15 "Inventory Level Management and Prioritization", October 2015. This SOP "...provides the steps to be taken to ensure that sufficient stock inventory levels are set, maintained, and the priority items are followed-up on a consistent basis. Attendant to the SOP #15 were reports outlining Purchase Requisitions open that are older than 30 days, the current PO cycle time, the current External Stock-out rate depicting 5.01%, and items currently in the "Danger Zone" report.
- FWSO has tentatively approved this action and will verify its effectiveness over the next 6-9 months
- CMNT stated that to date, they have not seen any improvement in parts availability, and still face issues with staffing at parts room.

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Ambur Daley		
FWSO Inspector in Charge Signature	AMBUR I DALEY Digitally signed by AMBUR I DALEY DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FMCSAHQ, cn=AMBUR I DALEY Date: 2015.12.11 14:36:00 -05'00'		
Subject	ROCC – SMI CAP Status and Verification		
Report Number	ROCC 2		
Date	December 8, 2015 to December 9, 2015		
Type of Activity	ROCC Rush and OWL Shift Observations		
Purpose of Inspection	SMI Follow-up		
Relevant FTA Safety Findings / Required Actions	SMI Findings R-1 through R-12 and Associated Required Actions.		
Issues or Concerns	ROCC staffing, training, procedure and manual updates, radio quality, and shift briefings		
References	Metrorail Safety Rules and Procedures Handbook, March 20, 2015 Electronic Update Rail Operations Control Center Procedures Manual, September 21, 2015		
Time of Review	0700-1000 1430-1730 2000-0200	**WMATA Department**	Rail Operations Control Center
FTA Reviewers	Amber Daley, [redacted]	**WMATA Point of Contact**	[redacted]
Location	Carmen Turner Facility	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	[Yes]	**Interviews**	[Ye] [redacted]
Ride-alongs	[No]	**Records Reviews**	Transfer Log Books, Wayside Worker Daily Locator Sheets, ROCC Communication Quality Control Checklists, Maximo Unusual Occurrences Report Log, Daily Summary Sheets
Field Observations	[Yes]	**Field Inspection**	[Yes]

FWSO Inspection Report – Page 2

Item #	Topic or SMI Finding	Location
1	Briefings for Shift Changes	CTF – ROCC

Description: FWSO conducted observations at WMATA's Rail Operations Control Center (ROCC) of the morning and afternoon Rush periods and the OWL shift on December 8 and into the morning of December 9, 2015. FWSO made the following observations regarding briefings at shift changes:

1. Transfer between RTCs:
   - Observed a transfer at 9:30am on the Ops 2 Orange/Blue/Silver Desk, and the transfer was entirely verbal, in non-compliance with the new policy. No written instructions were notated into the log, and no signatures were provided.
   - Also, the incoming RTC utilized the previous RTC's log-in on the AIMS computer for approximately 10 minutes before logging in to their own.

2. FWSO documented numerous issues in the Ops. 1 and Ops. 2 Transfer Log Books, including missing signatures, dates, times and carryover of information:
   a. Ops. 2: In the months of November and December, FWSO found 15 missing signatures, and an important piece of information carryover from one day on 11/11/15, which disappeared from the Log Book on 11/18/15, while the event was not actually closed until 12/04/15.
   b. Ops. 1: Pertinent information was omitted from the turnover during one shift and then reapplied back on the following shift.

3. FWSO conferred with an Assistant Superintendent regarding the lack of compliance with the new procedures put in place to address SMI Finding R-1-9-A. A memorandum was issued to reinforce new shift briefing requirements. FWSO reviewed copy of the memorandum issued to reinforce the new shift briefing requirements and a copy of the new transfer log form.

   a. See Figure 1 - Daily Log after Issuance of the Memorandum and Prior to Revision of the Form and Figure 2 - Revised Form with signatures

4. Observed 2nd shift and Owl shift transfers between radio and buttons RTCs, conducted after Memorandum, referenced in Item #4 above, was issued.
   a. The transfer briefings were conducted in accordance with the new procedures, and included signature, information pertaining to Roadway workers, and verbal hand off.
   b. Log-offs and log-ons to the AIM system were also managed appropriately.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action:		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

FWSO Inspection Report – Page 3

Item #	Topic or SMI Finding	Location
2	Radio Communications	CTF -- ROCC

Description: On December 8, 2015. FWSO made the following observations regarding radio communications:

1. Ops 2 – Orange/Silver/Blue in DC and MD and Ops. 1 – Red Line – Morning Rush
   a. No consistent vocabulary with the radio protocol. The terms "Affirmative, Roger and Copy" are all used when issuing instructions via the radio.
   b. RTC pacing and elocution generally compliant with WMATA standards.
   c. Radio controllers issued all repeat-backs as required.
   d. Field communications from Train Operators were poor and inconsistent, with failures to correctly identify themselves, failures to respond to the ROCC, and failures to repeat instructions. Example: Train 912 was told to wait with the doors closed at Capitol South for Police assistance. No verification was given and the train left without notice.
   e. Radio communication broke up multiple times, and there were numerous instances of disruptive radio feedback during transmission.
   f. Radio failures and transmission overlaps increased frustration in both the ROCC and field, and increased the time required to respond to routine situations.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action: ***Propose schedule to expedite WMATA's required actions for R-1-4-C, R-1-6-A, R-1-6-B, R-1-10-A, R-1-14-A and R-1-14-B.***	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Item #	Topic or SMI Finding	Location
3	Radio Communications	CTF – ROCC

Description: On December 8, 2015. FWSO made the following observations regarding radio communications:

1. Ops 2 – Orange/Silver/Blue in DC and MD and Ops 1 – Red Line – Afternoon Rush
    a. Observed both radio and buttons controllers on the radio. All four RTCs were clear, concise, and polite in their communications on the radio.
    b. RTCs insisted on radio repeat-backs though termination of single-tracking operations on Ops 1 and for field personnel calling on or off of the right-of-way on both Ops 1 and Ops 2.
    c. RTC pacing and elocution generally compliant with WMATA standards.
    d. Inconsistent terminology was observed – with "Affirm" "Affirmative" "Copy" "Good Copy" and "Roger" -- all used in RTC radio communications.
    e. There were instances on both consoles were RTCs lost location on Car Maintenance units, and, more significantly, on Ops 2, the RTCs lost the location and status of one group of wayside workers and did not agree whether the group had split into two groups and whether either were clear of the track.
    f. Field communications to RTC from Train Operators were poor and inconsistent. RTCs had to request repeat-backs several times, and Train Operators failed to identify their location, track, or train number in approximately 30% of communications on Ops 2 and approximately 20% of communications on Ops 1.
    g. In one case, on Ops 2, the RTC had to request an appropriate repeat-back four times from the same Train Operator in succession.
    h. In all, field personnel, primarily Train Operators and Car Maintenance, failed to respond to RTCs 56 times over the two-hour observation period, including one Train Operator who failed to contact control for greater than five minutes while operating in an area occupied by wayside workers.
    i. RTCs made announcements to Train Operators working with radio handsets on the 5000 series vehicles to confirm they had back-up handsets.
    j. Overall radio transmission quality is very poor. Many incoming radio transmissions were partially or completely distorted by electronic interference or "dropping out". The continuous transmission quality issues delayed communications in multiple instances and increased frustration from the field and in the ROCC.
    c. RTCs reported concerns regarding overlapping transmissions. During the observation, transmissions with and concerning wayside personnel were interrupted and obscured by overlapping transmissions.
    d. On Ops 1, during an 8-minute delay, multiple Train Operators called in at the same time, and the RTC had to make multiple announcements instructing them to speak one at time. The volume of the overlapping transmissions and the interruptions in communication slowed responsiveness to the train in distress.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action: ***Propose schedule to expedite WMATA's required actions for R-1-4-C, R-1-6-A, R-1-6-B, R-1-10-A, R-1-14-A and R-1-14-B.***	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Item #	Topic or SMI Finding	Location
4	ROCC Documentation	CTF – ROCC

Description: FWSO conducted observations at WMATA's Rail Operations Control Center (ROCC) of the morning and afternoon rush periods and the set-up for the OWL shift on December 8 and into the morning of December 9, 2015. FWSO made the following observations regarding ROCC documentation:

2. Ops 2 – Orange/Silver/Blue in DC and MD and Ops 1 – Red Line – MSRPH Documentation
    a. After discussions from Monday, December 7, 2015, both consoles had copies of the MSRPH dated February 2015 and copies of the corresponding SOP checklists, laminated, with grease pencils available.
    b. During OWL shift, FWSO observed that 10 temporary orders in the MSRPH dated February 2015 had expired.
    c. Follow-up questioning on the current procedures in effect to address the situations covered by the out-of-date temporary orders resulted in inconsistent and contradictory answers.
    d. WMATA took immediate action to remove out-of-date orders from the MSRPHs at the consoles.
    e. WMATA further committed to developing a directive to the ROCC Superintendents that requires them to review and ensure that all documentation within the ROCC is the correct version.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within 15 days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

ROCC DAILY ACTIVITY LOG

Date/Shift	Record
0330-2330 [redacted]	F10, F09, F08, J02 SPEED RESTRICTIONS DUE TO COLD WEATHER F05[33], F06[36], F10[32] BREAKERS will not close By Supervisor J03 Tail Track #1 De-Icer — Medium Speed Coupler L2-64+00 — L2 76+00 Per moc —
12-8-15 1330-2120 [redacted]	E06[36], F07[36], E08[36], E09[46] BREAKERS AWAITING PARTS F10 F09 F08 J02 SPEED RESTRICTIONS DUE TO COLD WEATHER F05[35], F06[36] F10[35] BREAKERS WILL NOT CLOSE BY SUPERVISORY J03 TAIL TRACK #1 DE-ICER MEDIUM SPEED COUPLER L2 64+00 - L2 76+00 PER MOC
12-8-15 2100-0600 [redacted]	E06[36] F07[36], E08[36], E09[46], Breakers Awaiting parts F10, F09, F08, J02-Speed Restriction due to cold weather F05[35], F06[36], F10[35], - Breaker will not close by Supervisor. J03 - Tail Track # - De-Icer: Medium Speed Coupler - L2-64+00 - L2-76+00 - Per moc

Figure 1 - Daily Log after Issuance of the Memorandum and Prior to Revision of the Form

RCCC DAILY ACTIVITY LOG

Date/Shift	Record
0530	Unable to Rise by Supervisory.
Signature Radio Controller [redacted]	D01: Kob Tie breakers offline
	D08 - Traction Power off line
	C05 Platform fan out of Service.
Signature Button Controller	N02 Fire Tech stand out of Service, *D98 26 signal leave in Aft
	Kob TRK #3 out of Service, PM bad & derailers stored RT# 201531451?A
[redacted]	K01 Trains Intermittently Loosing SRD @ K1 212+00
	*Rehab Train experiencing Speed Command Problem at speeds below 45mph
Date/Shift	
Signature Radio Controller	
Signature Button Controller	
Date/Shift	
Signature Radio Controller	
Signature Button Controller	

Figure 2 – Revised Form with Signatures

Item #	Topic or SMI Finding	Location
1	Condition of Track	Orange Line/Blue Line

Description: RIDING TRACK INSPECTION:
On December 3, 2015, this inspector boarded WMATA lead car at New Carrollton Station and conducted a head end riding inspection as follows: Orange Line from New Carrollton to Vienna, from Vienna to Roslyn (transfer to Blue Line). Blue Line from Roslyn to Franconia/Springfield, from Franconia /Springfield to Largo, from Largo to Stadium Amory (transfer to Orange Line), Stadium Amory to New Carrollton. I was accompanied by a WMATA Assistant Track Superintendent during this inspection.

The purpose of this inspection was to:

- To observe general condition of track from the head end a WMATA rail car,
- Discuss track inspection activities and maintenance requirements with WMATA TRST personnel, and;
- Qualify on the physical characteristics of WMATA roadway territory.

No rail or observed track walking inspectors RWP deficiencies were noted.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within _____days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

all (b)(6)

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Medenia Dashiell		
FWSO Inspector in Charge Signature	MEDENIA DASHIELL Digitally signed by MEDENIA DASHIELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHIELL Date: 2015.12.04 14:11:08 -05'00'		
Subject	Track Inspection and Maintenance		
Report Number	TRST-3		
Date	December 3, 2015		
Type of Activity	Walking Track Inspections		
Purpose of Inspection	To observe WMATA conducting track inspections, to observe radio communications, and to observe implementation of roadway worker protection program.		
Relevant FTA Safety Findings / Required Actions	SMI Required Action R-4-28-A SMI Required Actions R-8-44-A and -B		
Issues or Concerns	Performance of track inspection		
References	• TRST 1000 – Track Maintenance and Inspection Manual. Revision 6. January 1, 2015. • Metrorail Safety Rules and Procedures Handbook. April 9, 2015 (Electronic Update). • Operations Administrative Procedure 208-01. Track Maintenance Management, Maintenance of Way. July 31, 2006. • Roadway Worker Protection Manual. June 2014.		
Time of Review	10:30am to 12:45pm	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	Steve Kulm, [redacted]	**WMATA Point of Contact**	[redacted]
Location	Track 2, Green Line, Anacostia (F06) – Waterfront (F04)	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	Yes	**Interviews**	Yes – See above persons
Ride-alongs	Follow-up Riding Track Inspection – Scheduled for 12/3	**Records Reviews**	Maximo Report, Updated TRST Documentation
Field Observations	Yes	**Field Inspection**	Yes

FWSO Inspection Report – Page 2

Item #	Topic or SMI Finding	Location
1	Observation of Track Inspection	Red Line, Track 2, Medical Center to Friendship Heights

Description: On Thursday, December 3rd, 2015, FWSO observed the performance of a track inspection on the Green Line on Track #2 from Anacostia to Waterfront. FWSO observed that the track inspection generally followed the required activities and procedures. At Chain Marker CM F2 144+83, one third rail end approach was scheduled to be checked for proper height due to the observation of several third rail shoes that had been knocked off. The Inspector was only able to perform a visual inspection as he did not have any tools to measure or check gauge or cross level. During the inspection, FWSO also observed that radio communication and roadway worker protection program requirements were generally followed as required.

See attached forms:

- Walking Track Inspection Compliance Form
- FTA Rules Compliance Form (Radio Communication)
- FTA Roadway Worker Protection Observation Form

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within _____ day(s) demonstrating the action(s) taken to address the joint bar track deficiencies noted in this inspection report

Walking Track Inspection Compliance Form

Subject	Walking Track Inspection Compliance Form		
Purpose	The intent of this form is to verify compliance with the Walking Track Inspection requirements detailed in the Washington Metropolitan Area Transit Authority (WMATA) 1000 Track Maintenance & Inspection Manual		
References	WMATA – 1000 Track Maintenance & Inspection Manual, revision 6, dated January 1, 2015 – Table 3-1		
Date(s) of Review	12/03/15	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	Steven Kulm [redacted]	**WMATA Person(s) Contacted**	[redacted]
Date	12/03/15	**Time**	1030 – 1245
Location	Anacostia (F06) – Waterfront (F04)	**Track #**	2

Item	Required Observation	Compliant	Non-compliant	N/A
Rail	The Track Walker must look for: • Broken Rail • Vertical or Horizontal Split Heads • Corrugation • Wear • Shelling • Engine Burns • Rail End Batter • Discoloration • Rust Streaks • Any damage by equipment	X	☐	☐
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Third Rail	The Track Walker must look for: • End approaches are at the correct height • Cover Boards that are missing or loose • Anchor bolts that are missing or loose • Expansion Joints • Lubrication • Adjustment Range • Loose bolts • Broken or cracked insulators	X	☐	☐
Notes: One third rail end approach is going to be checked for proper height due to the observation of several third rail shoes that have been knocked off. (CM F2 144+83)				
Bars, Bolts and Washers	The Track Walker must look for: • Broken • Bent • Cracked • Loose	X	☐	☐
Notes:				
Tie Plates	The Track Walker must look for: • Broken • Bent • Badly corroded • Missing • Off • Skewed	X	☐	☐
Notes:				
Spikes and Anchors	The Track Walker must look for: • High • Missing • Bent • Loose • Away from the plate	X	☐	☐
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Fasteners	The Track Walker must look for: • Missing • Loose • Split	X	☐	☐
Notes:				
Ties	The Track Walker must look for: • Broken • Split • Spike Killed • Plate Cut • Hollow • Damaged by equipment	☐	☐	X
Notes:				
Ballast Section Ballast	The Track Walker must look for: • Cribs not full between ties • Low Shoulder • Narrow Shoulder • Pumping • Hanging Ties • Skewed Ties	☐	☐	X
Notes:				
Line	The Track Walker must look for: • Misalignment	X	☐	☐
Notes:				
Icing Conditions	The Track Walker must look for: • Ice buildup between the base of the rail and tie plates	☐	☐	X
Notes:				
Surface	The Track Walker must look for: • Poor Surface	X	☐	☐
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Cross Level Gauge	The Track Walker must look for: • Poor Cross Level between Rails • Irregular and Narrow/Wide Track gauge	X	☐	☐
Notes: Inspector only performed a visual inspection – he did not have any tools to measure or check gauge or cross level.				
Turnouts and Diamond Crossings	The Track Walker must look for: • Fill out form covering misalignment • Damaged loose and missing components like bolts, washers, connecting rods and points.	X	☐	☐
Notes: F05 location – frog had two broken welds -				
Drainage /Slides	The Track Walker must look for: • Blocked Ditches and culverts • Damaged Slopes and Culverts	☐	☐	X
Notes:				
Fences	The Track Walker must look for: • Damaged and Open Gates	☐	☐	X
Notes:				
Clearances	The Track Walker must look for: • Vertical and Horizontal Restrictions of Visual Line of Sight by Operators and Motorist • Any scrape marks on Tunnel Walls and Platforms	☐	☐	X
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Crossings	The Track Walker must look for: • Loose, missing or high planks and other materials in the crossing • High Spikes • Obstructed Flangeways • Pumping to either side • Sight Lines	☐	☐	X
Notes:				
Track signs Warning signs, etc	The Track Walker must look for: • Defective • Missing	☐	☐	X
Notes:				
Grout Pads	The Track Walker must look for: • Broken • Cracked	X	☐	☐
Notes:				

FTA Rules Compliance Form – Radio Communications

Subject	Radio Rules		
Purpose	The purpose of this review is to verify WMATA's compliance with their Radio Rules.		
References:	• Metrorail Safety Rules and Procedures Handbook (MSRPH)		
Date(s) of Review	12/03/15	**WMATA Department**	TRST
FTA Reviewers	Steven Kulm [redacted] (b)(6)	**WMATA Person(s) Contacted**	[redacted] (b)(6)
Date	12/03/15	**Time**	1030 - 1245
Method of Observation	X Direct Observation X Radio Monitoring ☐ Other (Specify)		
Location	Anacostia (F06) – Waterfront (F04) – Track #2		
Instructions: The rules listed below may not apply to the observation being performed. Please check the N/A box if the rule does not apply to the task you are performing.			

Rule #	Rule	Compliant	Non-compliant	N/A
1.78	Employees shall, when communicating with ROCC, provide train/unit number or name/title and location (including track number, when appropriate). ROCC shall acknowledge employee by repeating train number, location and track.	X	☐	☐
Notes: Cardinal Rule				

Rule #	Rule	Compliant	Non-compliant	N/A
1.79	Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver. When communicating with Class I and Class II vehicles, employees are to identify the train ID or unit ID by the complete number series. This method of positive train/unit identification shall be consistently used when transmitting and acknowledging information. (Examples: Train ID 404 shall be identified as "four zero four". Train ID 414 shall be identified as "four fourteen, instead of "four one four". Train 932 shall be identified as "nine thirty two". PM-32 shall be identified as "PM thirty two" instead of PM three two".) When communicating location information related to Power Rooms only (TPSS or TBS), that is Alpha-Numeric (e.g. C-07, E-07, B-14), employees must use the International Civil Aviation Organization (ICAO) standard for communicating the "Alpha" character. (For example: C-07 shall be identified as "C-Charlie – Zero Seven". E-07 shall be identified as "E-Echo-Zero Seven".	X	☐	☐
Notes: Cardinal Rule				
1.69	Employees shall use WMATA communications equipment in compliance with Federal Communications Commission Rules and Regulations, and in compliance with WMATA Rules, Procedures and General Notices.	X	☐	☐
Notes:				
1.71	Authority telephones and radios shall be used only for official WMATA business, and call preferences shall be given to business pertaining to train operations or emergencies.	X	☐	☐

Rule #	Rule	Compliant	Non-compliant	N/A
Notes:				
1.72	Employees shall obtain clearance from their respective radio control points prior to initiating train-to-train, train-to-wayside, or portable-to-portable communications.	☐	☐	X
Notes:				
1.73	Employees shall not knowingly transmit nor cause to be transmitted any unnecessary, irrelevant, unidentified, false, or false emergency communications.	X	☐	☐
Notes:				
1.74	Emergency messages shall be transmitted over the most expedient means of communication consistent with clear understanding.	☐	☐	X
Notes:				
1.75	Employee shall give priority to emergency communications, keeping communications channels clear until the emergency is over.	☐	☐	X
Notes:				
1.76	Employees shall use plain language when describing emergency situations.	X	☐	☐
Notes:				
1.77	Employees shall not interrupt radio communications in process except in cases of emergency.	X	☐	☐
Notes:				

Rule #	Rule	Compliant	Non-compliant	N/A
1.80	Messages affecting train movement are to be addressed to only one train at a time. However, in an emergency, a blanket message may be sent to all trains in or approaching a particular area. Following a blanket transmission, all trains involved must individually acknowledge receipt of the message.	☐	☐	X
Notes:				
1.81	Employee shall use only the assigned radio channel/talk group unless otherwise authorized.	X	☐	☐
Notes:				
1.82	Employees shall report failure or improper operation of any communication equipment to their controlling agency or supervisor.	☐	☐	X
Notes:				
1.83	Employees, except those authorized, shall not make adjustments to communications equipment.	☐	☐	X
Notes:				

Rule #	Rule	Compliant	Non-compliant	N/A
1.84	Employees shall use radios in compliance with the precautions listed below: a. Keep antenna away from body when transmitting. b. Handle radio only by handle or carrying strap, if so equipped. c. Maintain firm grip and keep radio under complete control so as to prevent dropping it of striking any object. d. In moving on or off track mobile or other equipment, keep the radio latched in the radio rack designed for that purpose, with the straps or belts on the hook provided, unless necessary to use it. e. Keep the radio away from any stove, radiator, open flame or other sources of heat. f. Place radio in a position where it will not fall or be a tripping hazard.	X	☐	☐
Notes:				

FTA Roadway Worker Protection Observation Form - WMATA

Subject	Washington Metropolitan Area Transit Authority (WMATA) Roadway Worker Protection Observations		
Purpose	The intent of this observation is to ensure that WMATA's Roadway Workers follow the established Roadway Worker Protection Program.		
Date(s) of Review	12/03/15	**WMATA Department**	TRST
FTA Reviewers	Steven Kulm [redacted]	**WMATA Person(s) Contacted**	[redacted]
Date	12/03/15	**Time**	1030 – 1245
Roadway Worker In Charge:	Unit 6699	**Employee #**	
Location	Anacostia (F06) – Waterfront (F04)	**Track #**	2

Task #	Task	Compliant	Non-compliant	N/A
1	Job Safety Briefing was completed and included a description of the hazards within the work zone	X	☐	☐
Notes:				
2	Roadway Workers signed form AFTER the Job Safety Briefing was completed to acknowledge their understanding of the briefing.	X	☐	☐
Notes:				
3	Employee in Charge ensured that all personnel possessed current qualifications prior to accessing the roadway.	X	☐	☐
Notes:				

Task #	Task	Compliant	Non-compliant	N/A
4	All personnel were wearing their required and appropriate Personal Protective Equipment (PPE) Note: To include, Flashlight, Hard Hats, Safety glasses, WMATA approved Class II Safety Vest, etc.)	X	☐	☐
Notes: RWIC even checked the ASTM label on the tongue of our boots to ensure they were compliant.				
5	Tools and Equipment were in good condition and properly calibrated.	☐	☐	X
Notes: The WSAD should have a calibration sticker				
6	Derailer, if used, is installed properly.	☐	☐	X
Notes:				
7	Employee In Charge performed a radio test	X	☐	☐
Notes:				
8	Employee in Charge received permission from the Rail Operations Control Center (ROCC) prior to setting up the work zone.	X	☐	☐
Notes: Technically there was not a work zone – this was a walking inspection between Anacostia and Waterfront on Track #2				
9	Shunts: If used, placement was verified by the ROCC	☐	☐	X
Notes:				
10	Employee In Charge placed an adequate number of Warning Strobe and Alarm Devices (WSAD)?	☐	☐	X
Notes:				
11	ROCC Controller made the required Radio notifications to trains in the area.	X	☐	☐
Notes:				

Task #	Task	Compliant	Non-compliant	N/A
12	ROCC turned over the work zone to the Employee in Charge	☐	☐	X
Notes:				
13	Watchman/Lookout provided the proper signals to approaching trains and Raodway Workers	X	☐	☐
Notes:				
14	Train Operators complied with the signals provided by the Watchman/Lookout	X	☐	☐
Notes:				
15	Train Operator sounded the train horn when observing Roadway Workers on the Roadway	X	☐	☐
Notes:				
15	Train Operator reduced speed while passing the roadway workers	X	☐	☐
Notes:				
16	Job site housekeeping was satisfactory	☐	☐	X
Notes:				
17	End of Work mats were installed as required	☐	☐	X
Notes:				
18	Employee in Charge ensured all workers were clear prior to returning the work zone to the ROCC	X	☐	☐
Notes:				

Item #	Topic or SMI Finding	Location
1	Track Geometry Vehicle	Alexandria Rail Yard

Description: MEETING SUMMARY TRACK GEOMETRY VEHICLE: In 2011, WMATA purchased a Track Geometry Vehicle (TGV) from Plasser by way of ENSCO. WMATA received the TGV in 2012, and currently uses it to conduct geometry, thermal, and ultrasonic testing, and is looking to add dynamic envelope measuring capabilities. TGV and Ultrasound testing is required twice a year – once a year for yards and crossovers. WMATA also supplements inspections by using outside contractors – for example, Holland performs lateral load testing. TRST reported that the TGV will be transferring over to the Chief of Vehicle Engineering (CENV) in January. CENV already handles all measuring equipment. The Ultrasound is tested nightly; weekly geometry calibration tests are performed, as well as an annual geometry laser test. WMATA also has added phased array testing to give 3D image of defects. TRST is not involved in any safety certification activities associated with the TGV; CENV handles it.

New procedures (OAP and SOP for TGV inspections) will be circulated soon to transfer responsibility for the TGV to the engineering department. Engineering will use established crew on vehicle. The TGV will have dedicated operator (to be hired) and three (3) assistant superintendents and two (2) maintenance managers and one (1) CENV employee. CENV also may potentially use ENSCO to supplement crew if necessary.

Following August 6, 2015 Smithsonian Derailment, TRST is building data analysis office --one (1) data analyst with the expectation of hiring more. Data is downloaded and reviewed by the maintenance technician on the TGV during the run and post run. Any immediate issues are repaired as needed. Data is then brought to the data analysis unit, where there will be a 3-day turnaround. Currently, there is a 2 week turnaround, not including the validation process. WMATA did not have onboard analysis of geometry data prior to Smithsonian derailment, but has since added this position. Each TGV run is roughly 52 GB of data.

WMATA has established a chase vehicle for TGV (uncommon in transit). Following Smithsonian derailment, an assistant superintendent is assigned to the TGV who directs the chase crew to correct defects as reported by TGV when necessary. The TGV entries are also noted in Maximo. TGV identifies conditions based on defects, which should be noted by track walkers. The chase crew immediately addresses all "out of tolerance" conditions identified by the TGV.

The TGV can run the Red Line in one night (both ways). The TGV can run at 35 mph (maximum) for geometry, 10-15 for ultrasound. WMATA also plans to run the TGV between trains during revenue service. TRST estimates that approximately 80% of defects captured by TGV ultrasound are legitimate. WMATA is working to improve this number and to increase confidence in the reports from the TGV. Defects can be within a 500' range from where the TGV reports the location. The TGV crew will stop TGV to manually validate all Ultrasound defects identified. The TGV ultrasound technician is certified by the manufacturer to Level 2 at Sperry, working to gain Level 3. The technician must be recertified every 5 years at both Levels 1 and 2. The Level 2 certified technician also is certified to train employees to Level 2. There is no formalized training for the geometry aspect of TGV. TGV employees would like to upgrade TGV to include phased array to replace out of date equipment. Would also like to see additional training if possible (Level 3 Ultrasound).

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within _____ days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Item #	Topic or SMI Finding	Location
2	Continuous Welded Rail, SMI R-8-44-A and -B	Alexandria Rail Yard

Description: MEETING SUMARY RAIL DE-STRESSING PROGRAM: Sine 2012, FTA has been following up with WMATA regarding the agency's de-stressing program for managing the installation of continuous welded rail (CWR). In SMI Required Action R-8-44-A, the FTA requests that WMATA complete the required submittals to FTA to close-out 2012 Safety and Maintenance Audit Recommendation #2 relating to the WMATA's rail de-stressing program. IN R-8-44-B, the FTA requires an independent engineering assessment regarding WMATA's Critical Rail Neutral Temperature and Preferred Rail Laying Temperature Range established in "Track Maintenance & Inspection Manual" Revision 6 approved on March 16, 2015, to ensure that the likelihood of rail buckles is decreased. While the FTA has not issued standards for CWR installation, the Federal Railroad Administration (FRA) has specified requirements for freight and passenger railroads, including Amtrak and CSX, which run alongside WMATA tracks in specific locations, and are subject to the same temperatures and weather conditions. FRA, in regulation 49 CFR 213.119, requires each railroad under its jurisdiction that uses CWR to develop a CWR Installation, Adjustment, Maintenance and Inspection Plan that includes de-stressing programs.

To address SMI Required Actions R-8-44-A and –B, the new TRST management has reinstituted a de-stressing program to achieve desired rail neutral temperature (RNT) before installation. WMATA does not have heaters, and instead uses a rail puller to de-stress rail. WMATA will replace rail anytime in tunnels, and outside only in the summer unless an emergency requires replacement. The new de-stressing program runs from April to December (depending on weather). TRST developed a new form to track rail installation details to be used when de-stressing rail, with results tracked in Maximo, including a planned feature for auto-generating work orders based on rail neutral temperature. TRST also reported that they have identified all high-risk areas in need of de-stressing and will complete all work by May-June 2016. Finally, TRST has a new, dedicated de-stressing team. The upcoming pick will have dedicated de-stressing supervisor, and the de-stressing program is included in TRST 2000 procedure. To close R-8-44-A and –B, WMATA will provide FTA with a formal submittal documenting their progress, and the planned path forward.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within _____days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

all (b)(6)

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Medenia Dashiell		
FWSO Inspector in Charge Signature	MEDENIA DASHIELL Digitally signed by MEDENIA DASHIELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHIELL Date: 2015.12.04 14:12:48 -05'00'		
Subject	Track Inspection and Maintenance		
Report Number	TRST-5		
Date	December 2, 2015		
Type of Activity	Riding Track Inspection		
Purpose of Inspection	To observe general condition of track from WMATA vehicle, to discuss track inspection activities and requirements with WMATA TRST personnel		
Relevant FTA Safety Findings / Required Actions	SMI Required Action R-4-28-A SMI Required Action R-3-25-A SMI Required Action R-3-26-A SMI Required Actions R-2-16-A through –D SMI Required Actions R-8-44-A and -B		
Issues or Concerns	• General condition of the track, process for conducting track inspection		
References	• WMATA Corrective Action Plan for FTA's Safety Management Inspection, approved on September 24, 2015 • TRST 1000 – Track Maintenance and Inspection Manual. Revision 6. January 1, 2015. • TRST 2000 – Track and Structures Maintenance Control Policy. Revision 6. February 20, 2015. • Metrorail Safety Rules and Procedures Handbook. April 9, 2015 (Electronic Update). • Operations Administrative Procedure 208-01. Track Maintenance Management, Maintenance of Way. July 31, 2006. • Operations Administrative Procedure 208-02. Structures Maintenance Management, Maintenance of Way. July 31, 2006. • Roadway Worker Protection Manual. June 2014.		
Time of Review	9:00am to 3:00pm	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	Medenia Dashiell	**WMATA Point of Contact**	[redacted] General Superintendent, Office of Track and Structures [redacted]
Location	Red Line	**WMATA Person(s) Contacted**	[redacted]
Radio Observations		**Interviews**	Yes – See above persons
Ride-alongs	Riding Track Inspection	**Records Reviews**	Maximo Report, Updated TRST Documentation
Field Observations	No	**Field Inspection**	Riding Track Inspection

Item #	Topic or SMI Finding	Location
1	Condition of Track	Red Line from Shady Grove to Glenmont

Description: RIDING TRACK INSPECTION: On December 2, 2015, this inspector boarded WMATA lead car at Union Station and conducted a head end riding inspection as follows: to Shady Grove, from Shady Grove to Glenmont, from Glenmont to Gallery Place/Chinatown; I was accompanied by a WMATA Assistant Track Superintendent during this inspection.

The purpose of this inspection was to:

- To observe general condition of track from the head end a WMATA rail car,
- Discuss track inspection activities and maintenance requirements with WMATA TRST personnel, and;
- Qualify on the physical characteristics of WMATA roadway territory.

No rail or observed track walking inspectors RWP deficiencies were noted.

Upon completion of my inspection, it was brought to my attention that a code black deficiency on a frog had been found during a walking track inspection by the track inspectors. The slow order was placed on the track in accordance to the standards and the frog was replaced overnight to bring the track into compliance.

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action):		Yes	X	No		N/A

If Action Required, WMATA will respond to the FTA within _____ days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide the FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.

Federal Transit Administration (FTA)
Washington Metropolitan Area Transit Authority (WMATA)
Safety Oversight Office (FWSO)

INSPECTION REPORT

FWSO Inspector in Charge	Medenia Dashiell		
FWSO Inspector in Charge Signature	MEDENIA DASHIELL Digitally signed by MEDENIA DASHIELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHIELL Date: 2015.12.04 14:09:42 -05'00'		
Subject	Track Inspection and Maintenance		
Report Number	TRST-3		
Date	December 2, 2015		
Type of Activity	Walking Track Inspections		
Purpose of Inspection	To observe WMATA conducting track inspections, to observe radio communications, and to observe implementation of roadway worker protection program.		
Relevant FTA Safety Findings / Required Actions	SMI Required Action R-4-28-A SMI Required Actions R-8-44-A and -B		
Issues or Concerns	Performance of track inspection		
References	• TRST 1000 – Track Maintenance and Inspection Manual. Revision 6. January 1, 2015. • Metrorail Safety Rules and Procedures Handbook. April 9, 2015 (Electronic Update). • Operations Administrative Procedure 208-01. Track Maintenance Management, Maintenance of Way. July 31, 2006. • Roadway Worker Protection Manual. June 2014.		
Time of Review	10:00am to 2:00pm	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	[redacted]	**WMATA Point of Contact**	[redacted]
Location	Red Line, Medical Center to Friendship Heights	**WMATA Person(s) Contacted**	[redacted]
Radio Observations	Yes	**Interviews**	Yes – See above persons
Ride-alongs	Follow-up Riding Track Inspection – Scheduled for 12/2	**Records Reviews**	Maximo Report, Updated TRST Documentation
Field Observations	Yes	**Field Inspection**	Yes

FWSO Inspection Report – Page 2

Item #	Topic or SMI Finding	Location
1	Observation of Track Inspection	Red Line, Track 2, Medical Center to Friendship Heights

Description: On Wednesday, December 2nd, 2015, FWSO observed the conduct of a track inspection on the Red Line on Track #2 from Medical Center to Friendship Heights. FWSO observed that the track inspection generally followed the required activities and procedures. At Chain Marker A2 343+00, the track inspection identified a Joint Bar missing three (3) of four (4) bolts, with the fourth bolt visibly loose. TRST immediately slowed trains and had a Slow Speed Restriction put in place (10 mph). An emergency repair order was also instituted. The FTA team followed up on the completion of the repairs that were done at the joint bar located A2 343+00. Repairs were completed and cleared at 3:30pm. Photographic evidence is attached.

The track inspection also found head checking on rail, frog point batter, broken or missing C-Bonds, and missing cover boards at several locations. At the conclusion of the inspection, FWSO verified that the joint bar defect at Chain Marker A2 343+00 had not been previously entered into Maximo, and that an inspection crew failed to identify this defect during an inspection the previous day. FWSO also discussed this situation with TRST managers, who reached back out to the Supervisor and inspection team to inform them of the defect, and to reinforce the point that the defect log carried by the inspectors should be used as reference only, and that inspectors must remain vigilant for changing and deteriorating conditions. During the inspection, FWSO also observed that radio communication and roadway worker protection program requirements were generally followed as required.

See attached forms:

- Walking Track Inspection Compliance Form
- FTA Rules Compliance Form (Radio Communication)
- FTA Roadway Worker Protection Observation Form

Deficiency Recommended?		Yes	X	No		N/A
Action Required (List Action): Provide closeout documentation and photographic evidence on joint bar repair.	X	Yes		No		N/A

If Action Required, WMATA will respond to the FTA within 1 day demonstrating the action(s) taken to address the joint bar track deficiencies noted in this inspection report

Walking Track Inspection Compliance Form

Subject	Walking Track Inspection Compliance Form		
Purpose	The intent of this form is to verify compliance with the Walking Track Inspection requirements detailed in the Washington Metropolitan Area Transit Authority (WMATA) 1000 Track Maintenance & Inspection Manual		
References	WMATA – 1000 Track Maintenance & Inspection Manual, revision 6, dated January 1, 2015 – Table 3-1		
Date(s) of Review	12/2/15	**WMATA Department**	Track and Structures (TRST)
FTA Reviewers	[redacted] (b)(6)	**WMATA Person(s) Contacted**	[redacted] (b)(6)
Date	12/2/15	**Time**	1000 – 1430
Location	Medical Center to Friendship Heights	**Track #**	2

Item	Required Observation	Compliant	Non-compliant	N/A
Rail	The Track Walker must look for: • Broken Rail • Vertical or Horizontal Split Heads • Corrugation • Wear • Shelling • Engine Burns • Rail End Batter • Discoloration • Rust Streaks • Any damage by equipment	X	☐	☐

Item	Required Observation	Compliant	Non-compliant	N/A
Notes: 1. CM A2 401+00 – CM A2 399+00 – Head checking was observed on the left rail 2. CM A2 441+00 – Frog Point Batter 3. CM A2 343+00 – Joint Bar is missing three (3) of four (4) bolts and the fourth bolt was loose – TRST immediately slowed trains and had a Slow Speed Restriction put in place (10 mph) 4. Numerous C-Bonds were found to be broken or missing on Track 2 between Bethesda and Friendship Heights 5. CM A2 440+00 – CM A2 399+00 – Missing Cover Board – first reported in 2012 6. CM A2 396+00 – Missing Cover Boards 7. CM A2 396+00 – CM A2 363+00 – Missing Cover Boards				
Third Rail	The Track Walker must look for: • End approaches are at the correct height • Cover Boards that are missing or loose • Anchor bolts that are missing or loose • Expansion Joints • Lubrication • Adjustment Range • Loose bolts • Broken or cracked insulators	X	☐	☐
Notes: See notes above				
Bars, Bolts and Washers	The Track Walker must look for: • Broken • Bent • Cracked • Loose	X	☐	☐
Notes:				
Tie Plates	The Track Walker must look for: • Broken • Bent • Badly corroded • Missing • Off • Skewed	X	☐	☐
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Spikes and Anchors	The Track Walker must look for: • High • Missing • Bent • Loose • Away from the plate	X	☐	☐
Notes:				
Fasteners	The Track Walker must look for: • Missing • Loose • Split	X	☐	☐
Notes:				
Ties	The Track Walker must look for: • Broken • Split • Spike Killed • Plate Cut • Hollow • Damaged by equipment	☐	☐	X
Notes:				
Ballast Section Ballast	The Track Walker must look for: • Cribs not full between ties • Low Shoulder • Narrow Shoulder • Pumping • Hanging Ties • Skewed Ties	☐	☐	X
Notes:				
Line	The Track Walker must look for: • Misalignment	X	☐	☐
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Icing Conditions	The Track Walker must look for: • Ice buildup between the base of the rail and tie plates	☐	☐	X
Notes:				
Surface	The Track Walker must look for: • Poor Surface	X	☐	☐
Notes: See head checking comment above				
Cross Level Gauge	The Track Walker must look for: • Poor Cross Level between Rails • Irregular and Narrow/Wide Track gauge	X	☐	☐
Notes: Did not check cross level				
Turnouts and Diamond Crossings	The Track Walker must look for: • Fill out form covering misalignment • Damaged loose and missing components like bolts, washers, connecting rods and points.	☐	☐	X
Notes:				
Drainage /Slides	The Track Walker must look for: • Blocked Ditches and culverts • Damaged Slopes and Culverts	☐	☐	X
Notes:				
Fences	The Track Walker must look for: • Damaged and Open Gates	☐	☐	X
Notes:				

Item	Required Observation	Compliant	Non-compliant	N/A
Clearances	The Track Walker must look for: • Vertical and Horizontal Restrictions of Visual Line of Sight by Operators and Motorist • Any scrape marks on Tunnel Walls and Platforms	☐	☐	X
Notes:				
Crossings	The Track Walker must look for: • Loose, missing or high planks and other materials in the crossing • High Spikes • Obstructed Flangeways • Pumping to either side • Sight Lines	☐	☐	X
Notes:				
Track signs Warning signs, etc	The Track Walker must look for: • Defective • Missing	☐	☐	X
Notes:				
Grout Pads	The Track Walker must look for: • Broken • Cracked	X	☐	☐
Notes:				

FTA Rules Compliance Form

Subject	Radio Rules		
Purpose	The purpose of this review is to verify WMATA's compliance with their Radio Rules.		
References:	• Metrorail Safety Rules and Procedures Handbook (MSRPH)		
Date(s) of Review		**WMATA Department**	TRST
FTA Reviewers		**WMATA Person(s) Contacted**	[redacted] (b)(6)
Date	12/2/2015	**Time**	1000 – 1430 hrs
Method of Observation	X Direct Observation		
	X Radio Monitoring		
	☐ Other (Specify)		
Location	Medical Center to Friendship Heights – Track #2		
Instructions: The rules listed below may not apply to the observation being performed. Please check the N/A box if the rule does not apply to the task you are performing.			

Rule #	Rule	Compliant	Non-compliant	N/A
1.78	Employees shall, when communicating with ROCC, provide train/unit number or name/title and location (including track number, when appropriate). ROCC shall acknowledge employee by repeating train number, location and track.	X	☐	☐
Notes: Cardinal Rule				

Rule #	Rule	Compliant	Non-compliant	N/A
1.79	Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver. When communicating with Class I and Class II vehicles, employees are to identify the train ID or unit ID by the complete number series. This method of positive train/unit identification shall be consistently used when transmitting and acknowledging information. (Examples: Train ID 404 shall be identified as "four zero four". Train ID 414 shall be identified as "four fourteen, instead of "four one four". Train 932 shall be identified as "nine thirty two". PM-32 shall be identified as "PM thirty two" instead of PM three two".) When communicating location information related to Power Rooms only (TPSS or TBS), that is Alpha-Numeric (e.g. C-07, E-07, B-14), employees must use the International Civil Aviation Organization (ICAO) standard for communicating the "Alpha" character. (For example: C-07 shall be identified as "C-Charlie – Zero Seven". E-07 shall be identified as "E-Echo-Zero Seven".	X	☐	☐
Notes: Cardinal Rule				
1.69	Employees shall use WMATA communications equipment in compliance with Federal Communications Commission Rules and Regulations, and in compliance with WMATA Rules, Procedures and General Notices.	X	☐	☐
Notes:				
1.71	Authority telephones and radios shall be used only for official WMATA business, and call preferences shall be given to business pertaining to train operations or emergencies.	X	☐	☐

Rule #	Rule	Compliant	Non-compliant	N/A
Notes:				
1.72	Employees shall obtain clearance from their respective radio control points prior to initiating train-to-train, train-to-wayside, or portable-to-portable communications.	☐	☐	X
Notes:				
1.73	Employees shall not knowingly transmit nor cause to be transmitted any unnecessary, irrelevant, unidentified, false, or false emergency communications.	X	☐	☐
Notes:				
1.74	Emergency messages shall be transmitted over the most expedient means of communication consistent with clear understanding.	☐	☐	X
Notes:				
1.75	Employee shall give priority to emergency communications, keeping communications channels clear until the emergency is over.	☐	☐	X
Notes:				
1.76	Employees shall use plain language when describing emergency situations.	☐	☐	X
Notes:				
1.77	Employees shall not interrupt radio communications in process except in cases of emergency.	X	☐	☐
Notes:				

Rule #	Rule	Compliant	Non-compliant	N/A
1.80	Messages affecting train movement are to be addressed to only one train at a time. However, in an emergency, a blanket message may be sent to all trains in or approaching a particular area. Following a blanket transmission, all trains involved must individually acknowledge receipt of the message.	☐	☐	X
Notes:				
1.81	Employee shall use only the assigned radio channel/talk group unless otherwise authorized.	X	☐	☐
Notes:				
1.82	Employees shall report failure or improper operation of any communication equipment to their controlling agency or supervisor.	☐	☐	X
Notes:				
1.83	Employees, except those authorized, shall not make adjustments to communications equipment.	☐	☐	X
Notes:				

Rule #	Rule	Compliant	Non-compliant	N/A
1.84	Employees shall use radios in compliance with the precautions listed below: a. Keep antenna away from body when transmitting. b. Handle radio only by handle or carrying strap, if so equipped. c. Maintain firm grip and keep radio under complete control so as to prevent dropping it of striking any object. d. In moving on or off track mobile or other equipment, keep the radio latched in the radio rack designed for that purpose, with the straps or belts on the hook provided, unless necessary to use it. e. Keep the radio away from any stove, radiator, open flame or other sources of heat. f. Place radio in a position where it will not fall or be a tripping hazard.	☐	☐	X
Notes:				

FTA Roadway Worker Protection Observation Form - WMATA

Subject	Washington Metropolitan Area Transit Authority (WMATA) Roadway Worker Protection Observations		
Purpose	The intent of this observation is to ensure that WMATA's Roadway Workers follow the established Roadway Worker Protection Program.		
Date(s) of Review	12/2/15	**WMATA Department**	TRST
FTA Reviewers	[redacted] (b)(6)	**WMATA Person(s) Contacted**	[redacted] (b)(6)
Date	12/2/15	**Time**	1000 – 1430
Roadway Worker In Charge:	Brian Poston	**Employee #**	
Location	Medical Center to Friendship Heights	**Track #**	2

Task #	Task	Compliant	Non-compliant	N/A
1	Job Safety Briefing was completed and included a description of the hazards within the work zone	X	☐	☐
Notes:				
2	Roadway Workers signed form AFTER the Job Safety Briefing was completed to acknowledge their understanding of the briefing.	X	☐	☐
Notes:				
3	Employee in Charge ensured that all personnel possessed current qualifications prior to accessing the roadway.	X	☐	☐
Notes:				

Task #	Task	Compliant	Non-compliant	N/A
4	All personnel were wearing their required and appropriate Personal Protective Equipment (PPE) Note: To include, Flashlight, Hard Hats, Safety glasses, WMATA approved Class II Safety Vest, etc.)	X	☐	☐
Notes:				
5	Tools and Equipment were in good condition and properly calibrated.	☐	☐	X
Notes: The WSAD should have a calibration sticker				
6	Derailer, if used, is installed properly.	☐	☐	X
Notes:				
7	Employee In Charge performed a radio test	X	☐	☐
Notes:				
8	Employee in Charge received permission from the Rail Operations Control Center (ROCC) prior to setting up the work zone.	X	☐	☐
Notes:				
9	Shunts: If used, placement was verified by the ROCC	☐	☐	X
Notes:				
10	Employee In Charge placed an adequate number of Warning Strobe and Alarm Devices (WSAD)?	☐	☐	X
Notes:				
11	ROCC Controller made the required Radio notifications to trains in the area.	X	☐	☐
Notes:				
12	ROCC turned over the work zone to the Employee in Charge	☐	☐	X

Task #	Task	Compliant	Non-compliant	N/A
Notes:				
13	Watchman/Lookout provided the proper signals to approaching trains and Roadway Workers	X	☐	☐
Notes:				
14	Train Operators complied with the signals provided by the Watchman/Lookout	X	☐	☐
Notes: Observed 100% compliance with the rules by operators. Trains slowed and acknowledged Roadway workers by sounding their horns.				
15	Train Operator sounded the train horn when observing Roadway Workers on the Roadway	X	☐	☐
Notes: 100% compliance				
15	Train Operator reduced speed while passing the roadway workers	X	☐	☐
Notes: 100% compliance				
16	Job site housekeeping was satisfactory	☐	☐	X
Notes:				
17	End of Work mats were installed as required	☐	☐	X
Notes:				
18	Employee in Charge ensured all workers were clear prior to returning the work zone to the ROCC	X	☐	☐
Notes:				