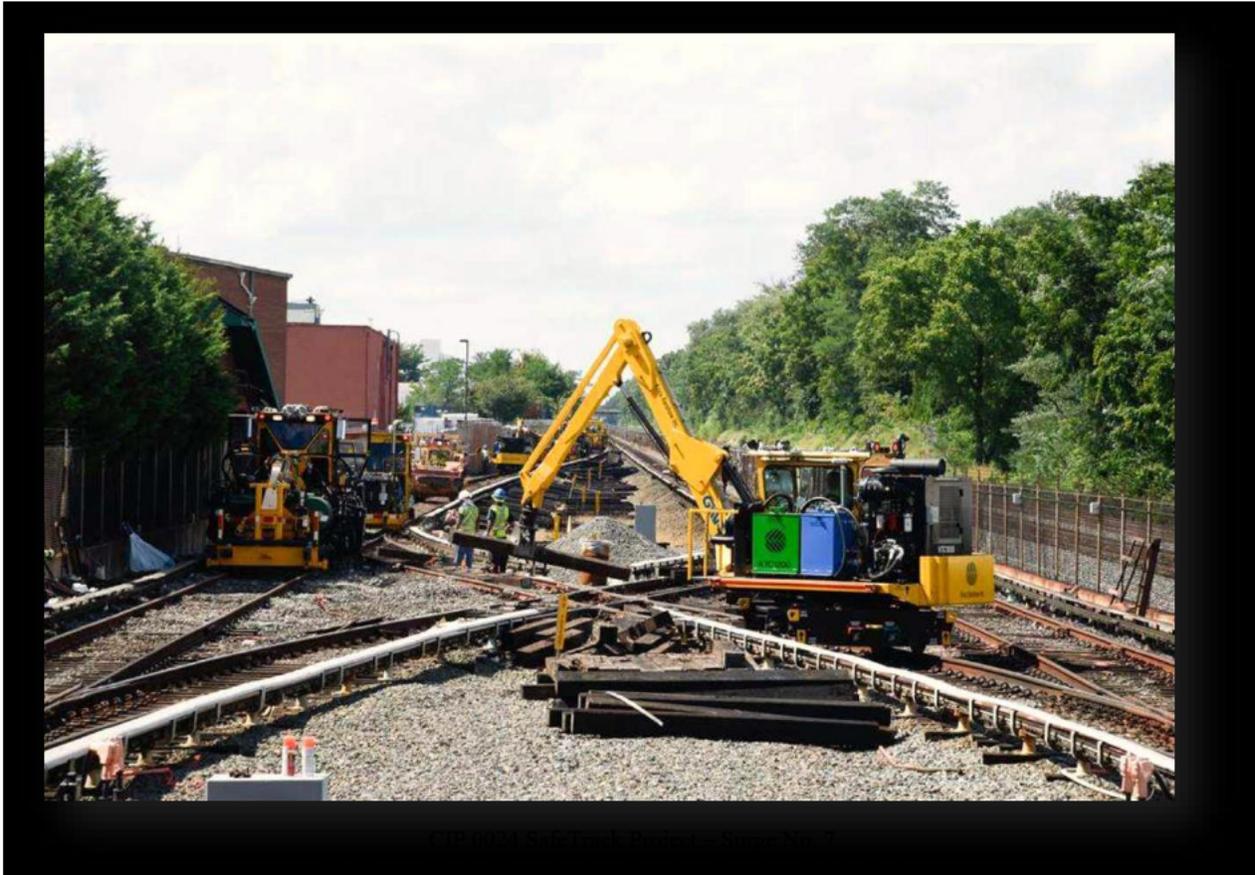


Monthly Report
SafeTrack Program
Washington, DC Metropolitan Area Transit Authority

August 2016 Progress



Submitted October 24, 2016
Final

PMOC Contract Number: DTFT60-14-D-00011

Task Order Number: 006, Project Number: DC-27-5272, Work Order No. 01

OPs Referenced: 01, 25

Hill International, Inc.
One Commerce Square
2005 Market Street, 17th Floor
Philadelphia, PA 19103

PMOC Lead: [REDACTED]

Length of Time PMOC Assigned to Project: 14 years, 11 months

Length of Time PMOC Lead Assigned to Project: 4 Years, 5 months

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
MAIN REPORT	6
APPENDICES	12
APPENDIX A – LIST OF ACRONYMS AND ABBREVIATIONS	13
APPENDIX B – ORGANIZATION CHARTS & DESCRIPTION	16
APPENDIX C – WMATA’S RAIL TRANSIT SYSTEM.....	18
APPENDIX D – ACTION ITEMS – SAFETRACK PROJECT	19
APPENDIX E – SAMPLE TRACKING LOG FROM SURGE 7	20
APPENDIX F – SAFETY AND SECURITY CHECKLIST	21
APPENDIX G – PMOC TEAM PERFORMING THIS REVIEW	25

Cover Photo: CIP 0024 SafeTrack Program – Surge No. 7, Red Line, Shady Grove to Twinbrook – Twinbrook Interlocking, August 2016.

EXECUTIVE SUMMARY

As part of its responsibility to prudently use public funds, FTA performs project oversight to ensure that major capital transit projects are executed professionally, efficiently, and in conformance with applicable statutes, regulations, guidance, and sound engineering and project management practices. FTA typically accomplishes this oversight through Project Management Oversight Contractors (PMOC).

For the SafeTrack program, FTA assigned a PMOC after the June 13, 2016 approval of an additional \$20 million in safety-related Federal funding towards SafeTrack. This approval was based on analysis of a cost estimate of over \$100 million for the program and this met the criteria for a major capital project, thus prompting the use of a PMOC. This oversight is separate and distinct, but complimentary to, the temporary, direct safety oversight FTA is performing on WMATA through the FTA's WMATA Safety Oversight (FWSO) office.

As a result of the timeline noted above, this is the first monthly PMOC report for SafeTrack and it focuses on the month of August. Here is a summary of the oversight activities the PMOC has performed since receiving direction to oversee SafeTrack from the FTA:

On June 23, 2016, the PMOC met with WMATA's Assistant General Manager (AGM), Rail, Andy Off, to gain an initial understanding of the SafeTrack Program. Then, on July 5, 2016, the PMOC established communications with the newly hired Director of SafeTrack, Laura Mason. On July 12, 2016, the PMOC and FTA met Ms. Mason for the first monthly SafeTrack oversight meeting (monthly meeting). At that first meeting, Ms. Mason reviewed the scope for Surge 3 as well as its execution plan. The PMOC reviewed the required contents of the Project Management Plan (PMP) to be developed by and for the Program. The PMOC also emphasized that SafeTrack needs a coordinator in the field to coordinate during each surge the field work of the various WMATA departments.

Before the second SafeTrack oversight meeting on August 17, 2016, the PMOC continued to receive updates on the progress with Surges 3, 4, and 5. Of note, on July 29, 2016, with three days remaining of the 19-day Surge 5 between Ballston and East Falls Church, a passenger train derailed while crossing over from one mainline track to the other, just outside the surge work area. The preliminary findings highlighted the need for crossover inspections prior to a surge start and the incorporation of many crossovers into scope of surges moving forward. This added scope required a schedule adjustment for SafeTrack.

The PMOC prepared a list of documents it would like from SafeTrack Program Management each month. FTA coordinated this list with Ms. Mason and, during the second SafeTrack oversight meeting on August 17, 2016, FTA Region 3 transmitted an official documentation request list to WMATA. During this meeting, the PMOC also reviewed WMATA's progress developing the SafeTrack PMP as well as the topics for discussion at all future oversight meetings. A follow-up conference call was held with Ms. Mason on August 19, 2016 to discuss the documentation request. It was agreed to submit the pre-surge documentation package and monthly reports but that the daily and weekly reports were not necessary. August 19, 2016, also marked the first of weekly, SafeTrack coordination meetings between the FWSO team and the PMOC.

On September 1, 2016, FTA provided WMATA with a list of areas for additional focus as WMATA was revising the schedule for upcoming SafeTrack surges. The PMOC conducted the third monthly SafeTrack Program oversight meeting on Tuesday, September 13, 2016, at WMATA's Headquarters in Washington, DC. During the first half of the meeting, FTA and the SafeTrack Program team discussed plans for addressing non-surge Red Line issues; during the second half, the SafeTrack Program team introduced three new project management team members, Coordinator, Scheduler, and Business Analyst, and discussed and agreed upon future meeting dates, which will follow WMATA's mid-month production of the SafeTrack Monthly Report. Also discussed was content of the SafeTrack PMP, which was due to FTA by September 30, 2016, and was received that day. Subsequent to the September 13, 2016 meeting, WMATA provided the PMOC with a draft of its first monthly report dated September 15, 2016. On September 14, 2016, WMATA announced a revised SafeTrack schedule that is reflected on page 9 of this report.

A. Program Description

WMATA describes SafeTrack as: "Metrorail is currently open 135 out of 168 hours per week, leaving insufficient time for maintenance and other necessary track work. By closing the system at midnight on weekends and expanding weekday maintenance opportunities, SafeTrack addresses FTA and NTSB safety recommendations and deferred maintenance backlogs while restoring track infrastructure to good health. SafeTrack accelerates three years' worth of work into approximately one year. The plan significantly expands maintenance time on weeknights, weekends and midday hours and includes 15 "Safety Surges" that will utilize long-duration track outages through around-the-clock single tracking or line-segment shutdowns that will impact rush hour commutes."¹ It should be noted that FTA's 2015 Safety Management Inspection identified insufficient track access as a critical finding impacting the safety and state of repair of the system.

The SafeTrack Program Director reports to Mr. Off, AGM Rail. Mr. Off reports to the Chief Operating Officer, Mr. Joseph Leader. The majority of SafeTrack work is being performed by WMATA forces and is funded primarily through WMATA's Capital Improvement Plan 0024, Track Rehabilitation. Additional CIPs fund other related work during the SafeTrack surges. These funding sources include PRIIA (Passenger Rail Investment Improvement Act), §5307 Urbanized Area Formula Funds, and §5337 State of Good Repair Formula Funds. SafeTrack started on June 4, 2016; the present scope is scheduled to be completed in June 2017.

B. Program Status

August Activities

- Surge 6, Red Line, Takoma to Silver Spring, began August 1 and concluded August 7, 2016.
- Surge 7, Red Line, Shady Grove to Twinbrook, began August 9 and ended August 21, 2016.
- Surge 8, Yellow-Blue Line, Franconia-Springfield to Van Dorn, began on August 27 and concluded on September 11, 2016.
- Over 4,800 cross ties were installed between Surges 6 and 7, against a plan of 8,859 ties.

¹ From WMATA's Website, <http://www.wmata.com/rail/safetrack.cfm>, September 20, 2016.

- Over 1,600 third rail insulators were replaced.
- Over 9,800 feet of track bed were cleaned.
- Over 3,200 feet of cover board were repaired/replaced.
- Over 90 cables were repaired/replaced.
- 20 rail joints were eliminated through rail welding.
- Conducted four public notification/outreach events at stations on August 24 and 25.

Planned September Activities

- Surge 8 Franconia-Springfield to Van Dorn, 8/27 through 9/11 (15 continuous days)
 - Replace over 7,000 cross ties
 - Replace over 14,000 tie plates
 - Replace nearly 900 insulators
 - Replace third rail pig tails and expansion cables
 - Inspect, repair, test, and replace 4 Automatic Train Operation (ATO) marker coils and 500 Intrusion Detection Warning (IDW) boxes
- Surge 9 West Falls Church to Vienna, 9/15 through 10/26 (41 continuous days)
 - Replace 4,400 cross ties
 - Replace 8,800 tie plates
 - Replace over 900 insulators
 - Rehabilitate Dunn Loring Station platform edge
 - Inspect, repair/replace fence, storm drains, chain markers signs, vegetation overgrowth
 - Conduct 16 public notification/outreach events from 9/7 thru 9/14 at stations

C. Core Accountability Information

Cost – Current Picture for CIP0024

- FY17 Board Approved Budget for CIP0024: \$65,016,283
- Expended through July 31, 2016: \$32,704,600
- Percent of approved budget expended: 50.3%
- Percent of estimated budget expended: 27.3%

Cost – Forecast for SafeTrack

- | | |
|---|---------------|
| • Estimated total cost for SafeTrack work (Surges 1 thru 15): | \$80,067,892 |
| • Estimated total cost for track rehabilitation work outside surge areas: | \$19,636,775 |
| • Contingency at 20%: | \$19,093,317 |
| • Projected CIP0024 total cost during SafeTrack: | \$118,797,984 |

Cost – Summary of Funding

Federal Fiscal Year	Funding Source	Amount
FFY15	PRIIA	\$11,325,062
FFY16	PRIIA	\$46,397,000
FFY16	§5337	\$10,000,000
FFY16	§5307	\$10,000,000
Subtotal	Funding Available	\$77,722,062
TBD	TBD	\$41,075,922
Grand Total	All Sources	\$118,797,984

Schedule

- Original SafeTrack project completion date: March 19, 2017
- Current forecast completion date: June 2017 (Schedule to be updated in December 2016)
- Percent of time expended: 30.6%

Contingency

- Budget for “Authority Provided Material and Other Contracts” is \$10,172,515 and this amount includes \$685,966 in “Project Funds/Contingency”
- WMATA has included a \$19,093,317 contingency in its SafeTrack forecast.

D. Major Problems/Issues

- Lack of coordination among various WMATA departments that are working in a surge area
 - To address this concern, WMATA has hired an Operations Coordinator – **SafeTrack Coordinator** – William Baker, PME, who is responsible for coordinating overall SafeTrack operations and field crews and acts as a liaison from the field to the SafeTrack Program Management Office. He will also coordinate all surge and non-surge activity and oversee the resolution of items identified on punch list and QICO reports.
- Lack of a decision protocol for times when other high-priority or high-dollar work conflicts with Surge work
 - Conflicts with scheduling other WMATA projects (such as the Orange/Blue Line project) have arisen which may result in delay claims to WMATA. The PMOC will be focusing on this area in future oversight and in the review of the PMP.
- Ability to segregate SafeTrack surge expenses from other concurrent maintenance expenses
 - To address this challenge, WMATA has hired a **Business Analyst** – Brian King, PMP, responsible for reviewing and analyzing cost data, and developing productivity and efficiency rates for Track and Structures Department (TRST) and other departments gaining beneficial use of the surges. He will also analyze

cost estimates regarding surge related scope, support services, and other work delivered beyond CIP0024.

- Weather: hot weather in August and the possibility of it continuing into September (as well as heavy rains) can affect productivity
 - To address this issue, WMATA has instituted more breaks, and is providing more water and cooling tents are being used. Work is suspended when heavy rain develops safety issues.
- 12-hour work days, six days a week can negatively affect productivity
 - This issue is slowly being worked out, but has had a negative effect on production. The PMOC will be following up on this concern in the next PMOC meeting, particularly from a lessons learned perspective.
- Lack of communication and coordination among the departments involved in a surge during the Lock-Out/Tag-Out process for electrical sources needs to be improved
 - The PMOC will attend coordination meetings in October to see if this area has improved.
- Tracking and Completion of Punch List Work
 - The PMOC will be reviewing WMATA's punch lists from the initial surges and also discussing with WMATA's asset management team the process by which punch list work is captured and reported to assure that Maximo and WMATA's broader Transit Asset Management System (TAMS) are updated. Punch list work will continue to be a topic of discussion at monthly PMOC oversight meetings.

MAIN REPORT

1. Program Status

Work Completed in August

Surge 6, Red Line, Silver Spring to Takoma – started on August 1 and concluded on August 7, 2016. All tasks were completed except for the replacement of one set of power expansion cables. This work will be conducted after the system closes at night, since power must be removed from both tracks. During the surge, priority was given to addressing potential defects and repairing or replacing critical rail infrastructure that affects train speeds and ride quality. Additional regular and preventive maintenance activities were fit in as time permitted. WMATA has said that these maintenance activities are and will continue to be conducted on a regular basis to keep the infrastructure in a state of good repair. Operating a continuous single track for seven days on this segment of the Red line allowed the necessary repairs to be completed much more quickly than would otherwise be possible. Replacing over 1,300 crossties would take about 260 nights, if performed only after the system closed. In addition, crews completed preventive maintenance activities, such as inspecting and repairing platform edge lights and over 140 IDW boxes located along the fence line of the tracks.

The following table shows the work WMATA accomplished during Surge 6. In addition, WMATA employees removed vegetation and trash from over 8,100 feet of the track bed, improving drainage and eliminating fire hazards.

	Task	unit	Completed During Surge
Track	Crosstie renewal	# crossties	1,311
	Insulator replacement	# insulators	496
	Tamping	# linear feet	9,240
	Third Rail maintenance	# linear feet cover board	1,280
	Rail renewal	# linear feet	312
	Joint elimination	# joints welded	14
Structures	Track Bed cleaning	# linear feet	8,129
Automatic Train Control System	Marker Coil and D-Loop junction box repair/replacement	# items	4
Traction Power System	Power Cable repair/replacement	# cables	20

Surge 7, Red Line, Shady Grove to Twinbrook - Surge 7 began on August 9 and concluded on August 21, 2016 with most planned tasks complete. During the surge, priority was given to addressing potential defects and repairing or replacing critical rail infrastructure that affects train speeds and ride quality. Additional regular and preventive maintenance activities were fit in as time permitted. These maintenance activities are and will continue to be conducted on a regular basis to keep the infrastructure in a state of good repair. The main focus of the work was to replace deteriorating crossties in this area. The surge was originally scheduled to end August 18th, but was extended through August 21st to allow for additional work on two key crossover tracks, address new safety recommendations, and to account for the impact of extreme heat, humidity and electrical storms which slowed productivity. Due to these factors, track crews were unable to complete all tasks in the expanded scope and will return to the area to finish maintenance, including crossties, rail renewal and welding. The surge included two weekend shutdowns, which allowed crews to make repairs on the double cross-overs at Twinbrook (A13) and Shady Grove (A15). These weekend shutdowns enabled crews working on Automatic Train Control systems to

complete additional repairs, including refurbishing four times as many Track Junction boxes as originally planned and converting 12 signals to LED lights. Limiting service for 13 days on this segment of the Red line allowed the necessary repairs to be completed much more quickly than would otherwise be possible. Replacing over 3,500 crossties would take over 2 years if performed only after the system closed.

The following table shows the work WMATA accomplished during Surge 7. In addition, WMATA employees removed vegetation and trash from over 1,600 feet of the track bed, improving drainage and eliminating fire hazards. Maintenance crews were able to clean only 1,692 feet of the 22,000 feet of track bed in this surge. WMATA plans to return to clean the remaining 21,000+ feet of track bed at a later time.

	Task	unit	Completed During Surge
Track	Crosstie renewal	# crossties	3,572
	Insulator replacement	# insulators	1,120
	Ballast renewal	# tons	140
	Tamping	# linear feet	25,300
	Third Rail maintenance	# linear feet cover board	2,000
	Joint elimination	# joints welded	6
Structures	Track Bed cleaning	# linear feet	1,692
Automatic Train Control System	Intrusion Detection Warning System (IDW) refurbishment and replacement	# boxes	62
	Track Junction Box refurbishment	# boxes	19
	Signal conversion to LED lighting	# signals	12
Traction Power System	Power Cable repair/replacement	# cables	72

Work Planned for September

Surge 8, Yellow/Blue Line, Franconia-Springfield to Van Dorn Street

- Blue Line trains will continuously single track weekdays between Franconia-Springfield and Van Dorn St from August 27 through September 11, 2016. Track 2 work will be the focus of the first week; Track 1 will be the focus during the second week.
- On the weekends of August 27-28 and September 10-11 there will be a line segment shutdown between Franconia-Springfield and Van Dorn St. (Franconia-Springfield Station closed.)
- On the weekend of September 3-5 there will be a line segment shutdown between Franconia-Springfield and King St-Old Town stations. Franconia-Springfield and Van Dorn St. stations will be closed.

Surge 9, Orange Line, Vienna to West Falls Church

- Orange Line trains will continuously single track weekdays between Vienna and West Falls Church from September 15 through October 26, 2016.
- On the weekends of September 24-25 and October 1-2 the following stations will be closed: Vienna, Dunn Loring and West Falls Church.
- On the weekends of October 8-9 and 15-16, Vienna and Dunn Loring stations will be closed.

2. Program Cost

SafeTrack Program CIP0024

Initial Estimate	Current Board Approved Budget	Expenditures To Date	Percent Expended
\$118,797,984	\$65,016,283	\$32,704,600	50.3%
Discussion of Variances	None at this time		
Discussion of Funding sources	Funding for SafeTrack is from Passenger Rail Investment and Improvement Act (PRIIA), and Formula funds.		
Contingency	In addition to the \$685,966 contingency included under line item "Authority Provided Material and Other Contracts," WMATA has included a \$19,093,317 contingency in its SafeTrack forecast.		

3. Program Schedule

For surges 1 through 7, the schedule below reflects actual dates the work was accomplished. The schedule also shows WMATA's plan for Surges 8, 9, 10, and 11. The dates for Surges 12, 13, 14, and 15 are tentative. This schedule was presented by WMATA at the September 13, 2016 monthly meeting.

Surge	Start	Finish	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Surge 1 — Ballston - East Falls Church	4-Jun-16	16-Jun-16	█											
Surge 2 — Eastern Market - Benning Rd & Minn. Ave	18-Jun-16	3-Jul-16	█	█										
Surge 3 — Natl. Airport - Braddock Rd	5-Jul-16	11-Jul-16		█										
Surge 4 — Natl. Airport-Crystal City-Pentagon City	12-Jul-16	18-Jul-16		█										
Surge 5 — Ballston - East Falls Church	20-Jul-16	31-Jul-16		█										
Surge 6 — Takoma - Silver Spring	1-Aug-16	7-Aug-16			█									
Surge 7 — Shady Grove - Twinbrook	9-Aug-16	21-Aug-16			█									
Surge 8 — Franconia-Springfield - Van Dorn St	27-Aug-16	11-Sep-16				█								
Surge 9 — Vienna - West Falls Church	15-Sep-16	26-Oct-16				█	█							
Surge 10 — NoMa - Fort Totten	29-Oct-16	22-Nov-16						█	█					
Surge 11 — East Falls Church - Vienna	28-Nov-16	21-Dec-16							█	█				
Surge 12 — Braddock Rd - Huntington/Van Dorn St	Early January									█				
Surge 13 — Rosslyn - Pentagon	Late Jan - Early Feb										█			
Surge 14 — Braddock Rd - Huntington/Van Dorn St	March											█		
Surge 15 — College Park - Greenbelt	Late March - April												█	
Cherry Blossom Festival	20-Mar-17	17-Apr-17											█	

Inauguration Week

Tentative Dates

4. Environmental Mitigation Measures

During each surge, WMATA continues to perform maintenance on drainage facilities and clean up trash along the track right of way.

5. Program Management Capacity and Capability

At the September 13, 2016 monthly PMOC oversight meeting, the PMOC met again with Ms. Mason, **Program Director**. She held positions as lead planner/scheduler, project manager, and program manager for Bechtel Corporation, graduated from Duke University with a BS in Electrical/Biomedical Engineering and has an MBA from the Graduate School of Business at Stanford University. Ms. Mason, introduced three new members to her immediate staff:

- **SafeTrack Coordinator** – William Baker, PME, responsible for coordinating overall SafeTrack operations and field crews and act as a liaison from the field to the SafeTrack Program Management Office. He will also coordinate all surge and non-surge activity and oversee the resolution of items identified on punch list and QICO reports.
- **Scheduler / Planner** – Harold Greise, PSP, responsible for creating and managing the SafeTrack program schedule, as well as the detailed execution planning (“march chart” development) for each surge. He will also conduct the daily progress calls and update the march charts as needed on a weekly basis.
- **Business Analyst** – Brian King, PMP, responsible for reviewing and analyzing cost data, and develop productivity and efficiency rates for TRST and other departments gaining beneficial use of the surges. He will also analyze cost estimates regarding surge related scope, support services, and other work delivered beyond CIP0024.

6. Quality Assurance/Quality Control

- **Pre-surge Inspection:** Starting with Surge 8, QICO will perform pre-surge inspections looking at all defects in upcoming surge areas. The results of the pre-surge inspections will be provided in future monthly reports from the SafeTrack team.
- **During the surge:** Through daily surge inspections, QICO compiles a log with condition(s) noted as site condition, safety and quality of work; these item(s) are then tracked daily for status change. An example tracking log (for Surge 7) is located in Appendix E.
- **Post-surge:** After each surge, two reports are generated: “Punch List Report” and “QICO Sampling and Verification Report.” The Punch List Report is a report of work not accomplished in each surge. This work is turned over to the maintenance departments, which prioritize the work items by
 - Speed Restrictions / Emergency Services
 - Punch list items prioritized by risk, safety, & track

WMATA is still developing the processes and procedures for post-surge work. These reports will be provided by the SafeTrack team to the PMOC monthly.

- The **Quality Plan** for SafeTrack will be a part of the Program Management Plan, which was submitted on September 30, 2016 and is currently under review.

- QICO has not scheduled a date to audit the SafeTrack program. This audit will measure how well the project team follows its project management plan and the various WMATA procedures regarding contract administration, procurement, safety, security and quality.

7. Safety and Security

- Safety and security are addressed in WMATA's procedures for performance of track work. The PMOC has requested this procedure for review and will be reviewing this further.
- As a part of its safety and security program, WMATA has developed an outreach program to keep the public apprised of the plans for each surge. As a part of the outreach program, the WMATA public outreach team continues to inform riders about the upcoming surges and the impact to their commute. Informational material is provided to explain safety risks, train delays, bus schedules, and contact information available to the riders.

8. Contract Administration

- Administration of third-party contracts related to SafeTrack is the responsibility of WMATA's Track and Structures Department (TRST). The PMOC will be reviewing further the roles and responsibilities for contract administration activities.
- DBE Participation – The PMOC will also be reviewing the progress of WMATA's third-party contractors with meeting DBE goals on the SafeTrack Program.

9. Program Risk

- The SafeTrack management team has indicated that it has developed a risk register for the project. It is expected that a formal risk register will be a part of the PMP being developed. In an effort to minimize the risk of delay, the SafeTrack Program team is using a Lessons Learned program to continually improve its performance. In addition, the Program has a vigorous safety program that in addition to guarding the health of workers, mitigates the risk of delay and cost growth by assuring safe work practices.
- The PMOC will be discussing risk management at the next monthly meeting on October 18, 2016.

10. Action Items (see Appendix D)

APPENDICES

A. List of Acronyms and Abbreviations	9
B. Organization Charts	
a. Washington Metropolitan Area Transit Authority.....	12
b. WMATA Rail Services Group.....	13
C. WMATA’s Rail Transit System	14
D. Action Items.....	15
E. Sample QICO Tracking Log from Surge 7.....	16
F. Safety and Security Checklist	17
G. PMOC Team Performing this Review	21

APPENDIX A – LIST OF ACRONYMS AND ABBREVIATIONS

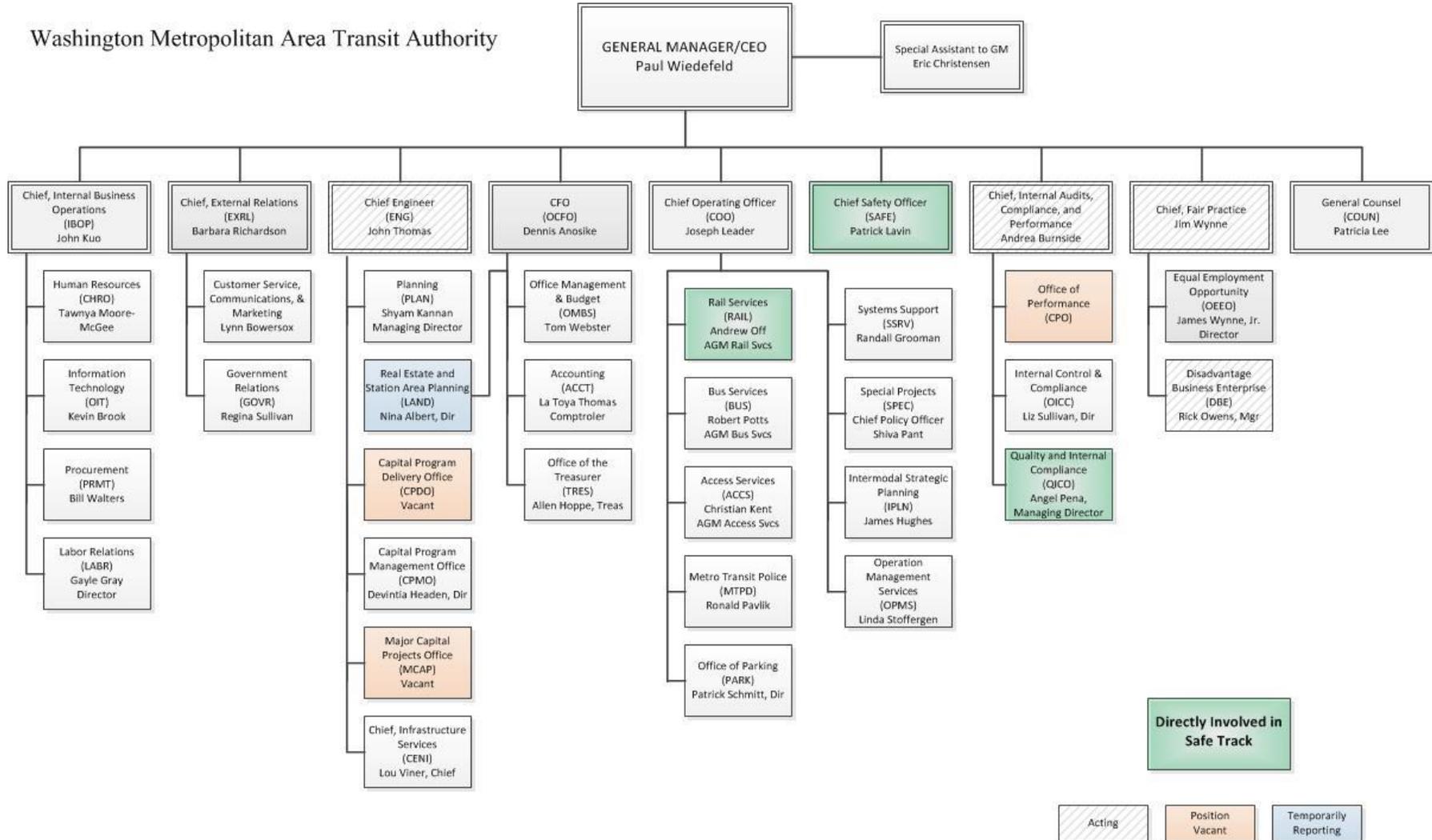
(that may be used in this report)

ACC	Air Conditioner Condenser (a rooftop or a ground-mounted unit)
ADA	Americans with Disabilities Act
AGT	Aboveground Storage Tank
AHU	Air Handling Unit
APM	Assistant Project Manager
ARF	Authority Representative's Facility
ARRA	American Recovery and Reinvestment Act
AST	Aboveground Storage Tank
ATC	Automatic Train Control
ATO	Automatic Train Operation
BAFO	Best and Final Offer
BFMP	Bus Fleet Management Plan
BMNT	Office of Bus Maintenance
BMP	Best Management Practice for storm water (by Maryland Dept. of Environment)
BOM	Bill of Materials
BOMF	Bus Operations and Maintenance Facility
C-35A	WMATA Form for Work Authorization
CA	Conditional Acceptance
CCB	Car Control Building at New Carrollton Rail yard
CCTV	Closed Circuit Television
CENI	Chief Engineer Infrastructure
CIP	Capital Improvement Program
CMF	Car Maintenance Facility (a building in a rail yard)
CMB	Car Maintenance Building
CNG	Compressed Natural Gas
COUN	WMATA's Office of General Counsel
CPM	Critical Path Method (Schedule)
CPDO	Capital Project Delivery Office (office responsible for the SIRP)
CPMO	Capital Project Management Office
CPN	Contractor Proposal Number
CSP	Construction Safety Program
CSX	The name of a Class 1 Freight Railroad
D-B	Design-Builder
DAS	Distributed Antenna System
DDOE	District of Columbia Department of the Environment
DEF	Diesel Exhaust Fluid
ENSS	WMATA Engineering Support Services
ETS	Emergency Trip Station
FA	Force Account
FACP	Force Account Capital Projects
FTA	Federal Transit Administration

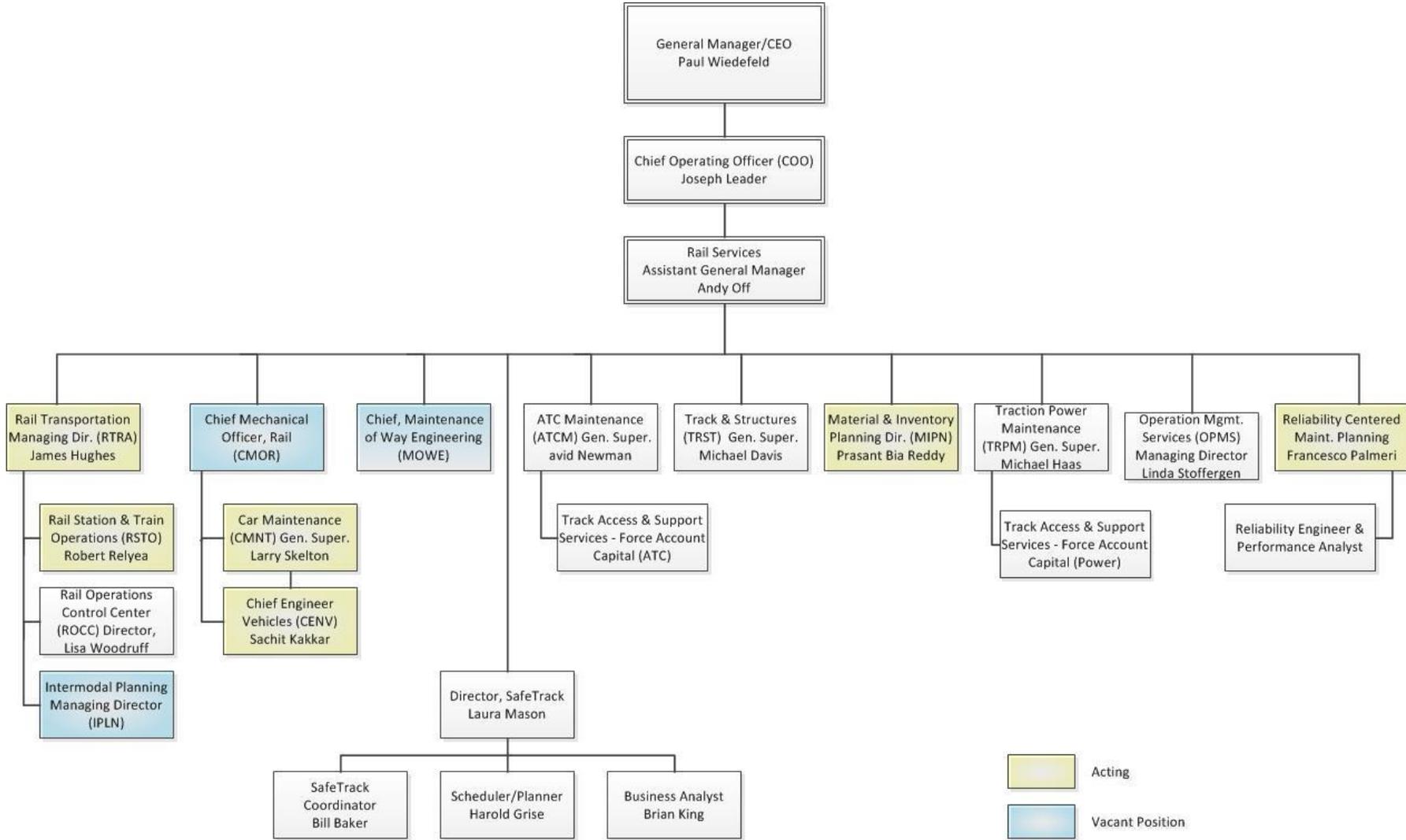
FWSO	FTA's WMATA Safety Oversight Office
FY	Fiscal Year
GOTRS	General Orders/Track Rights System
HAZMAT	Hazardous Materials
HVAC	Heating, Ventilating, and Air Conditioning
IDW	Intrusion Detection Warning
ICE	Independent Cost Estimate
IEEE	Institute of Electrical and Electronic Engineers
IFC	Issued for Construction
IRPG	Infrastructure Rehabilitation Program
JOC	Job Order Contract
LEED	Leadership in Energy and Environmental Design
MAXIMO	WMATA's Enterprise Maintenance Management System
MCAP	Major Capital Project (as defined by WMATA)
MCX	Medical Center Crossover
MOW	Maintenance of Way, a personnel qualification by CSX
NCN	Non-conformance Notice
NTP	Notice to Proceed
OMBS	WMATA's Office of Management and Budget Services
O&M	Operation and Maintenance
OFS	Order for Services
NOV	Notice of Violation
O/B 1	Orange/Blue Lines 1 Contract
PA	Public Address
PCCI	Potomac Construction Company, Inc.
PCN	Proposed Change Notice (from the contractor)
PCO	Pending Change Order
Pepco	Potomac Electric Power Company
PG	Prince George's (County)
PLNT	Office of Plant Maintenance
PM	Project Manager
PMOC	Project Management Oversight Consultant
PMP	Project Management Plan
PPLE	Program, Planning and Energy
PRMT	WMATA's Office of Procurement
QA	Quality Assurance
QAP	Quality Assurance Plan
QICO	WMATA's Department of Quality and Internal Compliance Operations
QPRM	Quarterly Progress Review Meeting
RAMP	Real Estate Acquisition Management Plan
RF	Radio Frequency
RFMP	Rail Fleet Management Plan
RFP	Request for Proposal
RFQ	Request for Qualifications

RSA	Rail Service Adjustment
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
S&I	Service and Inspection
SCI	Substantial Completion Inspection
SCWG	Safety Certification Working Group
SOW	Scope of Work
SHPO	State Historical Preservation Office
SIRP	Systemwide Infrastructure Rehabilitation Program
S/O	Switch Order (needed for removal of AC power)
SOA	State Oversight Agency (for Safety and Security) [formerly SSOA]
SPM	Senior Program Manager (Most senior WMATA manager on a project)
SSCP	Safety and Security Certification Plan
SSCMP	Safety and Security Certification Management Plan
SSMP	Safety and Security Management Plan
SSP	System Security Plan
SSPP	System Safety Program Plan
SSPS	System Safety Program Standards
SSWP	Site Specific Work Plan
T&E	Trainman and Engineman, a personnel qualification by CSX
TAES	Track Allocation & Escort Support Office at WMATA
TAMS	Transit Asset Management System
TASS	Track Access Support Services
TBS	Tiebreaker Station
TCR	Train Control Room
TPSS	Traction Power Substation
TRST	WMATA's Department of Track and Structures
TSSM	Track and Structures – System Maintenance
TTCF	Test Track and Commissioning Facility
TUN	Temporary Use Notice
TVA	Threat Vulnerability Analysis
UPS	Uninterrupted Power Supply
UST	Underground Storage Tank
VEF	Ventilation & Exhaust Fans
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOB	Yard Operations Building

APPENDIX B – ORGANIZATION CHARTS & DESCRIPTION



WMATA's RAIL SERVICES GROUP



APPENDIX D – ACTION ITEMS – SAFETRACK PROGRAM

PR	ITEM	IDENTIFICATION	NATURE OF PROBLEM	D	A	I	COMMENTS	PMOC STATUS
2	2A	Prepare a Program Management Plan and submit to FTA by 9/30/2016	No plan was developed before this project began.	Y	N	N	FTA & PMOC have discussed development of the PMP with the SafeTrack management team on several occasions. The SafeTrack team indicated it is confident of meeting the FTA established deadline.	R

ITEM KEY

Subtask 2A CLIN 0002A – PMP Review

Subtask 2B CLIN 0002B – On-Site Monitoring

LEGEND

PRIORITY (PR)

- 1- Most Critical
- 2- Critical
- 3- Least Critical

PROJECT SPONSOR ACTION

- D – Remedial Action Developed
- A – Remedial Action Approved
- I – Action Implemented

PMO CONTRACTOR STATUS

- R – Review On-going
- C – Completed – No further review required

Note – Items marked with a ‘C’ in the ‘PMO Contractor Status’ column will be dropped from future reports.

APPENDIX E – SAMPLE TRACKING LOG FROM SURGE 7

				QA OBSERVATIONS & CONCERNS					
ID	QICO Report No.	QICO Report Date	Surge Day #	Location	Item Type	Description of Item	Before Picture (Objective Evidence)	Priority*	Status
				A1 824+10, A1 832+10, A1 839+50, A1 847+50, A1 769+50, A1 762+20, A1 754+40	Site Condition	ETS Box Blue light broken off power box at A1 824+10. ETS Box had no map or stickers inside door, door latch broken at A1 832+10. ETS Box no map inside A1 839+50. ETS Box no blue light no map A1 847+50. ETS on the south of the Rockville platform had no cover and no diagram inside. ETS Box no cover, blue light off A1 769+50. ETS Box no cover, no diagram inside, blue light off A1 762+20. ETS no cover, A1 754+40.		Low	Open
				A1 816+00	Site Condition	Third Rail and signal cables on the ground at A1 816+00.		Medium	Closed
				A1 822+40, 826+90, 843+40, 844+30, 791+50, 786+90	Site Condition	Impedance bond boxes removed from track at A1 822+40, 826+90, 843+40, 844+30, 791+50, 786+90		Low	Closed
				A1 836+00	Site Condition	Drain cover flipped over leaving drain exposed and not working A1 836+00.		Low	Closed
				A1 835+10	Site Condition	Third Rail Insulator not positioned on Tie at A1 835+10.		Medium	Closed
				A1 837+00, A1 838+00, A1 939+00	Site Condition	Twelve old ceramic Insulators with shims were out of place at A1 837+00 (Figure 10). Eleven old Insulators noted at A1 838+00. Five old insulators noted at A1 939+00		Medium	Open

*Priorities are assigned by Engineering to align with systems specifications.

APPENDIX F – SAFETY AND SECURITY CHECKLIST

Updated 9/19/16

Project Overview		SafeTrack	
Project Mode	Rail		
Project Phase	Construction		
Project Delivery Method	Force Account & Third Party Contractor		
Project Plans	Version	Review By FTA	Status
Safety and Security Management Plan (SSMP)		Pending	WMATA preparing first draft.
Safety and Security Certification Plan (SSCPP)			WMATA Procedures. PMOC has requested for review.
System Safety Program Plan (SSPP)	Jan 2013	N/A	Draft SSPP submitted to FTA, under review pending new accident investigation procedure.
Security and Emergency Preparedness Plan (SEPP)	2014	N/A	Approved by TOC on September 3, 2014
Construction Safety and Security Plan (CSSP)		Pending	WMATA Procedures. PMOC has requested for review.

AREA OF FOCUS	Y/N	NOTES/STATUS
Safety and Security Authority		
Is the Project Sponsor subject to 49 CFR Part 659 State Safety Oversight Requirements?	Y	FTA WMATA Safety Oversight (FWSO)
Has the State designated an oversight agency as per Part 659.9?	Y	FTA is providing temporary direct safety oversight through FWSO
Has the oversight agency reviewed and approved the Project Sponsor’s SSPP as per 659.17?	Y	Draft SSPP submitted to FTA, under review pending new accident investigation procedure.
Has the oversight agency reviewed and approved the Project Sponsor’s Security Plan or SEPP as per Part 659.21?	TBD	TOC Letter dated September 3, 2014 approves WMATA’s 2014 SEPP
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	The FWSO did attend the QPRM held on September 1, 2016.
Has the Project Sponsor submitted its safety certification plan to the oversight agency?	TBD	The SSCP of March 20, 2012, was accepted by TOC on April 2012.

AREA OF FOCUS	Y/N	NOTES/STATUS
Has the Project Sponsor implemented security directives issued by the Department Homeland Security, Transportation Security Administration?	Y	Section 11 of SSMP
SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	TBD	PMOC coordination with and input from FWSO will determine this.
Project Sponsor reviews the SSMP and related project plans to determine if updates are necessary?	TBD	PMOC coordination with and input from FWSO will determine this.
Does the Project Sponsor implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	TBD	PMOC coordination with and input from FWSO will determine this.
Does the Project Sponsor maintain a regularly scheduled report on the status of safety and security activities?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	TBD	Procedures are being developed.
Does the Project Sponsor update the safety and security responsibility matrix/organizational chart as necessary?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor allocated sufficient resources to oversee or carry out safety and security activities?	Y	Awaiting comment/input from FWSO.
Has the Project Sponsor developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	TBD	PMOC coordination with and input from FWSO will determine this.
Does the Project Sponsor implement regularly scheduled meetings to track resolution of any identified hazards and/or vulnerabilities?	TBD	PMOC coordination with and input from FWSO will determine this.
Does the Project Sponsor monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	PMOC coordination with and input from FWSO will determine this.

AREA OF FOCUS	Y/N	NOTES/STATUS
Does the Project Sponsor ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor ensured the development of safety design criteria?	Y	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor ensured the development of security design criteria?	Y	Incorporated into WMATA Design Criteria and Maintenance Procedures.
Has the Project Sponsor ensured conformance with safety and security requirements in design?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor verified conformance with safety and security requirements in equipment and materials procurement?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor verified construction specification conformance?	Y	QICO tracks and reports on the results of maintenance and repair activities by the SafeTrack crews.
Has the Project Sponsor identified safety and security critical tests to be performed prior to passenger operations?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor verified conformance with safety and security requirements during testing, inspection and start-up phases?	Y	The various departments working on SafeTrack under the Rail Services Group are responsible for verification. QICO verifies this.
Does the Project Sponsor evaluate change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor ensured the performance of safety and security analyses for proposed work-arounds?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor demonstrated through meetings or other methods, the integration of safety and security in the following: • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan?	TBD	PMOC coordination with and input from FWSO will determine this.
Has the Project Sponsor issued final safety and security certification?	TBD	This is done on a surge by surge basis?
Has the Project Sponsor issued the final safety and security verification report?	N	PMOC coordination with and input from FWSO will determine this.

AREA OF FOCUS	Y/N	NOTES/STATUS		
Construction Safety				
Does the Project Sponsor have a documented/implemented Contractor Safety Program with which it expects contractors to comply?	Y	The specific section in the 3 rd party contractors' contracts must be identified and referenced here.		
Do the Project Sponsor's contractor(s) have a documented company-wide safety and security program plan?	TBD	Check G.W. Peoples, Crane Masters, and Crane Services Company, Inc.		
Do the Project Sponsor's contractor(s) have a site-specific safety and security program plan?	TBD	PMOC coordination with and input from FWSO will determine this.		
Provide the Project Sponsor's OSHA statistics compared to the national average for the same type of work.	TBD	Contract	WMATA Recordable Rate	National Average
		G.W. Peoples	TBD	TBD
		Crane Masters	TBD	
		Crane Service Co.	TBD	
If the comparison is not favorable, what actions are being taken by the Project Sponsor to improve its safety record?	TBD	PMOC coordination with and input from FWSO will determine this.		
Does the Project Sponsor conduct site audits of the contractor's performance versus required safety/security procedures?	TBD	PMOC coordination with and input from FWSO will determine this.		
Federal Railroad Administration				
If shared track: has Project Sponsor submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested)	N/A	No shared track. This is a heavy rail transit project. There is no FRA involvement.		
If shared corridor: has Project Sponsor specified specific measures to address shared corridor safety concerns?				
Is the Collision Hazard Analysis underway?				
Other FRA required Hazard Analysis – Fencing, etc.?				
Does the project have Quiet Zones?				
Does FRA attend the Quarterly Review Meetings?				

APPENDIX G – PMOC TEAM PERFORMING THIS REVIEW

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]