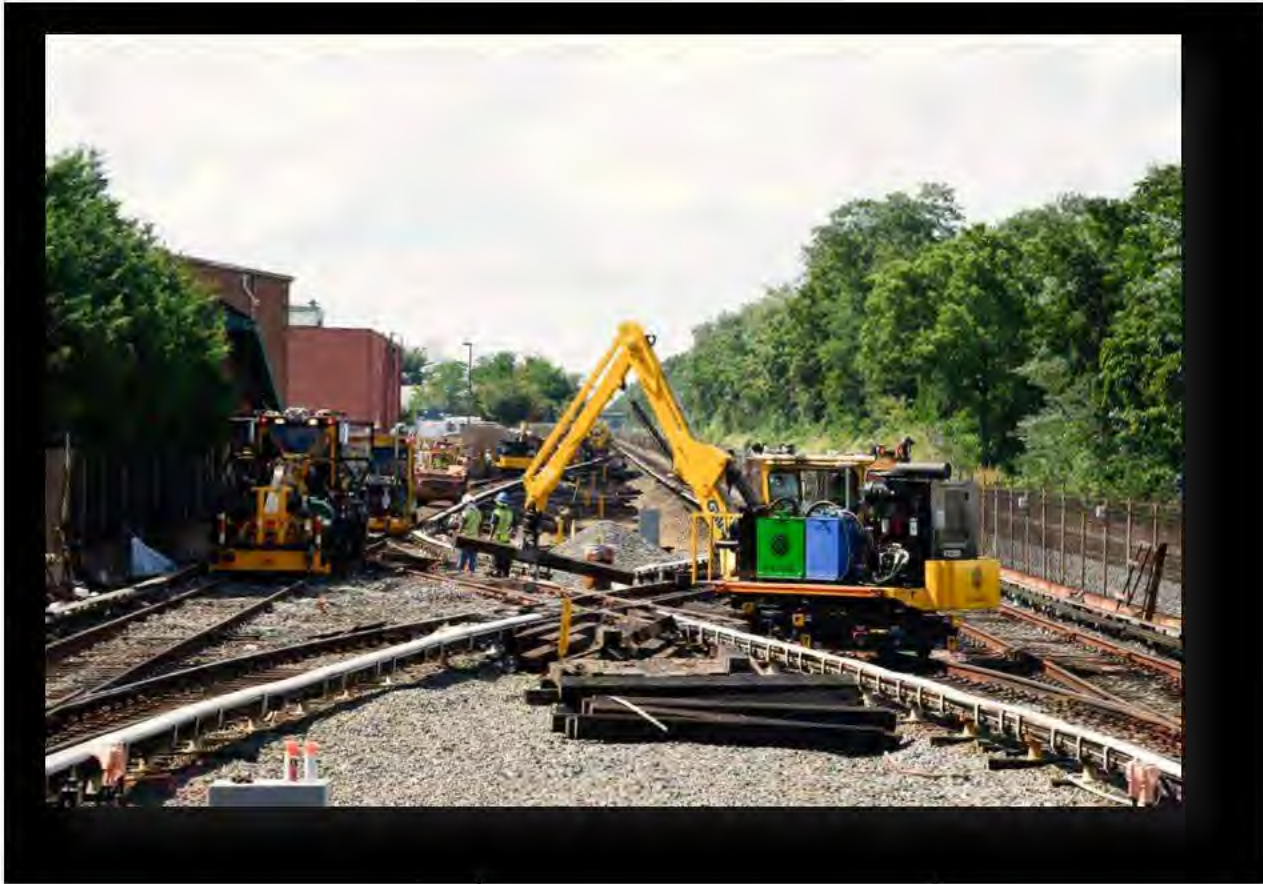


Monthly Report  
**SafeTrack Program**  
Washington, DC Metropolitan Area Transit Authority

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, 17<sup>th</sup> 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

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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."<sup>1</sup> 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.

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<sup>1</sup> 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 |
|---------------------------------------|--|---------------------------|------------------------|
| <b>Track</b>                          | 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                      |
| <b>Structures</b>                     | Track Bed cleaning                       | # linear feet             | 1,692                  |
| <b>Automatic Train Control System</b> | Intrusion Detection Warning System (IDW) |                           |                        |
|                                       | refurbishment and replacement            | # boxes                   | 62                     |
|                                       | Track Junction Box refurbishment         | # boxes                   | 19                     |
|                                       | Signal conversion to LED lighting        | # signals                 | 12                     |
| <b>Traction Power System</b>          | 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.

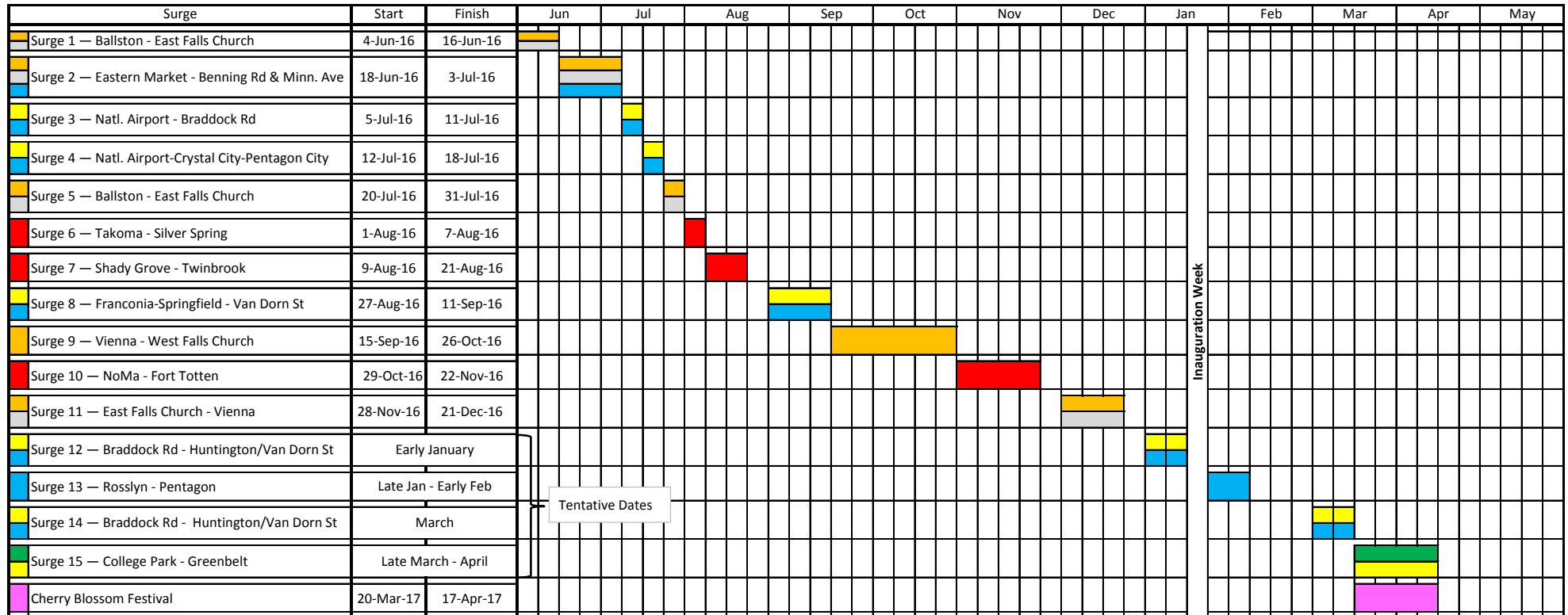
## 2. Program Cost

SafeTrack Program CIP0024

| Initial Estimate              | Current Board<br>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.



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

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## **APPENDIX A – LIST OF ACRONYMS AND ABBREVIATIONS**

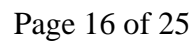
(that may be used in this report)

|       |   |
|-------|---|
| 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   |

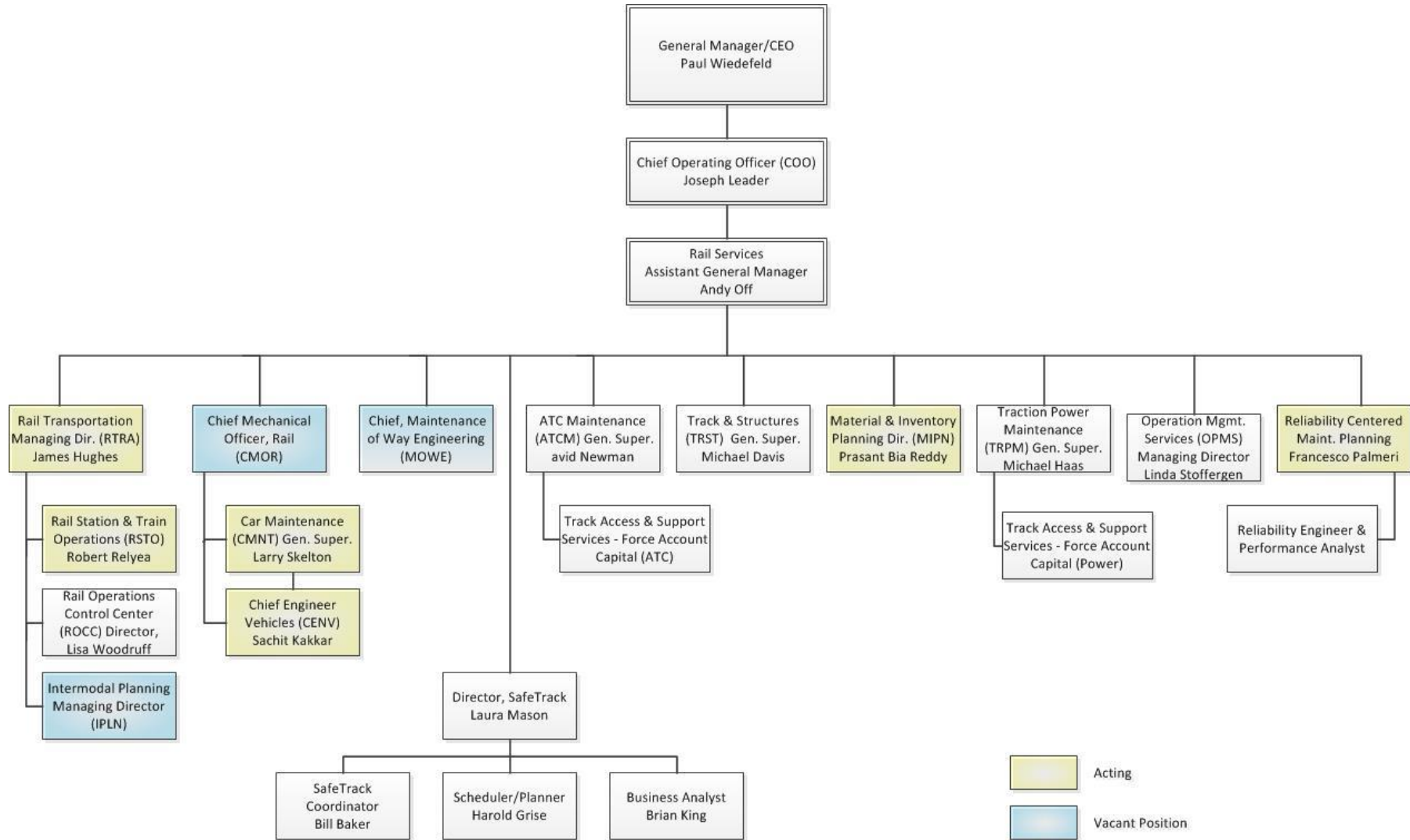
*PMOC Oversight Report on  
WMATA's SafeTrack Program*



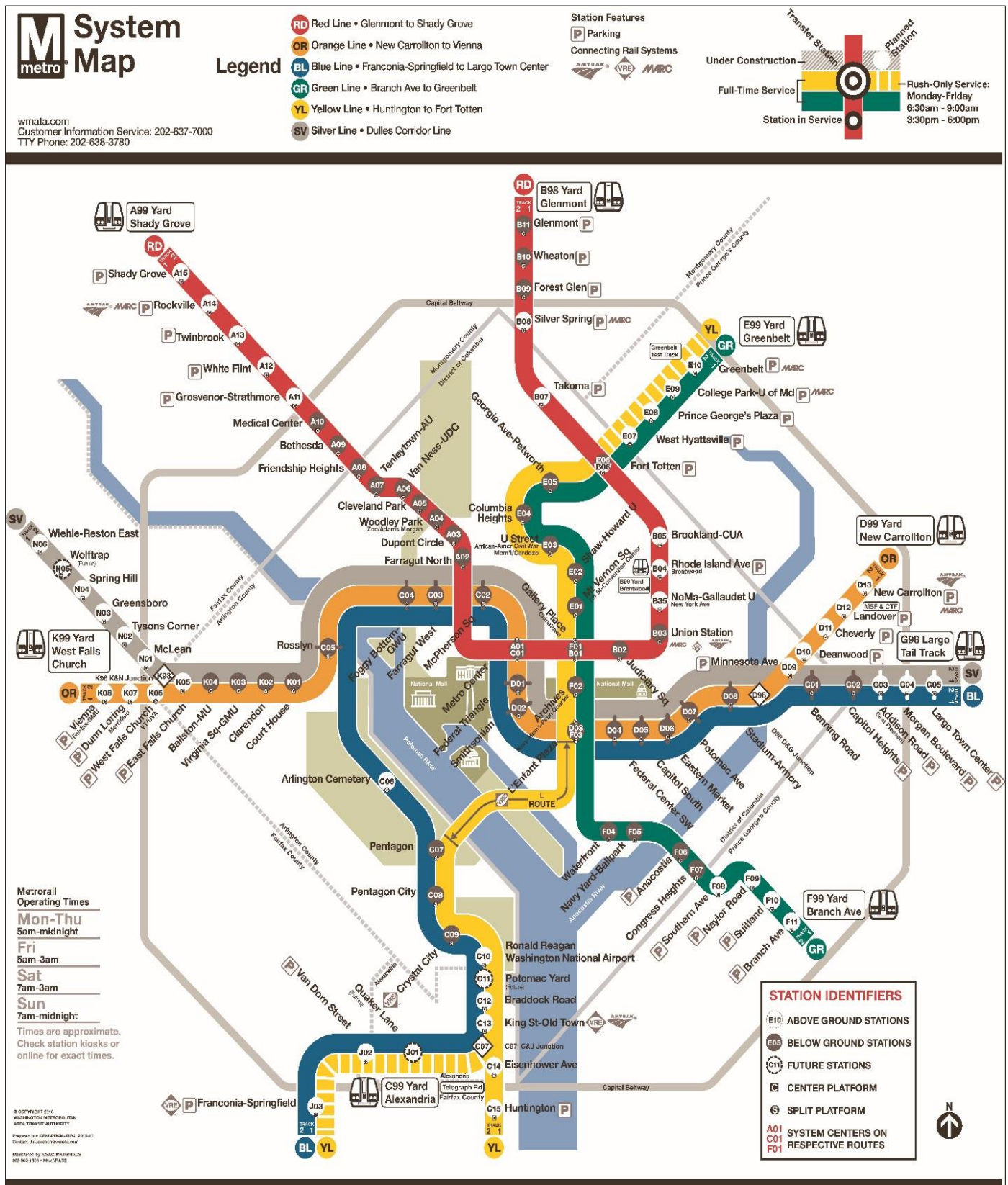
August 2016



## WMATA's RAIL SERVICES GROUP



## APPENDIX C – WMATA's RAIL TRANSIT SYSTEM



## 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

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

#### 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

## 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<br>(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   |
| <p>*Priorities are assigned by Engineering to align with systems specifications.</p> <p>2 of 34</p> <p>Prepared by The Office of Quality and Internal Compliance Operations (QICO)<br/>As of 9/14/2016</p> |                 |                  |             |   |                |   |   |           |        |



## 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  |
|--|-----|---|
| <b>Safety and Security Authority</b>   |     |   |
| 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  |
| <b>SSMP Monitoring</b>  |     |   |
| 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?<br>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 <sup>rd</sup> 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]