

COMPREHENSIVE MONTHLY REPORT

December 2012

**Dulles Corridor Metrorail Project
Extension to Wiehle Avenue**
Metropolitan Washington Airports Authority
Washington, DC

January 25, 2013

PMOC Contract Number: DTFT60-09-D-00016

Task Order Number: 002, **Project Number:** DC-27-5142, **Work Order No.** 03

OPs Referenced: 01, 25

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Length of Time PMOC Assigned to Project: 12.0 years

Length of Time PMOC Lead Assigned to Project: 5.0 years

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. PROJECT DESCRIPTION	1
2. PROJECT STATUS SUMMARY.....	1
3. PMOC’S ASSESSMENT OF PROJECT STATUS.....	4
MAIN REPORT	6
1. GRANTEE’S CAPABILITIES AND APPROACH	6
a. <i>Technical Capacity and Capability</i>	6
b. <i>Project Controls</i>	6
c. <i>Compliance</i>	8
2. PROJECT SCOPE	8
a. <i>Design Status</i>	8
b. <i>Bidding and Construction Status</i>	9
c. <i>Real Estate</i>	13
d. <i>Utility Coordination</i>	14
e. <i>Vehicle Procurement</i>	14
f. <i>Safety and Quality Status</i>	17
3. PROJECT MANAGEMENT PLAN AND SUB-PLANS	21
4. PROJECT SCHEDULE.....	22
a. <i>Critical Path Evaluation</i>	23
b. <i>Important Activities – 90-Day Look Ahead</i>	24
5. PROJECT COST	25
a. <i>Explanation of Variances</i>	25
b. <i>Monthly Cost Report, October 2012 Federal Only</i>	27
c. <i>Project Funding Sources: October 2012</i>	28
6. PROJECT RISKS	28
7. ACTION ITEMS	31
APPENDICES.....	32
APPENDIX A – <i>LIST OF ACRONYMS</i>	33
APPENDIX B – <i>PROJECT OVERVIEW AND MAP</i>	35
APPENDIX C – <i>SAFETY AND SECURITY CHECKLIST</i>	39
APPENDIX D – <i>PMOC TEAM PERFORMING THIS REVIEW</i>	43

EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *January 8, 2013* to conduct a monthly progress meeting for work performed in *December 2012*. The full time on-site PMOC representative attended various project meetings and site tours throughout this reporting period. Additional information for this report was obtained from MWAA during the first and second weeks of *January 2013*. Future PMOC monthly progress meetings are planned to occur during the first week of each month.

1. Project Description

MWAA, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), proposes to implement a 23.1-mile rapid transit system in the Dulles Corridor of Northern Virginia. The proposed corridor follows the alignment of the Dulles International Airport Access Highway (DIAAH) and the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. The Project (Initial Operating Segment) undertakes the construction of the initial 11.7-miles of the rail project from the existing Metrorail Orange Line just east of the West Falls Church (WFC) Station to a station to be constructed at Wiehle Avenue with a total project cost of \$3.142 billion. Included in the Project are five new stations (Tysons East, Tysons Central 123, Tysons Central 7, Tysons West and Wiehle Avenue), improvements to the existing yard at WFC, and tail tracks beyond the Wiehle Avenue station. The procurement of sixty-four new rail cars is also included the Project. Based on the Full Funding Grant Agreement (FFGA), the Revenue Service Date (RSD) is December 1, 2014. The Federal New Starts share is \$900 million, along with \$75 million in Surface Transportation Program (STP) funds, for the extension to Wiehle Avenue. Through Federal fiscal year (FY) 2012, Congress has appropriated \$611,124,364 in Section 5309 New Starts funds for the Project. The FTA has awarded \$520,282,364 in Section 5309 New Starts and \$75,000,000 in STP funds to date for the Project.

2. Project Status Summary

The FTA and PMOC met with MWAA on *January 8, 2013* to conduct a monthly progress review meeting and supplemental information was obtained from MWAA during the following weeks. The status of information is as of *December 31, 2012*, unless otherwise noted.

- **Real estate acquisition** continues to keep ahead of construction requirements, often resorting to rights-of-entry (ROE) to gain access to required parcels. Of the 104 parcel packages required, 99 have been acquired.
- **Rail car Procurement** - Monthly Progress Review Meeting No. 28 between WMATA and Kawasaki on the 7000 Series railcars was held on *January 10, 2013 in Lincoln, NE* and the WMATA/PMOC 7K Rail Car Update Meeting was held on *January 15, 2013 at WMATA headquarters*. The current Final Design Review (FDR) completion date is *reported by Kawasaki remains February 28, 2013* compared to the mitigation schedule completion date of March 22, 2012, a slippage of 343 calendar days. *The completion of the Design Validation Review (DVR) is also expected on that date.* FDR meetings have been completed. The approved FDR Contract Deliverables Requirements List (CDRLs) is at 61.9% completed, with 37.5% in progress (i.e. either submitted or being revised) and 0.6% open. At the reported level of completion, the PMOC is of the

opinion that the February 28, 2013 date for the completion of the FDRs is a more realistic estimate. *At the January 15th meeting WMATA noted that remaining elements to be completed for FDRs is primarily correcting documentation and that there is agreement on the design elements.*

On October 20, 2011, WMATA approved Kawasaki's Master Program Schedule (Baseline). WMATA subsequently approved Kawasaki's Mitigation Schedule, due to the March 2011 tsunami/earthquake, on December 21, 2011; it has a June 12, 2015 conditional acceptance date for the 64th railcar, which is more than six months beyond the FFGA's Revenue Service Date (RSD). MWAA informed the FTA's Region III Administrator of the delay by letter on January 31, 2012. *The delivery of the first four production cars is forecasted to be February 20, 2014, and the conditional acceptance of the first four production cars is forecasted to be August 14, 2014.*

- **Design progress** - Overall project design remains at 99% complete as of the end of *December 2012*. The Tysons West Kiss & Ride Lot 100% design approval and DGS permit are expected *in February 2013*. DTP's design submission for a code modification package for the Wiehle Avenue pedestrian bridge and pavilion to add an emergency call station has been accepted. Related architectural matters remain to be resolved, and then the design will be submitted with permitting expected to be complete in February 2013.
- **MWAA issued a NTP** on January 24, 2011 to an independent third-party consultant, Battelle, to review Alstom's safety analysis of their Generation 4 track circuit modules proposed for use on the Dulles Extension. Battelle issued a letter dated September 25, 2012 stating that "As of September 24, 2012, Battelle completed the audit/review of all documentation provided throughout this program...all issues identified by Battelle throughout this assessment have been adequately resolved and closed." Battelle submitted the Draft Final Report on October 5, 2012 and presented it to MWAA and WMATA on October 18, 2012. MWAA received the Final Battelle Report on November 16, 2012. WMATA provided a letter dated November 19, 2012 stating that "the Alstom Generation 4 track circuit is accepted for service provided the system fulfills the requirements of Project specifications section 16919 – ATC System Reliability, Availability, Maintainability and Safety Program".
- **Construction progress** is broken into two components: utility relocation (UR), which remains at 99% complete, and design-build (DB) construction, which is approximately 87% complete. Significant accomplishments *in December* included *completion of barrier walls, platform, mezzanine and precast panel work on all five stations; finalizing ballasted and direct fixation trackwork installation on the Tysons West Guideway and along the DIAAH; continued progress with the construction of Traction Power Substations to include energization of nine of eleven substations with the final two now ready for energization, Communications and Automatic Train Control Equipment Rooms and delivery and installation of equipment.* The Project also continued to make significant progress on the K-Line tie-in ATC dynamic train testing and the N-Line ATC, Communications and Traction Power Substation *installation and Testing.*

CONSTRUCTION PROGRESS THROUGH <i>DECEMBER 2012</i>			
GUIDEWAYS/ TRACKWAYS and SYSTEMS	% COMPLETE	STATIONS	% COMPLETE
O-3 (DCR) Trackway	100%	Tysons East	67%
Tysons East Guideway	100%	Tysons Central 123	61%
Tysons West Guideway	100%	Tysons Central 7	49%
O-9 (DIAAH) Trackway	100%	Tysons West	48%
Systems	33%	Wiehle Avenue	76%
Trackwork	94%	WFCY	25%

- **The DTP Schedule Update** with a data date of *November 25, 2012* “Mitigation Schedule” showed a -5 calendar day variance with a *September 3, 2013* SSCD as compared to the +1 calendar day variance reflected in the *October 25, 2012* update. *The current forecast RSD is January 7, 2014.*
- **With regard to the West Falls Church Yard (WFCY) completion date**, DTP’s schedule update of *November 25, 2012* reflects a -10 calendar day variance to the targeted completion date of *December 20, 2013*, resulting in a forecast completion date of *December 30, 2013*.
- **Budget** status as of *November 25, 2012* indicates that \$2,259,302,329 (80%, excluding the remaining contingency and finance charges) has been expended of the \$3,142,471,635 budget total. MWAA reports \$281,529,165 of the available contingency for the first nine contingency milestones have been drawn down to date with a balance of \$10,045,119 available through the ninth contingency phase. The current estimate of the contingency available at the end of construction is \$17.83M. The federal portion of the Allowance Items recommended for award and yet to be transferred to the Firm Fixed Price is estimated to be \$34.24 million over budget. With the completion of the award of all contracts for Allowance Items, \$32.34M of the original FFGA amount of \$77.47M budgeted for Indexed Commodity Escalation has been transferred to the Firm Fixed Price. During October 2012, the project re-assessed the commodity escalation estimate at completion (EAC) and recommended a forecast under-run of \$19.0 million that could be transferred to contingency.
- MWAA’s estimate of the **Earned Value** for the Project through *November* is 84.8%.
- **Risk** - MWAA submitted RCMP Rev. 3 to the FTA for approval by letter dated March 28, 2012. The FTA approved the RCMP on April 13, 2012. In June 2012, MWAA updated the Risk Register. This document and a recommendation to update the Top Ten Risks were forwarded to the FTA and the PMOC for review on August 2012. FTA, the PMOC and MWAA discussed this issue during the PMOC’s September monthly site visit. The PMOC provided review comments and a modified Top Ten List that will be reviewed by MWAA. On September 30, 2012, MWAA issued a revised list of Top Ten Risks. FTA’s letter of November 29, 2012 approved the September 30 revised Top Ten Risks. *These risks will now be reviewed on a quarterly basis.*
- **The Full Time Equivalent (FTE) estimated total for December is 1,259 which is a decrease of 133 from the November actual of 1,392.** A fluctuation is to be expected with the winding down of design and civil construction, the ramping up of systems installation and testing *and winter weather.*

- Core Accountability Items

FFGA-MWAA Core Accountability Items			
Project Status:		Original at FFGA:	Current Estimate*:
Cost	Cost Estimate	\$3.142B	\$3.142B
Contingency	Unallocated Contingency		
	Total Contingency (Allocated plus Unallocated)	\$297.76M	\$17.83M
Schedule	Revenue Service Date	December 1, 2014	January 2, 2014***
Total Project Percent Complete		Based on Expenditures**	80%
		Based on Earned Value	84.80%
Major Issue	Status	Comments/Action/Planned Action	
Concurrent Non-Project Activities (CNPA) -- Project Partners have added activities to the Project that may not be part of the FFGA-funded scope of work.	The FTA identified \$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA's letter of November 28, 2012 corrected the total to \$40.38M.	<i>MWAA will provide FTA details of how they will address budget and drawdown adjustments for the identified CNPAs.</i>	
Contingency -- Overall Project Contingency level may be insufficient.	MWAA acknowledges a \$71.8 million in available Finance Charges savings that could be added to the contingency. <i>MWAA completed the review of "Indexed Commodity Escalation" charges and identified approximately \$19 million in savings.</i>	<i>MWAA will confirm formal Board budget action to add the \$90.8 million to Contingency.</i>	
Date of Next Quarterly Meeting:		<i>February 13, 2013</i>	

Note: * Through November 2012

** Excluding remaining contingency and finance charges

*** Contingent upon WFCY not needing to be complete

3. PMOC's Assessment of Project Status

In its monthly report for June 2011, the PMOC concluded that MWAA needed to replenish the Project contingency and actively pursue items that may be additional scope (non-FFGA) and billed to the responsible parties in order to address potential budget overruns caused in part by scope of work issues. The FTA/PMOC and MWAA met on September 6 to discuss MWAA's August 10 re-tabulation of the list of potential Concurrent Non-Project Activities (CNPAs). The items that are not part of the FFGA Project scope could provide a source of funds to replenish the Project Contingency. The FTA identified

\$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA provided a response on November 28, 2012 acknowledging the FTA letter and identifying an additional \$3.7 million to increase the value of the CNPAs to \$40.38 million.

The estimated cost overruns of the Allowance Items is \$146.7million, of which \$86.6 million has been funded through Phase 9 of the contingency drawdown schedule, \$45.6 million, has been obligated in Phases 10-12 plus \$14.7 million that was obligated in October 2012 to Phase 10. In July 2012, MWAA transferred \$71.8 million in savings from the Finance Charges to Contingency. FTA requested MWAA to review the balance of Commodity Escalation funds to determine if any surplus could be used for Contingency, if needed. In October 2012, MWAA identified \$19.0 million from under-run Commodity Escalation that could be made available for Contingency. The combined \$90.80 million addresses the current contingency shortfall. In addition, FTA and MWAA agreed that all future change orders will be discussed and agreed upon before payment is made using FFGA funds.

The Project continues working according to an agreed “Mitigation Schedule”, authorized by MWAA’s November 1, 2011 Directive Letter. The mitigation schedule with a data date of *November 25, 2012* reflected a -5 calendar variance to the contract schedule reflecting an SSCD of *September 3, 2013*. Associated cost negotiations and settlement language associated with RFCs 160 and 161 (remote monitoring) were completed on June 15, 2012 *and finally approved on December 6, 2012*.

DTP has incorporated the West Falls Church Yard construction into the mitigation schedule with a completion date of December 20, 2013. DTP’s *November 25, 2012* schedule update *reflects a -10 calendar day variance to the targeted completion date of December 20, 2013*. It remains the PMOC’s opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

Kawasaki’s Mitigation Schedule based on the impacts of the March 2011 tsunami/earthquake forecasts a conditional acceptance date of the 64th DCMP rail cars on June 12, 2015. Final Design Reviews (FDR) continue to lag, but in order to mitigate the delay in FDR completion, Kawasaki and WMATA have undertaken design validation reviews and Kawasaki is manufacturing the prototype cars at risk in Japan. All the final design review meetings have been held and the completion of the submittal of the final design documentation is now reported by Kawasaki to be by February 28, 2013. That date appears to be realistic based on the current status of the documents.

MAIN REPORT

1. Grantee's Capabilities and Approach

a. Technical Capacity and Capability

The PMOC prepared a Spot Report of Grantee Technical Capacity and Capability dated January 10, 2008 as part of the PMOC's effort to evaluate the Grantee's readiness to enter Final Design. The conclusion was that the MWAA project staff assigned to the Project was qualified. However, the MWAA direct staff was very thin with many project responsibilities assigned to MWAA's consultant team, Project Management Support Services (PMSS) team. The PMOC recommended that the Grantee add several staff positions and that reporting protocols be enhanced to ensure important project status information is shared in a timely manner with the Federal Transit Administration (FTA) and the PMOC. MWAA has adopted the recommendations and augmented their staff.

In September 2009, MWAA reorganized by implementing an integrated project management organization consisting of MWAA and PMSS staff. However, the personnel involved remained the same as was evaluated in the January 2008 Technical Capacity and Capability Report with a few replacements and additions. It remains the PMOC's opinion that the staffing levels and technical capabilities are still adequate. MWAA hired Mr. William Kerrigan as Manager of Project QA/QC and Safety, replacing Jon Christensen, who retired. PMSS also hired Mr. Leo Himmel to serve as *the Project's Team* Systems Testing Coordinator. In addition, MWAA has been reorganizing staff members into a new Testing and Start-up Group. MWAA has submitted a draft PMP, Version 8.0 to include the Testing and Commissioning stages of the project. The FTA transmitted comments to MWAA on July 11, 2012 requesting the final PMP by November 1, 2012. PMP Version 8 was transmitted to the FTA on November 8, 2012 and *remains* under review.

Upon completion of the project, WMATA will become the operator of this extension to their system. WMATA personnel have been active participants in the project. The addition of WMATA personnel, particularly the Director of the Dulles Corridor Metrorail Project, has significantly improved the coordination between DTP, MWAA and WMATA with regard to scheduling outages and work. Over the past year, WMATA's Dulles Project Director has been staffing a Quality Assurance and Inspection Staff to keep pace with Project progress as it enters the Testing and Start-up Phase. In anticipation of the testing and commissioning of the Project, WMATA has hired a start-up technical advisor who has previous experience with WMATA.

b. Project Controls

MWAA has procedures in place with regard to monitoring and controlling project scope, quality, schedule, cost, risk, and safety. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures.

- The Project Schedule was updated by DTP through *November* 2012. In this update DTP reported a possible *loss* of *five* calendar day to the SSSCD forecasted by DTP to occur on *September 3, 2013*. The WFCY schedule update reflects a *-10 calendar day variance* to the target date of

December 20, 2013. However, the WFCY activities and completion dates are only overlaid on the master mainline schedule, but not connected to the mainline critical path or SSCD. MWAA completed its schedule review of the schedule update with a data date of *November 25, 2012* on *January 7, 2013* and “*recognized*” *DTP’s the critical path*. See Section 4.a for additional information.

- MWAA continues to monitor expenditures to date and to update the estimate at completion. In July 2012, MWAA allocated \$71.8 million in finance cost savings to contingency budget. In October 2012, MWAA identified \$19.0 million in forecast under-run commodity escalation that could be transferred to the contingency budget. Through *November 2012*, MWAA has utilized \$281.53 million resulting in a remaining balance of \$10.04 million through contingency Phase 9. With \$89.20 million in obligated contingency, this leaves a balance of \$7.79 million for Phases 10 through 12 and a grand total balance, as of the end of *November 2012*, of \$17.83 million in remaining contingency.
- MWAA submitted the latest revision of the RCMP (Revision 3) to the FTA on March 28, 2012 and FTA letter of April 13, 2012 found it acceptable. For details, see section 3 “Project Management Plan and Sub-plans” below. FTA approved the revised Top Ten Risks list on November 29, 2012.
- The Quality Assurance (QA)/Safety group maintains an active schedule of audits and surveillances and accident data.

Through *December 2012*, there has been a cumulative total of *11,990,097* hours worked with six lost time accidents.

DTP submitted the Safety and Security Certifiable Items List (SCIL) Revision 6 to include the WFCY on August 6, 2012. Comments were received from WMATA on September 21, 2012. MWAA completed its review and issued Letter No. 07547 dated October 24, 2012 identifying comments needing to be addressed. *DTP responded by letter on November 30, 2012 and MWAA and DTP met on December 18, 2012 to discuss the open comments further. Another meeting will be scheduled in January 2013 to continue the comment resolution.*

DTP submitted revisions to the System Safety/Security Management Plan (SSMP) and DTP Procedures PPQ 01.06.02, Development and Maintenance of the Safety/Security Certifiable Items List, and PPQ 01.06.03, Design Conformance Certification, which MWAA accepted on December 6, 2010. The FTA and PMOC met with MWAA, WMATA, and DTP on April 29, 2011 and again on January 27, 2012 to discuss development and status of a revised SSMP to integrate WMATA and MWAA systems testing, interface management and pre-revenue operations. SSMP Revision 9 was completed in March 2012 and MWAA and WMATA approved the revised SSMP on March 20 and 22, 2012, respectively. The PMOC reviewed the completed revision and provided comments to the FTA on April 5, 2012. The FTA accepted SSMP, Rev.9 dated March 2012 on April 13, 2012.

c. Compliance

It is the PMOC’s observation that MWAA continues to follow the required statutes, regulations and agreements.

MWAA submitted updates to the Amended Record of Decision Summary Mitigation Report to the FTA for the third quarter of 2012 on October 25, 2012.

2. Project Scope

a. Design Status

Except for the Tysons West Station Kiss and Ride Lot, DTP has completed design work with the receipt of permit approvals on all station designs, and Issued for Construction (IFC) drawings for all five stations have also been completed. The Tysons Kiss and Ride Lot Issued for Permit (IFP) drawings were submitted to DGS on November 26, 2012 and permit issuance is expected in *February 2013*. The systems design is nearing completion as reflected below.

ATC	Alstom DTP	100% 100%
TPS	Powell DTP	100% 100%
COMM	TWS DTP	100% 98%
SCADA	TWS DTP	100% 100%

Regarding Automatic Train Control, MWAA issued a NTP on January 24, 2011 to an independent third-party consultant, Battelle, to review Alstom’s safety analysis of their Generation 4 track circuit modules proposed for use on the Dulles Extension. Battelle submitted the Draft Final Report on October 5, 2012 and made a Power Point presentation to all partners on October 18, 2012. The presentation and Report was well received by WMATA and MWAA.

MWAA received the Final Battelle Report on November 16, 2012. WMATA provided a letter dated November 19, 2012 stating that “the Alstom Generation 4 track circuit is accepted for service provided the system fulfills the requirements of Project specifications section 16919 – ATC System Reliability, Availability, Maintainability and Safety Program”. MWAA wrote Letter No. 07687 dated November 30, 2012 to DTP stating that “As a condition of acceptance, WMATA has requested copies of the documents reviewed by Battelle. The list of documents is attached. DTP is requested to provide copies of these documents, in electronic format, to the Airports Authority.” *Battelle and DTP continue to gather the documents requested for submission to MWAA and WMATA.*

b. Bidding and Construction Status

DTP has awarded all of the thirty-seven Allowance subcontract packages. Through November 2012, MWAA has transferred \$503,592,299 worth of the \$374,517,062 federally funded Allowance Items Budget with an overrun of \$112,453,190 to the firm fixed price contract. In addition, MWAA has Allowance Items recommended for Award, but not yet transferred to the firm fixed price contract, worth \$63.73 million, which is an additional \$34.24 million over budget. The \$34.24 million does not include Installation of Public Art (C7) and Spare Parts (C11) since these are being procured outside the Allowance Items.

Utility relocation is 99% complete, and DB construction is approximately 87% complete. *Remaining utility relocation involves continued installation of plastic distribution piping near TPSS #10 by Washington Gas. DVP has now completed its power feeds to the Traction Power Substations.*

The following are the major accomplishments of the DB contractor during *December 2012*:

- **Operations Areas OP-1, OP-2 and OP-3 (I-66/DCR/Laydown Area 1**

Poured the foundation slab at the Service and Inspection (S&I) Building and continued forming and placing rebar and waterproofing for foundation walls at the West Falls Church Yard (WFCY); continued with direct fixation track and plinth construction in the WFCY lead tunnel; continued installing Support of Excavation (SOE) and lagging for the sound cover box foundation at the WFCY; continued micro-pile installation for the Sound Cover Box (SCB) foundation in the WFCY; continued placing concrete for the SCB foundation; Powell set the 34.5 kV transformer on the Traction Power Substation (TPSS) slab; and continued subgrade placement at the ladder track area in preparation for rail delivery in January 2013.

Systems Work

- ***K/N Line Junction***
Labeling Emergency Trip Station (ETS) cables in trackside transition boxes and verifying ID plates on junction boxes.
- ***K-Line Full Outage***
Completed Automatic Train Control (ATC) control line testing and progressed punchlist work during the single track outages on December 8, 2012 and December 16, 2012.
- ***Fisher TPSS/TCR (Train Control Room)***
Retested the Automatic Transfer Switch in the TPSS.
- ***TPSS #1 (Plainfield St. – N91)***
Continued installing cable ID tags in manholes; and verifying cables in the ETS relay cabinet.
- ***Plainfield TCR and N91 Area of Control***
Continued installing WZ-22 and 4' loops; verifying ATC cable terminations in switch machines; and ran the WMATA clearance car to verify clearance envelopes.

- **Baldwin TCR and N92 Area of Control**
Continued core drilling and saw cutting cable trough covers for installation around ETS and Heater Cable (HC) conduits.
- **TPSS #2 (Baldwin – N92)**
Verifying ETS cables connections in the TPSS and at the trackside; labeling ETS cables in trackside cabinets; and terminating AC power cables in the network cabinet.
- **Operations Area OP-4/5A (Tysons East Guideway and Tysons East Station)**
Continued trackwork punchlist work on the guideway; in the station – poured pedestrian bridge bearing supports; installing control cables and equipment for elevators; installing pavilion elevator wiring; installing electrical equipment, devices and raceways under the platform, at the mezzanine level, TCR, AC Switch Gear (SWGR) Room, TPSS and pavilion; installing cable and wire and light fixtures throughout the station; installing and grouting brass angle expansion joints; installing pavilion canopy steel and roof panels; installing pedestrian bridge ceiling hangers and supports and wind screens; installing communications and Fire and Intrusion Alarm (FIA) raceways and cable throughout the station; installing fire protection pipe in mezzanine equipment rooms; installing water proofing membrane in the platform area; installing waterproofing strips at the platform joints; welding pavilion canopy steel; installing plumbing insulation in the water service room; and installing hangers for suspended ceilings.

Systems Work

- **Tie Breaker Substation (TBS) #3 (Tysons East – N01)**
Permanent power was established in December 2012.
- **Tysons East TCR and N01 Area of Control**
Pulling trackside ETS phone cables; and core drilling and saw cutting cable trough covers for ETS and HC conduit penetrations.
- **TPSS #3 (Tysons East Station – N01)**
Terminating ETS cables in the ETS relay cabinet; and installing exit sign and pulling communication cables in the TPSS.
- **Operations Area OP-5 (Tysons Central 123 Station)**
Poured station stair stoops; installing suspended catwalk stair precast panels; continued installing elevators and escalators; continued installing domestic water lines; installing communications conduits; insulating air handlers in the TPSS; welding precast panel stringers; pointing and patching pedestrian bridge columns; continued platform granite installation; installing equipment, devices and raceways in the AC SWGR Room, TPSS #4, battery room; installing communication raceways in the lower level and platform level service rooms; installing door frames; continued assembly of the pedestrian bridge sections; installing precast panel walls at the south pavilion; installing canopy roof decking and welding steel support; and installing HVAC in the platform level elevator and escalator service rooms.

Systems Work

- **TPSS #4/TCR (Tysons 123 – N02)**
Terminating control and remote monitoring cables in the DC Switchgear Room; and installing conduits in the TPSS.

- **Tysons 123 TCR and N02 Area of Control**
Continued installing conduits for emergency tunnel lighting; pulling ATC cables and installing junction boxes; installing WZ-9 to WZ-17 cross-bond cables; and installing and terminating WZ-8 and WZ-16 cables.

- **Operations Area OP-6 (Laydown Area #6/NATM Tunnel/East Cut & Cover and Ventilation Structure)**
Installing Concrete Masonry Unit (CMU) pipe chase construction; continue installing overhead communications conduits and boxes; and completed rebar and concrete plinth pouring in the NATM Tunnels for safe access to the safety walks.

- **Operations Area OP-6 (West Cut and Cover Tunnel)**
Completed installing CMU wall chase for feeder wires from the electrical room at the track level to the fan room level; installing copper grounding rods along the walls in the track level electrical room; installing conduit for normal disconnect in the track level train control room; installing branch power control conduit and cables at the fan room level; and installing speakers for the public address at the emergency egress stairs, vestibule and fan and ventilation equipment rooms.

- **Operations Area OP-7 (Tysons Central 7 Station)**
Detailing the south pavilion precast panels; installing fire pump, dry sprinkler and wet pipes in the platform level pump room; installing raceways, fixtures and devices for the AC and Communications Systems in the AC SWGR room, service rooms, under platform, in the TPSS #5, and elevators; installing escalators in the south pavilion; installing pavilion storm drains; installing barrier walls waterproofing expansion material; installing canopy skylight and acoustical metal decking; installing CMU walls in the mezzanine level service rooms; installing electrical raceways for the pavilions; installing elevators and escalators in the station and south pavilion; installing cleaner's room and restroom water lines in the east service area and platform drain pipes; installing suspended ceiling panels under the mezzanine; repairing concrete and waterproofing at the barrier walls and TPSS wall; installing ceiling panels at the platform and intermediate levels; insulating domestic water lines; welding and grouting pavilion precast panels; completed installing lintels in the fire equipment room; energized switchgear #2 in the ground level AC switchgear room; installing fire protection pipe in the mezzanine level rooms; and drilling for granite anchors on the platform.

Systems Work

- **TPSS #5 (Tysons Central 7 Station-N03)**
Terminating traction power cables at the contact rail; installing ETS and HC frames; racking negative return traction power cables in cable trays; and terminating control and remote monitoring cables in the DC switchgear.

- **Tysons Central 7 TCR and N03 Area of Control**
Splicing fiber optic cable in the communications room; installing and terminating ATC cables; relocating cable tray in the TCR; and pulling ATC cables.
- **Operations Area OP-8 (Tysons West Station/Guideway)**
Continued installation of cable troughs and contact rail on the guideway west of the station; in the station – installing precast panels on the north and south pavilions; installing communications conduits; installing precast stair stringers in the south pavilion; installing electrical raceway and light fixtures in the AC switchgear room and intermediate level service rooms, mezzanine and under the platform; installing platform canopy and roof decking; installing escalators and elevators; installing CMU walls in the south pavilion; installing hollow core panels for the south pavilion service rooms; installing tapered “V” frames on station perimeters; hanging cable tray for electrical cables in intermediate service rooms; continued pedestrian bridge truss assembly; welding panel connections in elevator hoist way at the south pavilion; and installing supports and conduit along the underside of the pedestrian bridge.

Systems Work

- **TPSS #6 (Tysons West Station –N04)**
Continued installing communications conduits.
- **Tysons West TCR and N04 Area of Control**
Installing ETS racks on the aerial guideway.
- **OP-9 (DIAAH)**
Completed track line and surfacing and contact rail installation between Trap Road and the Tysons West Guideway; continued track punchlist work between Hunter Mill Road and Difficult Run; completed landscaping installations at the storm water ponds # 3 and #4 and re-grading work at pond #2 along the DTR; continued rebar and concrete construction of the barrier walls; and continued removal of jersey barriers and installation of permanent guardrails at various locations along the east and westbound DIAAH.

Systems Work

- **TPSS #7 (Wolf Trap – N05)**
Pulled and terminated 34.kV cables at the rectifier transformer; and terminating trackside ETS cables.
- **Wolf Trap TCR and N)5 Area of Control**
Terminating ETS phone cables in the communications room distribution frame.
- **TPSS #8 (Chatham’s Ford – N93)**
Continued terminating 34.5kV cables at the rectifier transformers; racking and megger testing 34.5kV cables in the TPSS; terminating ETS cables in the protector block transition box; and pulling and terminating cables between the TPSS and the TCR.

- ***Chatham's Ford TCR and N93 Area of Control***
Replaced damaged conduit isolation fittings and grounding equipment in the communications room.
- ***TPSS #9 (Hunter Mill – N94)***
Continued grounding trackside heater control frames and manhole covers; splicing fiber optic cables from the TPSS to the communications room; and terminating ETS communications cables.
- ***TPSS #10 (Sunset Hills – N95)***
Terminating ETS communications cables.
- ***Sunset Hills TCR and N95 Area of Control***
Installed exhaust fans in the TCR building; extended conduit into the communications room; and installing conduit between the cable tray and the remote terminal unit and pulling remote monitoring cables.
- ***TPSS #11 (Wiehle Avenue – N06)***
Continued grounding manholes covers and ETS frames; installed cable trough covers; installing additional ETS and HC conduit supports, verifying terminations and labeling; and megger testing and terminating ETS phone cables.
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)**
Installing precast platform pavers; installing conduit for communications switch boxes and TEL-LAN in the plenum, east service rooms, and the Kiosk; installing multi-conductor cable and wiring in the AC Switchgear Room; installing panels, transformers and equipment cabinets in AC room and throughout the station; installing wiring panels and lighting; installing electrical raceways for the south pavilion; installing escalators and elevators at the south pavilion; installing insulated hollow core roof panels on the west service rooms; installing elevator control wiring; installing FIA devices in service rooms; installing curtain walls and glass panels at the mezzanine level; and installing ceiling supports on the platform level and for the canopy on the mezzanine level.

c. Real Estate

Real Estate Acquisition continues to keep ahead of construction requirements, often resorting to ROE to gain access to required parcels. Through *December 2012*, 99 of the 104 parcels required for the Project have been acquired. The table below summarizes acquisition activities for the Project through *December 2012*. Three of the four remaining parcels have been delayed due to protracted negotiations with the owners and Fairfax County regarding deed language and other modifications needed to finalize the deeds and agreements.

PARCELS ACQUIRED¹
(Number of parcel packages)

LOCATION	TOTAL	Period			To Date		
		Planned ²	Actual	Var	Planned ²	Actual	Var
I-66 / DCR	1	0	0	0	1	1	0
Route 123	23	0	0	0	23	21	(2)
Route 7	54	0	0	0	53	51	(2)
DIAAH	26	0	0	0	26	26	0
TOTAL	104	0	0	0	103	99	(4)

Notes: 1. Parcels acquired through recordation of deed/easement and filing of Certificates of Take. These values include rights obtained for another 39 parcels for which Certificates of Take have been filed.

2. Planned values are based on the March 31, 2011 Property Acquisition Status Update. One additional acquisition was added in June 2012 *were* to be completed in September 2012 and another was added in October 2012 to be completed in February 2013.

Condemnation Status

Thirty-nine parcel packages have been obtained with the filing of thirty-three Certificates of Take. *In December 2012, it was reported that one case had the Final Order entered in November (Parcel 68 Carrington Community Association, Inc.) and five cases are in finalization (Parcel 125, JGB 1831 Wiehle Avenue, LLC; Parcel 86/186 Maximums Properties, LLC; Parcel 90 Kaiser Foundation Health Plan; and Parcel 81, CESC Commerce Executive Park, LLC).*

d. Utility Coordination

Utility relocation work continued through *December 2012* and is considered to be 99% complete. Installation of facilities for each third party utility has been completed in Tysons Corner and all utility companies have completed the local tie-in conduits and cables required to modify their circuits in compliance with the overall Project utility design. All UR work along Route 7 is complete. Traction Power duct bank and DVP power installations *were completed in December 2012*. *Washington Gas continues its replacement of old steel transmission piping with new plastic transmission piping near TPSS No. 10.*

e. Vehicle Procurement

WMATA is procuring the 64 rail cars required for the project. WMATA is also procuring 300 replacement rail cars under the same contract. The WMATA and MWAA Boards agreed to share the development costs associated with the railcar procurement equally.

WMATA awarded a contract to Kawasaki on July 27, 2010. The manufacturer's proposed schedule showed the 64th car would be delivered by September 12, 2014 based on a July 12, 2010 Notice-to-Proceed (NTP), but WMATA did not issue the NTP until August 16, 2010, resulting in the conditional acceptance of the 64th rail car on January 15, 2015, six weeks beyond the FFGA completion date of December 1, 2014. *The delivery of the first four production cars is forecasted to*

be February 20, 2014, and the conditional acceptance of the first four production cars is forecasted to be August 14, 2014.

On December 3, 2010, WMATA confirmed in a letter to MWAA that “sufficient resources including railcars will be available to support dynamic testing and initial revenue service in accordance with the Project’s current schedule.” WMATA confirmed that cars from the existing fleet would be made available for dynamic testing on the Dulles Extension. Since there would be a gap in the delivery of the 7000 Series rail car delivery and the revenue service date, WMATA outlined its strategies for being able to support initial revenue service using the existing WMATA fleet.

On March 16, 2011, Kawasaki formally notified WMATA of potential delays that they believe would be considered excusable under the terms of the contract due to the earthquake/tsunami in Japan on March 11, 2011. On December 21, 2011, WMATA approved Kawasaki’s Mitigation Schedule with a June 12, 2015 delivery date for the 64th railcar, which is more than six months beyond the FFGA completion date for the DCMP. MWAA formally informed the FTA Regional Administrator in a letter dated January 31, 2012. In this letter, MWAA writes “WMATA has stated that they would be able to provide sufficient rail cars from their existing fleet to begin service on the extension until the new Kawasaki rail cars are available. Therefore, we expect no impact to the FFGA, other than the late delivery of the rail cars.” The PMOC continues to monitor WMATA’s daily railcar availability statistics to see if WMATA is improving railcar availability. WMATA developed an interim operating plan for dealing with the delay. However, the plan calls for using six-car trains in lieu of a mix of six- and eight-car trains. This issue remains a concern of the FTA and PMOC. WMATA submitted this interim operating plan as part of the Rail Fleet Management Plan (RFMP). WMATA submitted RFMP Rev. 4F dated April 18, 2012 to the FTA on May 4, 2012. FTA and WMATA met to address this issue and WMATA prepared revisions to their RFMP and submitted RFMP Rev-4G to the FTA on August 3, 2012. FTA approved RFMP Rev-4G on October 11, 2012 with the proviso that that WMATA keep the FTA informed of the operating plan for the startup of the Dulles service.

The Conceptual Design Review phase for the 7000 (7K) Series railcars was completed on January 31, 2011 and the program moved into the Preliminary Design Review (PDR) phase. All PDRs were completed on March 16, 2012, more than eleven months past the original baseline schedule date of March 30, 2011. At the 7K Monthly Progress Review meeting held on *January 10, 2013*, Kawasaki reported that it *still* anticipates that the Final Design Review (FDR) phase will be completed on *February 28, 2013* compared to the mitigation schedule completion date of March 22, 2012; this represents a 343 calendar day delay. In order to mitigate the delay in the FDR process, Kawasaki has been performing work on the prototype railcars in Japan at risk pending completion of the FDRs.

As noted in the schedule table below, the actual completion date of the A-Car mock-up was April 24, 2012, forty-six calendar days beyond the mitigation schedule completion date. Master Test Plan, Revision B was submitted for review on May 29, 2012 and the Test Master Plan was approved on July 19, 2012. As noted above, the completion of Final Design Reviews is now anticipated to be on February 28, 2013 which is 343 calendar days beyond the mitigation schedule. The Carbody/Truck First Article Inspection Approval *was* completed on December 25, 2012, which was 117 calendar days behind schedule. The final assembly of the prototype *cars* is now anticipated on *January 18, 2013* which is *ten* calendar days behind the mitigation schedule.

The key milestones for this railcar procurement are:

Activity	Original Baseline Schedule Date	Mitigation Schedule Date	Actual Date
Notice to Proceed	July 12, 2010	---	August 16, 2010
Preliminary Design Review Submission	March 31, 2011	March 31, 2011	March 31, 2011
Preliminary Design Review Complete	May 1, 2011	January 18, 2012	March 16, 2012
Approval of Master Test Plan	August 23, 2011	February 7, 2012	July 19, 2012
Approval of A-Car Hard Mock-up	October 24, 2011	March 8, 2012	April 24, 2012
Final Design Review Submission	October 31, 2011	February 1, 2012	February 1, 2012
First Manual Submission (Draft)			June 13, 2012
Completion of HVAC Unit DVR			August 10, 2012
Completion of Propulsion DVR			September 21, 2012
Completion of ATC DVR			October 10, 2012
Completion of Communications DVR			October 19, 2012
Completion of Network DVR			October 19, 2012
Final Design Review Complete	December 1, 2012	March 22, 2012	
Carbody/Truck First Article Inspection Approval	March 30, 2012	August 1, 2012	<i>December 25, 2012</i>
Final Assembly Prototype Car		November 20, 2012	
Completion of Prototype Cars #1,2,3 & 4		January 8, 2013	
Begin Car Level Qualification Testing in Japan		January 21, 2013	
Begin Production of Pilot Cars #1,2,3 & 4 at KMM		February 13, 2013	<i>December 17, 2012</i>
Begin Pilot Car Testing at KMM		March 28, 2013	
Completion of KMM Test Track		May 1, 2013	
Approval Climate Room Testing		May 9, 2013	
Completion & Approval of Pilot Car Production Activities		May 9, 2013	
Completion & Approval of FAI Activities		July 31, 2013	
Completion of Prototype Car Review (Prior to Shipment from Japan)		July 31, 2013	

Activity	Original Baseline Schedule Date	Mitigation Schedule Date	Actual Date
Ship Prototype Car shells from Japan to USA		August 2013	
Completion of Pilot Car Testing at KMM		August 12, 2013	
FAI Pilot Car Review		October 4, 2013	
Completion of On-site Test		January 6, 2014	
Delivery of 4 Pilot Cars to WMATA	September 16, 2013	February 20, 2014	
Delivery of first 4 Production Cars to WMATA		February 20, 2014	
Conditional Acceptance of 4 Pilot Cars	March 16, 2014	August 15, 2014	
Conditional Acceptance of first 4 Production Cars	March 16, 2014	August 15, 2014	
Final Manual Submission (Draft)		April 17, 2014	
Conditional Acceptance of 64th Car	January 15, 2015	June 12, 2015	

Note: **Bold Activities/Dates** are contractual and contain a penalty for non-performance.

WMATA is developing an interim operations plan for dealing with the delay in delivery of the additional railcars. However, the plan calls for no eight-car trains and all six-car trains. This issue remains a concern of the FTA and PMOC. The PMOC continues to monitor both the progress of the procurement and WMATA's management. At the May 9 WMATA Quarterly meeting, WMATA pledged to meet with FTA to review alternative operating plans. FTA met with WMATA on July 3, 2012 to discuss the Interim Operating Plan. WMATA reviewed the current plan and resubmitted it as part of RFMP Rev-4G on August 3, 2012 for FTA's review. FTA accepted the RFMP on October 11, 2012, with the caveat that WMATA Board still needs to adopt an operating plan for the Silver Line and submit it to FTA for review. The first presentation of the plan to the Board was on December 6, 2012 at which WMATA staff presented a change in turn-back location from the Stadium-Armory Station to Largo Town Center Station. FTA awaits details of the reason for the change *and the impact on car requirements*.

f. Safety and Quality Status

MWAA participated in *three* safety walk downs with DTP during the month of *December*. All were related to Design-Build work. As of *December 31, 2012*, DTP had logged *11.990* million project man-hours with *465* first aid cases and six lost time cases. There have been a total of *965* incident investigation reports, *90* utility hits and *37* vehicular accidents.

DTP submitted SCIL Revision 6 to include the WFCY on August 6, 2012. Comments were received from WMATA on September 21, 2012. MWAA completed its review and issued Letter No. 07547 dated October 24, 2012 identifying *three issues* needing to be addressed. *DTP responded by letter on November 30th* and MWAA and DTP met on *December 18th* to discuss the issues further. *Another meeting will be scheduled in January 2013 to continue the comment resolution process.*

DTP and MWAA continue to meet every two weeks to review the status of issued for construction designs (including subcontractor designs) and to determine the status of sign-offs of the Design Conformance Checklist (DCC) and Construction/Procurement/Installation Conformance Checklist (CCC) items related to all issued for construction designs. The FTA and PMOC continue to express concern with the lack of progress on both the DCC and CCC submissions. That concern has now been heightened by DTP's *laying-off of four* key SCIL management staff at the end of December 2012. *MWAA reported in the monthly update meeting that it has accepted DTP's proposed Safety Certification Manager provided he is assigned full time with no other duties and attends training by the FTA for Rail Transit System Safety and Security. MWAA Letter No. 07788 dated January 3, 2013 stipulated these and additional requirements for DTP's management of its System Safety Certification Program.*

DTP's Submittal No. 9, consisting of 716 items, was submitted to MWAA on October 5, 2012. *MWAA reported in this monthly meeting that it had completed its review and a formal acceptance would be provided to DTP. Submittal No. 9 brings the design sign-offs to 93%. The 100% DCC completion, with the exclusion of the WFCY, is anticipated by the end of the 1st Quarter of 2013.*

DTP submitted CCC No. 4 (Revision 5) on July 25, 2012 in conjunction with a December 2012 preliminary walk-down of K-98 that was to serve as a prototype for future CCCs. Workshops (WMATA/MWAA/DTP) continued to be held to review and discuss construction records needed to support CCC certification. This CCC remained a work in progress for ten months without the desired result.

As a result, DTP proposed changes to the Project Quality Procedures to simplify the sign-off process and to combine the CCC approvals with the newly developed walk-down schedule developed in the joint turnover workshops. DTP has outlined their proposed procedure (PPQ 01.06.04) in DTP Letter No. 01646 dated October 16, 2012 as follows:

“The master SCIL (with integral CCC) will be updated by DTP prior to a Team segment walk-down with the appropriate visual/measurement/testing (VMT) methodology. During the walk-down, MWAA and WMATA will have the opportunity to confirm the signoff and, if necessary, comment on the VMT approval. DTP will then update the Master SCIL with the documentation numbers for each validated SCIL item. During the biweekly DTP/MWAA SCIL Progress Meeting, any issues, comments, or discrepancies can be discussed and resolved, prior to DTP updating the SCIL to incorporate MWAA approval. The Master SCIL will be transmitted periodically, or as necessary, to MWAA with a progress summary issued at the monthly SCWG meeting. (A new attachment, 6.2, will describe the VMT methodology.)”

The PMOC has noted some measure of pushback by WMATA on this approach since the Green book relies heavily on visual inspections without detailed support data. It appears to the PMOC that a compromise may be in order. All partners are currently trying to work out the support data issue. Plans to make the necessary support data available to all partners via an electronic mailbox are currently being worked out. MWAA officially responded to the above noted proposal via Letter No. 07631 dated November 27, 2012. The letter requested refinements to the procedure change that will be followed by a review meeting between MWAA, WMATA and DTP before the procedure is

formally resubmitted for approval. *DTP plans to submit CCC No. 5 in mid-January that will include sign-offs for the joint walk-down inspections held in November and December. That submittal review will initiate further discussion on the value of the proposed process change that will likely lead to more refinements and an eventual approval.*

Regular weekly visits to work sites by safety representatives from DTP, MWAA and WMATA continue. The Tri-State Oversight (TOC) and the FTA’s on-site PMOC representative continue to meet monthly with the Safety/Security Certification Working Group (SCWG) and continue ongoing involvement in the certification process. The SCWG held its regular monthly meeting on *November 20, 2012. No SCWG Meeting was held in December 2012.* The next SCWG Meeting is scheduled for *January 15, 2013.*

MWAA submitted its Safety and Security Management Plan, Revision 8, to the FTA on February 17, 2011. MWAA and WMATA agreed to jointly develop a revised SSMP that would cover the roles and responsibilities of both MWAA and WMATA. MWAA submitted Draft SSMP Rev. 9 to the FTA, PMOC, WMATA and TOC on September 30, 2011. WMATA completed its revision of its SSCPP in March 2012. The SSCPP was subsequently incorporated as Appendix E into SSMP Revision 9 and MWAA and WMATA approved the revised SSMP on March 20 and 22, 2012 respectively. The PMOC reviewed the completed revision and provided comments to the FTA on April 5, 2012. The FTA accepted the SSMP on April 13, 2012.

During *December 2012*, MWAA and DTP performed the following QA audit/surveillances:

- *Whiting-Turner (Stonework, Tile, Pavers): DTP conducted an audit on December 13, 2012. There were three observations requiring a response and one recommendation.*

MWAA QA Audit and Surveillance Schedule for January through April 2013

<i>Tentative Date</i>	<i>Audit (A) Surv. (S)</i>	<i>Organization/Activity</i>	<i>Joint Audit/Surv.</i>	<i>Lead</i>
<i>1/23-24/13</i>	<i>A</i>	<i>DTP System Safety/Security Program</i>	<i>N</i>	<i>MWAA</i>
<i>2/6-7/13</i>	<i>A</i>	<i>Crystal Metalworks</i>	<i>Y</i>	<i>DTP</i>
<i>2/13/13</i>	<i>S</i>	<i>The Punch List Process</i>	<i>N</i>	<i>MWAA</i>
<i>3/6-7/13</i>	<i>A</i>	<i>Whiting-Turner (WFCY)</i>	<i>Y</i>	<i>DTP</i>
<i>3/27-28/13</i>	<i>A</i>	<i>DTP Startup and Testing</i>	<i>N</i>	<i>MWAA</i>
<i>4/10-11/13</i>	<i>A</i>	<i>Facchina Construction Co. (Pedestrian Bridges/Pavilions)</i>	<i>Y</i>	<i>MWAA</i>
<i>4/24-25/13</i>	<i>A</i>	<i>Facchina Construction Co. (Late C6)</i>	<i>Y</i>	<i>MWAA</i>

Use of Existing Foundations

As a result of the USDOT Office of Inspector General’s audit report of the Dulles Project dated July 26, 2012, testing of the foundations installed in the 1970’s by VDOT for the future extension of the Silver Line, MWAA will conduct tests to determine the effects, if any, of stray current on the service life of the steel piles that made up those foundations. To assure that the existing steel piles to be re-used for the Dulles Extension provide a minimum of a fifty year service life, MWAA is undertaking stray current tests to calculate the piles’ corrosion rate and estimate their remaining service life. The following table contains a summary of the actions to be taken to estimate the remaining service life of the re-used steel piles. Russell Corrosion Consultants, Inc. was employed by MWAA to develop a Corrosion Test Plan and to oversee implementation of that plan. Russell developed a Draft Corrosion Testing Plan, and numerous comment resolution meetings were conducted during August with all partners. A Final Plan was submitted to MWAA on September 14, 2012 for review and acceptance. MWAA accepted the plan and submitted it to the FTA for review and approval via MWAA Letter No. 07403 dated September 24, 2012. WMATA reviewed and accepted the plan on October 5, 2012 via an email. FTA has requested that WMATA formally approve the plan via letter. *This has not yet occurred.* The FTA reviewed the plan and provided an acceptance letter dated November 1, 2012. A Site Specific Work Plan was submitted to WMATA for review and approval on October 10, 2012 and was subsequently approved on November 9, 2012. A planning meeting with all partners was conducted on November 20, 2012. It was a productive meeting that was well attended by all partners. Coordination of the night access and necessary escorts was discussed. *UTRS, under the oversight of Russell Corrosion Consultants and CTI Special Inspection and MWAA/QA, began work on December 11, 2012. As of January 8, 2013, the contractor has completed the Vertical Test Facility (VTF) installation at both piers 3-IB and 5-IB. The test plan now calls for the VTFs to be left to settle for 30 days, after which the specified testing will commence.*

OIG Report Follow-up Action Items

	Action Item	Due Date	Comments
1	Provide a copy to the OIG of the final stray current test plan MWAA will implement, including a plan for accounting for untested locations and for collecting baseline track-to-earth resistance measurements	As soon as the plan become available	
2	Provide documentation to OIG on actions taken on the stray current testing	10 days after action is completed	
3	Provide documentation to OIG on actions taken on corrosion protection measures installation plan	10 days after action is completed	
4	Provide documentation to OIG on actions taken pertaining to the rail car delivery schedule	10 days after action is completed	

3. Project Management Plan and Sub-plans

The FTA accepted MWAA's **Project Management Plan (PMP)** Version 7.0 Final on February 14, 2011. FTA requested MWAA update its PMP to include the start-up and testing phase. MWAA submitted its Version 8.0 Draft to the FTA on May 1, 2012. The PMOC provided its draft review and comments to the FTA on June 11, 2012. On July 9, 2012 the FTA sent comments to MWAA and requested a PMP Version 8.0 Final or a PMP Version 9.0 be submitted by November 1, 2012. *PMP* Version 8 Final was submitted to the FTA on November 8, 2012 and is under review.

- MWAA submitted a revised **Quality Program Plan (QPP)**, Revision 7 to FTA on January 7, 2010. MWAA reported that three Project Management Procedures were updated in the period from April through June 2011. No new QPP procedure updates were made during the period from July through January 2012.
- MWAA's **Real Estate Acquisition Management Plan (RAMP)**, Revision 2, dated September 15, 2009, has been reviewed by the PMOC with a recommendation that the FTA concur, with comments, with the revised RAMP. On January 21, 2010, the FTA provided comments to MWAA, and MWAA staff has revised Procedure PM-3.01 (Monitoring the Design-Build Contractor Property Acquisition Services). DTP revised their Procedure PIQ-5.1 (Property Acquisition Coordination) on November 1, 2010.

The FTA requested MWAA to update its **Risk and Contingency Management Plan (RCMP)**, formerly called a Risk Management Plan (RMP), along with their Project Management Procedures to address Directive Letters and Contingency Drawdown Procedures. MWAA submitted the revised RCMP Rev. 3 on March 28, 2012, and the PMOC recommended FTA acceptance. The FTA accepted RCMP Rev. 3 as well as revised Project Management Procedure PM 5.07, Rev. 4, on April 13, 2012. MWAA updated the Risk Register Assessment on June 30, 2012 and submitted it to the FTA and PMOC on August 27th. A discussion was held during the PMOC's September 6 monthly meeting. The PMOC provided review comments and a modified Top Ten Risk List that *was* reviewed by MWAA. MWAA provided a submittal dated October 3, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. The FTA approved the revised Top Ten Risks by letter dated November 29, 2012. *It was agreed that the top ten risks would be reviewed and revised as needed on a quarterly basis.*

Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA **Rail Fleet Management Plan (RFMP)** is the applicable document. The FTA accepted a WMATA RFMP on September 25, 2007. However, WMATA updated the RFMP to reflect the 7000 Series Rail Car procurement and submitted a draft copy dated February 26, 2010 to the FTA for review and comment. The PMOC issued its Spot Report on its review of the draft RFMP on March 11, 2010, finding the plan to be deficient in many areas. The FTA, PMOC and WMATA continued the review and comment reconciliation process of various draft revisions. FTA and the PMOC provided some additional comments and WMATA's RFMP Rev. 4E dated March 14, 2012 was submitted to the FTA on April 10, 2012. FTA's comments on that revision were submitted to WMATA on April 12 with the request that the comments are incorporated and the final document then be formally submitted to the FTA Regional Administrator. WMATA submitted RFMP Rev. 4F dated April 18, 2012 to the FTA on May 4, 2012. FTA and WMATA met on July 3, 2012 to address the issue of the Dulles Interim Operations Plan. WMATA has revised their RFMP and RFMP Rev 4_G was submitted to the FTA on August 3, 2012.

FTA letter dated October 11, 2012 approved the RFMP with the proviso that WMATA keep the FTA informed of the operating plan for the startup of the Dulles service.

Safety and Security Management Plan (SSMP) see Section 2f.

4. Project Schedule

Mainline - The project “Mitigation Schedule” update with a data date of *November 25, 2012* reflects a *-5 calendar day variance* compared to a *+1 day float* reflected in the *October 25, 2012*. DTP’s schedule shows the Revenue Service Date to be January 7, 2014. MWAA completed its schedule review of the schedule update with a data date of *November 25, 2012* on *January 7, 2013* and “*recognized*” the schedule update, to include the critical path. The WFCY Schedule *reflects a -10 calendar day loss to the* targeted completion date of December 20, 2012. It should be noted that WFCY activities and completion dates are only overlaid on the master mainline schedule and not connected to the mainline critical path or SSCD and does not include systems integration into the mainline system. The PMOC remains confident that the project can be completed before the FFGA RSD of December 1, 2014.

This mitigation schedule supersedes the previously approved recovery schedule with a data date of December 25, 2010 that was finally settled in mid-September 2011 but does not relieve DTP from their obligations to the earlier recovery schedule. MWAA reported during the July 10, 2012 Monthly Update Meeting that RFC160 and RFC161 related to the mitigation schedule has been settled along with the language on June 15, 2012. *The official final approval was finally provided on December 6, 2012.*

MWAA and DTP continue the ongoing deliberation process of determining weather related excusable delay days as reflected in the table below. As a result, the SSCD has been adjusted to August 29, 2013. *However, DTP’S assessment has reported an additional 15 calendar days of weather delay that if approved would move the SSCD to September 13, 2013.*

MWAA’s Report of Excusable Work Days of Delay through November 25, 2012

ACTION	WORK DAYS
Total Excusable Days of Delay on Project Critical Path requested by DTP	73
Contractually Identified	26
Retracted by DTP	16
Denied by MWAA/Disputed by DTP	7
Under evaluation by MWAA	3
Granted by MWAA	21

The schedule-related issues regarding the delivery of rail cars are discussed in section 2.f. Vehicle Procurement above.

West Falls Church Yard - The WFCY Civil/Site work final design was completed and issued for permit in October 2010. The S&I Building Issued for Permit (IFP) drawings were submitted to DGS on

May 3, 2011 and they issued a permit on September 15, 2011. The Sound Cover Box IFP drawings were submitted to DGS on May 18, 2011 and DGS issued a permit on September 7, 2011.

MWAA and DTP agreed to a target completion date of December 20, 2013. DTP's schedule update of *November 25, 2012 reflected a -10 calendar day variance to the targeted date (to December 30, 2013)*. MWAA and WMATA are *currently* considering parts of the WFCY expansion that may not be needed to support the RSD should the Project be unable to achieve the target date. *WMATA has noted that the storage tracks are most critical to WMATA's needs to support start-up and operation.*

Other problem areas with potential delays identified by MWAA include the following:

- *Kone's work related to elevators and escalators in stations and pavilions falling behind schedule.*
- *DGS availability for walk-downs and inspections.*
- *Obtaining required weekend outages from WMATA for K-Line systems testing.*
- *WMATA systems upgrade programs could have other technical scope changes impacting Traction Power, Automatic Train Control, and Communications.*
- *Fabrication and erection of pedestrian bridges to support timely completion of the Stations, local and integrated testing.*
- *Fabrication and installation of trackside elements like platform granite edging, signals and signage leading to readiness for dynamic train testing.*
- *Approval of DTP's proposed Integrated Testing & Commissioning Plan.*

a. Critical Path Evaluation

Since November 1, 2011, the Project is managed utilizing the work plan set forth in MWAA's November 1, 2011 Directive Letter to implement a Mitigation Schedule with a data date of October 25, 2011.

In DTP's *November 2012 Schedule Update*, the Critical Path No.1 has a *negative five* days of float and starts with *completing the track at access location station 810+00, then moves onto testing the network switch, ETS remote monitoring testing for all TPSSs, Dynamic Testing for Chathams Ford Road to Wiehle Avenue, and finishes with the Level F Dynamic Testing and other system-wide testing.* MWAA concurred with DTP on this path, *but does not agree with the delay to the project completion date beyond August 30, 2013.*

DTP's Critical Path No. 2 has zero days of float, and starts with the installation of the rails and cab for elevator #1 at the Tysons 123 station, moves on to SCADA testing, and ends with DGS final inspection for Tysons West, Tysons Central 7, and Tysons 123 stations. MWAA's assessment concurred with DTP on this path also.

DTP's Critical Path No. 3, has two days of float and starts with the installation of Escalator #3 at Tysons Central 7 Station North Pavilion; the path then moves to the curtain wall installation at the North Pavilion and other exterior finishes; the path ends with the MWAA/WMATA/DTP walkdown and punchlist. The Project team assessment also concurred with DTP on this path.

The PMOC agrees with MWAA’s assessment regarding the critical path. MWAA continues to carefully analyze the schedule and continues to hold DTP accountable for changes made to the agreed schedule.

The following table compares the milestone dates relative to the approved baseline schedule. The PMOC concurs with MWAA’s assessment of the updated schedule.

MILESTONE	June 2008 Baseline Schedule	December 2010 RECOVERY SCHEDULE	October 2012	November 2012
Receipt of FFGA	03/03/09	03/10/09 ^A	03/10/09 ^A	03/10/09 ^A
Station Design Complete	10/21/09	02/18/11	10/28/11 ^A	10/28/11 ^A
Utility Relocation Complete	03/05/10	09/13/11	01/31/12 ^A	01/31/12 ^A
Aerial and Station Foundations Complete	3/4/11	09/01/11	07/23/11 ^A	07/23/11 ^A
NATM Tunnels Mined	01/29/11	12/03/10 ^A	12/03/10 ^A	12/03/10 ^A
K-Line Track Tie-In	12/23/11	03/28/12	10/14/11 ^A	10/14/11 ^A
Guideway Complete	2/12/12	09/13/12	11/26/12 ^A	11/26/12 ^A
Train Control Installation Complete	10/26/12	10/29/12	01/28/13	02/28/13
Systems Testing Complete - Tysons East Station	07/24/12	02/21/13	04/11/13	05/03/13
Systems Testing Complete - Wiehle Ave Station	08/13/12	01/16/13	04/16/13	06/06/13
Systems Testing Complete - Central 7 Station	01/23/13	04/12/13	05/13/13	07/08/13
Systems Testing Complete - Tysons West Station	02/21/13	05/14/13	06/20/13	07/12/13
Systems Testing Complete - Tysons 123 Station	12/20/12	03/28/13	06/04/13	07/17/13
Substantial Completion	07/31/13	07/31/13	08/29/13	09/03/13
Completion - WFCY	NA	N/A *	12/20/13	12/30/13
Revenue Operations – Target	11/27/13	01/02/14	01/02/14	01/07/14
FFGA Revenue Operations	12/01/14	12/01/14	12/01/14	12/01/14

^A Actual Date. See narrative in section D.1.3. *Agreed Target Date is 12/20/13.

b. Important Activities – 90-Day Look Ahead

The important milestones scheduled for the next 90 days include:

- Completion of Tysons West Kiss and Ride Lot designs/permitting.
- Property acquisitions for the Tysons West Aerial Guideway (OP-8).
- Property acquisition for the DIAAH Trackway and the Wiehle Avenue Station and Tail track (OP-9 and 10).
- Complete train control equipment installation.
- K98 ATC circuits cutover.
- Complete energization of the remaining *two* Traction Power Substations/Tie Breaker Stations.

5. Project Cost

The SCC Budget and Expenditures summary for the period ending *November 25, 2012* is shown below. Overall, approximately 80% of the budget (excluding contingency and finance charges) has been expended.

PROJECT SUMMARY BY SCC CODE – NOVEMBER 2012 FEDERAL ONLY

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET ¹	EXPENDED TO DATE	ESTIMATE AT COMPLETION	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 639,851,120	\$ 608,097,751	\$ 630,162,611	\$ 40,020,254
20	Stations	\$ 308,807,208	\$ 241,862,170	\$ 350,900,460	\$ 26,192,703
30	West Falls Church Yard	\$ 71,180,798	\$ 20,224,044	\$ 70,965,618	\$ 7,771,036
40	Site Work & Utility Relocation	\$ 230,276,104	\$ 202,754,676	\$ 261,027,878	\$ 7,944,677
50	Systems	\$ 322,695,913	\$ 260,248,201	\$ 319,106,858	\$ 22,852,550
60	Right of Way Acquisition	\$ 67,631,026	\$ 56,202,376	\$ 62,310,611	\$ 809,164
70	Vehicles	\$ 195,352,701	\$ 57,343,261	\$ 194,648,939	\$ 16,491,446
80	Professional Service – FD	\$ 731,076,187	\$ 709,438,414	\$ 797,328,101	\$ 66,290,033
90	Contingency Mgmt. Reserve ²	\$ 65,616,006	\$ -	\$ 17,835,988	\$ 167,690,747
100	Finance Charge ³	\$ 509,984,571	\$ 103,131,435	\$ 438,184,571	\$ -
Total		\$ 3,142,471,635	\$ 2,259,302,329	\$ 3,142,471,635	\$ 356,062,611

1. Current budget equals FFGA amount plus change orders CO-001-081, 083-115, 117, 119-128, Directive Letters 001-044, UR-CO-001-039

2. Estimate at Completion for Contingency reflects the amount approved for utilization per PM-5.07 Rev. 4.

3. The Estimate at Completion for Finance Charge has been adjusted for an underrun of \$71.8M. This underrun is expected to be authorized by the end of 2012.

General Comments:

1. Per FTA's direction during the quarterly progress review meeting held on 5/9/2012, the overruns on the Allowance subcontracts awarded and yet to be transferred to Firm Fixed Price are obligated.

2. During October 2012 the Non-Federal Project Budget was increased by \$78.2 million to fund the forecasted overruns.

a. Explanation of Variances

The major variances in the *FFGA* project budget are associated in seven categories as noted below and remain unchanged from last month:

1. SCC10 – Guideway and Track Elements has been reduced approximately \$36.33 million due to the decision by the DB contractor to self-perform the NATM tunnel work. In so doing, \$29.2 million was transferred out of the direct account to other accounts including predominantly SCC80 for the professional services portion of the subcontract budget. This was offset by scope additions and other budget transfers, the most notable being the adjustment for the revised federal/non-federal split, the addition of the directive letter for crossing the Beltway during construction of the HOT Lanes Project by VDOT and the addition of sales tax to permanent materials.
2. SCC20 – Stations has been increased by approximately \$33.87 million. The decision by the Airports Authority to remove the Wiehle Avenue Parking Garage – Allowance Item C-2, due to the Fairfax County Joint Development project, allowed the transfer of \$29.1 million out of the direct account into the unallocated contingency account. This was offset by a combination of add and subtract change orders, the most notable addition being the transfer from the tunnel subcontract. In addition, the allowance item for stations finishes and MEP increased over budget.

3. SCC30 – WFC Yard has increased by approximately \$19.17 million due to delay in progressing the design and additional requirements requested by WMATA.
4. SCC40 – Site work and Utility Relocation has been increased by approximately \$28.06 million as a result of a combination of change events (change orders, directive letters and scope transfers) and cost overruns. The forecast adjustments are predominantly due to cost overruns in utility relocations.
5. SCC50 -- Systems has increased by \$40.09 million due to additional WMATA requirements for Traction Power Remote Monitoring, Emergency Trip Station/Amber Light Warning System and requirements for Communications.
6. SCC60 – Right of Way Acquisition experienced nearly \$16.36 million increases primarily due to adjustment of project cost for the revised federal/non-federal split along Route 7.
7. SCC70 – Vehicles has been reduced by \$16.98 million due to actual bid prices.
8. SCC80 – Professional Services increased approximately \$98.85 million. The change events are numerous with the most significant being the transfer from the tunnel subcontract and the addition of design for the HOT Lanes and WFCY. The forecast adjustment is predominantly attributed to higher project management costs for MWAA, PMSS and VDOT. In addition, WMATA budget transfers are treated as forecast adjustments.
9. SCC90 – Contingency Management Reserve estimate at completion of \$17.87 million is available for future use with the transfer of the Finance Costs under run of \$71.8M to be authorized by year's end. The PMOC is of the opinion that the contingency reserve still needs to be increased considering that MWAA expects additional overruns of \$14.92M for Allowance Items which will be transferred to the firm fixed price contract during the fourth quarter of 2012. MWAA is planning to use a portion of the \$19M of the indexed commodities savings to cover this shortfall.

b. Monthly Cost Report, November 2012 Federal Only

DESCRIPTION	FFGA AMOUNT (Original)	EXPENDITURE TO DATE ¹	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION	PERCENT OF EAC EXPENDED TO DATE
FEDERAL (FFGA SCOPE)					
Design-Build					
Firm Fixed Price	\$ 1,112,052,173	\$ 1,543,409,921	\$ 185,247,812	\$ 1,728,657,733	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 73,069,889	\$ 2,166,378	\$ 75,236,268	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,616,479,810	\$ 187,414,191	\$ 1,803,894,001	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 77,016,252	\$ 77,016,252	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,616,479,810	\$ 264,430,442	\$ 1,880,910,252	
Indexed Commodity Escalation	\$ 77,469,926	\$ -	\$ 22,727,025	\$ 22,727,025	
Design-Build Contract Total	\$ 1,684,831,325	\$ 1,616,479,810	\$ 287,157,468	\$ 1,903,637,278	85%
Utility Relocation					
Utility Work	\$ 84,312,807	\$ 95,591,336	\$ 6,883,141	\$ 102,474,477	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,382,509	\$ 358,707	\$ 25,741,216	
Utility Relocation Total	\$ 92,736,233	\$ 120,973,845	\$ 7,241,847	\$ 128,215,693	94%
Right of Way					
Right of Way Total	\$ 42,443,132	\$ 56,521,725	\$ 6,413,886	\$ 62,935,611	90%
WMATA Agreement					
Vehicles	\$ 195,138,329	\$ 57,343,261	\$ 137,305,677	\$ 194,648,939	
Construction and Procurement	\$ 31,484,799	\$ 9,777,481	\$ 18,320,636	\$ 28,098,117	
WMATA Force Account Startup	\$ 13,777,100	\$ 6,643,797	\$ 6,761,224	\$ 13,405,021	
Project Management and Final Design	\$ 31,235,400	\$ 25,292,374	\$ 10,191,178	\$ 35,483,552	
WMATA Agreement Total	\$ 271,635,628	\$ 99,056,913	\$ 172,578,715	\$ 271,635,628	36%
Preliminary Engineering^{2,3}					
Preliminary Engineering Total	\$ 100,968,646	\$ 100,730,999	\$ -	\$ 100,730,999	100%
Airports Authority Services					
General Conditions ⁴	\$ 28,879,153	\$ 10,823,619	\$ 19,227,159	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 32,326,918	\$ 13,794,528	\$ 46,121,446	
Project Management Support	\$ 90,004,649	\$ 119,257,063	\$ 23,866,579	\$ 143,123,642	
Airports Authority Services Total	\$ 142,109,519	\$ 162,407,601	\$ 56,888,265	\$ 219,295,866	74%
Contingency⁵					
Contingency Total	\$ 297,762,579	\$ -	\$ 17,835,988	\$ 17,835,988	
Finance Costs⁶					
Finance Costs Total	\$ 509,984,571	\$ 103,131,435	\$ 335,053,136	\$ 438,184,571	
Total Federal (FFGA Scope)	\$ 3,142,471,635	\$ 2,259,302,329	\$ 883,169,306	\$ 3,142,471,635	80%

1. Reflects Paid costs through November 30, 2012.

2. Preliminary Engineering Period (PE) - Prior to August 1, 2007.

3. Preliminary Engineering actuals have been agreed to be \$100,730,999. This is \$237,646 under the original budget of \$100,968,646. The under run is transferred to unallocated.

4. The line item marked General Conditions includes Temporary Facilities Development, Hazardous Material Remediation, and Miscellaneous Access Roads.

5. Estimate at Completion for Contingency reflects the amount approved for utilization per PM-5.07 Rev. 4.

6. The Estimate at Completion for Finance Charge has been adjusted for an underrun of \$71.8M. This underrun is expected to be authorized by the end of 2012.

General Comments:

1. Per FTA's direction during the quarterly progress review meeting held on 5/9/2012, the overruns on the Allowance subcontracts awarded and yet to

2. During October 2012 the Non-Federal Project Budget was increased by \$78.2 million to fund the forecasted overruns.

c. Project Funding Sources: November 2012

SOURCES OF CAPITAL FUNDING	GRANT ID	PERCENT AT COMPLETE	TOTAL	EXPENDED TO DATE ¹	PERCENT FUND SOURCE EXPENDED TO DATE	REMAINING
Sec 5309 New Starts Federal Funds						
Preliminary Engineering Grants			\$ 54,412,526	\$ 54,412,526	100%	\$ -
Final Design Grant	VA-03-0113-00		\$ 159,001,838	\$ 159,001,838	100%	\$ -
ARRA Construction Grant	VA-36-0001-00		\$ 77,260,000	\$ 77,260,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-02		\$ 28,809,000	\$ 28,809,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-03		\$ 85,000,000	\$ 85,000,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-04		\$ 115,799,000	\$ 115,799,000	100%	\$ -
FFGA Construction Grant ⁵	VA-03-0113-05		\$ 90,832,000	\$ 90,832,000	100%	\$ -
FFGA Balance	Planned		\$ 288,885,636	\$ -	0%	\$ 288,885,636
Subtotal - New Starts		28.64%	\$ 900,000,000	\$ 611,114,364	67.90%	\$ 288,885,636
Other Federal Funds						
Sec 5307 Surface Transportation Program						
Construction Grant	VA-95-X056-01		\$ 47,218,109	\$ 47,218,109	100%	\$ -
Construction Grant	VA-95-X056-02		\$ 21,281,890	\$ 21,281,890	100%	\$ -
Construction Grant	VA-95-X056-03		\$ 6,500,001	\$ 6,500,001	100%	\$ -
STP/Sec. 5307		2.39%	\$ 75,000,000	\$ 75,000,000	100%	\$ -
Local Funds						
VTA 2000			\$ 51,700,000	\$ 51,700,000	100%	\$ -
Commonwealth Transportation Bonds ^{2,5}			\$ 125,000,000	\$ 125,000,000	100%	\$ -
Fairfax County Funds ³			\$ 523,750,000	\$ 319,846,062	61%	\$ 203,903,938
Dulles Toll Road Revenues ^{2,4,5}			\$ 1,467,021,634	\$ 1,076,641,903	73%	\$ 390,379,731
Subtotal - Local Funds		68.97%	\$ 2,167,471,634	\$ 1,573,187,965	72.58%	\$ 594,283,669
Total Project Budget		100%	\$ 3,142,471,634	\$ 2,259,302,329	71.90%	\$ 883,169,305
Interrelated Highway Activities						
DTR Revenues/Commonwealth Funds³			\$ 201,408,229	\$ 99,112,946	49.21%	\$ 102,295,283
Total			\$ 3,343,879,863	\$ 2,358,415,275	70.53%	\$ 985,464,588

¹ Reflects costs through November 30, 2012

² In January 2010, \$23.6M previously identified as pay-go Dulles Toll Road (DTR) Revenues were reclassified as Commonwealth Transportation Board (CTB) funds, reducing the contribution from DTR revenues and increasing the contribution from CTB funds.

³ Includes Tax District Revenues (\$400M) plus debt service costs allocated to Project Budget

⁴ Includes pay-as-you-go revenues and bond proceeds

6. Project Risks

The PMOC reviewed MWAA's updated Risk Assessment dated April 15, 2011. A series of meetings during the following eleven months led to submission of RCMP Revision 2c on March 5, 2012. The FTA and PMOC provided comments on March 16, 2012 and MWAA submitted RCMP Rev. 3 to the FTA for approval by letter dated March 28, 2012. The FTA approved the RCMP on April 13, 2012. In June 2012, MWAA updated the Risk Register. This document and a recommendation to update the Top Ten Risks were forwarded to the FTA and the PMOC for review on August 27, 2012. FTA, the PMOC and MWAA discussed this issue during the PMOC's September monthly site visit. The PMOC provided review comments and a modified Top Ten List that will be reviewed by MWAA. MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. FTA approved the revised Top Ten Risks by letter dated November 29, 2012.

Budget Risks: MWAA has allocated \$71.8 million in finance cost savings and \$19 million of Commodity Escalation under run monies to Contingency. Through *November 25, 2012*, MWAA reports

that it has utilized \$281,529,165 of the \$261,000,000 + \$30,574,284 available contingency for the first nine contingency milestones leaving a balance of \$10,045,119. For phases 10 through 12 MWAA reports obligating \$89,197,429 of the available \$36,762,579 + \$60,225,716 leaving an available balance of \$7,790,868. Therefore, as of *November 25, 2012*, of the \$297,762,579 of original project contingency plus a contribution of \$90,800,000 from finance cost savings and commodity escalation under run, the project has a total of \$17,835,988. MWAA's transfer \$90,800,000 to contingency has improved the Project Contingency situation. However, the project must be diligent in its efforts to identify additional contingency monies and to control the project overrun costs.

MWAA submitted a tabulation of possible CNPAs that could further improve the Contingency on July 6, 2012 with a total value of approximately \$63.9 million. This tabulation was reviewed by the FTA and PMOC and additional information was requested from MWAA on July 30, 2012. The revised tabulation of CNPAs was submitted on August 10, 2012. MWAA and the FTA/PMOC discussed this tabulation following the September 7 monthly meeting. The FTA/PMOC indicated that there was a potential \$23,861,089 that could be considered CNPAs. FTA indicated that \$19,511,703 in additional cost would be taken up with the FTA Administrator for possible inclusion in the CNPAs. The FTA subsequently identified \$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA's letter of November 28, 2012 corrected the total for CNPAs to \$40.38M, citing inconsistencies in the FTA numbers and requesting verification.

MWAA acknowledges that WMATA will contribute no funding, that the FTA and VDOT budgets are fixed, and that the local funding partners bear a percentage of the non-FFGA budget overruns; all principles understand their financial responsibility and all budget overruns will be managed according to the agreed funding plan.

Schedule Risks: With regard to Schedule Contingency, MWAA and DTP previously agreed to a zero loss recovery schedule with a data date of December 25, 2010. This recovery schedule had a mitigation period of fourteen months, extending from January 2011 through February 2012 to recover 113 calendar days of the total of 510 calendar days. MWAA and DTP are now working off a new Mitigation Schedule with a data date of October 25, 2011 that was accepted "as noted" on November 23, 2011. Through *November 2012*, MWAA has granted DTP time extensions of *30 calendar days* reducing the available contingency from 510 to 480 calendar days. *MWAA reports having denied nine claimed weather delay days that DTP continues to pursue. However, DTP'S assessment has reported an additional 15 calendar days of weather delay that if approved would move the SSCD to September 13, 2013. Some of the arguments made by MWAA appear to be weak, i.e. night shift weather delays can only be considered on the day the shift would have ended, despite weather impacts incurred on the front end of the shift. If more denied potential excusable weather delays continue to mount without solid arguments, MWAA may be at risk of a DTP self-imposed constructive acceleration to meet the required completion date. A fresh independent evaluation may be in order in the not too distant future.*

Top Ten Risks: The following are the Project's Top 10 Cost and Schedule Risks from the RCMP dated December 2011 and transmitted on March 5, 2012, and updated for the month of *August 2012*, along with their status. As noted earlier in this report, MWAA updated the Risk Register Assessment on June 30, 2012 and submitted it to the FTA and PMOC on August 27th. FTA, the PMOC, and MWAA discussed this issue during the PMOC's September monthly site visit. The PMOC provided review comments and a modified Top Ten List that will be reviewed by MWAA. MWAA provided a submittal

dated September 30, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. FTA approved the revised Top Ten Risks by letter dated November 29, 2012.

Summary Status of the Proposed Top Ten Project Risks, November 2012

RISK NUMBER	RISK DESCRIPTION	RISK STATUS			
		SINCE INCLUSION ON TOP TEN LIST		Since October 2012 Update	
		COST	SCHEDULE	COST	SCHEDULE
M27	Delay in Vehicle (Rail Car) Delivery beyond the specified FFGA ROD date of December 1, 2014.	Unchanged	Unchanged	Unchanged	Unchanged
C27	WMATA resource constraints delay system acceptance or operational testing resulting in additional costs.	Unchanged	Unchanged	Unchanged	Unchanged
C20	WMATA deliverables scope of work – including technical support and WMATA construction elements may exceed the budget and schedule.	Unchanged	Unchanged	Unchanged	Unchanged
C21	Availability of track access for the Contractor to complete the K-Line connection work.	Unchanged	Unchanged	Unchanged	Unchanged
C39	Other construction issues (WFCY delayed construction which effects opening of the system).	<i>Decreased</i>	<i>Decreased</i>	Unchanged	Unchanged
D34	WMATA Delay in reviewing/approving DTP shop drawings and systems test plans and reports.	Unchanged	Unchanged	Unchanged	Unchanged
C40	Other Construction issues (station finishes)	Unchanged	Unchanged	Unchanged	Unchanged
D41	Powell proposed NDC Breaker not accepted by WMATA	Unchanged	Unchanged	Unchanged	Unchanged
C41	Completion of the installation of the upgrade for the new (proposed) communications center at WMATA's Carmen Turner Building	Unchanged	Unchanged	Unchanged	Unchanged
R23	<i>Automatic Train Control (ATC) system requirements per NTSB concerns and other systems issues resulting from the Red Line accident and NTSB safety report.</i>	<i>Decreased</i>	<i>Decreased</i>	<i>Decreased</i>	<i>Decreased</i>

7. Action Items

MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
2	2A.05	Submit Updated Risk Register developed in June 2012	FTA and PMOC need to review the updated document.	Y	Y	Y	The updated Risk Register Assessment was sent to the FTA and PMOC on August 27 th . The PMOC provided review comments and a modified Top Ten List that will be revised by MWAA. MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. FTA issued an approval letter on November 29, 2012.	C
2	2A.06	Determine Federal Budget CNPAs.	Items have been charged to the Federal portion of the Project Budget that may be CNPAs.	Y	Y	Y	MWAA has submitted costs that they believe are CNPAs. The FTA and PMOC have reviewed these lists with the most recent dated August 10, 2012 which were discussed on September 6, 2012. FTA/PMOC indicated that there is a potential for \$23.86M that could be considered CNPAs, with an additional \$19.51M to be taken up with the FTA Administrator. The FTA subsequently identified \$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA's letter of November 28, 2012 corrected the total to \$40.38M.	C

KEY ITEM

Subtask 2A
Subtask 2B

CLIN 0002A – PMP Review
CLIN 0002 – On-Site Monitoring

LEGEND

PRIORITY (PR)

1- Most Critical
2- Critical
3- Least Critical

GRANTEE 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.

APPENDICES

APPENDIX A – LIST OF ACRONYMS

AAC	Agreement After Certificate
AMEP	Architectural/Mechanical/Electrical/Plumbing
ARRA	American Reinvestment and Recovery Act
ASSHTO	American Association of State Highway and Transportation Officials
<i>ATC</i>	<i>Automatic Train Control</i>
BFMP	Bus Fleet Management Plan
CAR	Corrective Action Request
CCC	Construction/Procurement/Installation Conformance Checklist
CD	Calendar Days
CDRL	Contract Deliverables Requirements List
<i>CMU</i>	<i>Concrete Masonry Units</i>
CNPA	Concurrent Non-Project Activities
CPM	Critical Path Method
CR	Communications Room
CTI	CTI Consultants, Inc.
CY	Calendar Year
DB	Design-Build
DCC	Design Conformance Checklist
DCN	Design Change Notice
DCR	Dulles Connector Road
DF	Direct Fixation
DGS	(Virginia) Department of General Services
DIAAH	Dulles International Airport Access Highway
DR	Deficiency Report
DTP	Dulles Transit Partners, LLC
DTR	Dulles Toll Road
DVP	Dominion Virginia Power
ETS	Emergency Trip Station
FFGA	Full Funding Grant Agreement
<i>FIA</i>	<i>Fire and Intrusion Alarm</i>
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FY	Fiscal Year
<i>HC</i>	<i>Heater Cable</i>
HOT	High Occupancy Toll
IDW	Intrusion Detection Warning System
IFC	Issued For Construction
IFP	Issued for Proposal
IRR	Issue Requiring Resolution
KSA	KSA, INC – Producer of Concrete Crossties
MH	Manhole
MCI	A communication company now owned by Verizon
MEP	Mechanical, Electrical and Plumbing

MOT	Maintenance of Traffic
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
ORD	Operational Readiness Date
PDA	Pile Driving Analysis
PDR	Preliminary Design Review (7K Railcars)
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor
PMSS	Project Management Support Services
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QPP	Quality Program Plan
RAMP	Real Estate Acquisition Management Plan
RCMP	Risk and Contingency Management Plan
RFC	Request for Change
RFMP	Rail Fleet Management Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROE	Right-of-Entry
ROW	Right-of-Way
RSD	Revenue Service Date (synonymous with Revenue Operations Date)
<i>SCB</i>	<i>Sound Cover Box</i>
SCC	Standard Cost Category
SCIL	Safety and Security Certifiable Items List
<i>S&I</i>	<i>Service and Inspection</i>
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
STP	Surface Transportation Program
<i>SWGR</i>	<i>Switch Gear</i>
TBD	To Be Determined
<i>TBS</i>	<i>Tie Breaker Station</i>
TOC	Tri-state Oversight Committee
TPSS	Traction Power Substation
UR	Utility Relocation
VDOT	Virginia Department of Transportation
<i>VTF</i>	<i>Vertical Test Facility (Corrosion Testing)</i>
W&OD	Washington and Old Dominion
WFC	West Falls Church
WFCY	West Falls Church Yard
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX B -- PROJECT OVERVIEW AND MAP

Project Overview

Date: *January 25, 2013* (reporting current through *December 2012*- Financials through *November 2012*)

Project Name: Dulles Corridor Metrorail Project – Extension to Wiehle Avenue

Grantee: Metropolitan Washington Airports Authority (MWAA)

FTA Regional Contact: Brian Glenn, P.E.

FTA Headquarters Contact: Dale Wegner, P.E.

Scope

- **Description:** MWAA The Project is the initial 11.7-miles of the LPA, which will run from the current Metrorail Orange Line near the West Falls Church (WFC) station to Wiehle Avenue in Reston, providing direct service to the commercial and office center of Tysons Corner. The Project will be constructed in or parallel to the Dulles Connector Road, Routes 123 and 7 through Tysons Corner, and the Dulles International Airport Access Highway (DIAAH). It will include five new passenger stations, one 2,300-car parking facility (provided through a joint development agreement at Wiehle Avenue Station), improvements to the existing WFC Service and Inspection Yard, tail tracks outbound of the interim terminus station at Wiehle Avenue, and the procurement of 64 rail cars.
- **Guideway:** Phase 1 is approximately 11.7 miles in length consisting of two tracks.
- **Stations:** There are five stations in Phase 1. Each station will include a kiss-n-ride area; bus drop-off facilities; station platforms with benches, canopies, ticket vending machines; and other amenities.
- **Support Facilities:** There will be a modification to the West Falls Church Yard and service building. A tail track will be constructed beyond the Wiehle Avenue Station.
- **Vehicles:** The Project will include the purchase of sixty-four vehicles for Phase 1 that will be procured by WMATA.

Ridership

The Project is estimated to carry 69,700 average weekday riders during opening year.

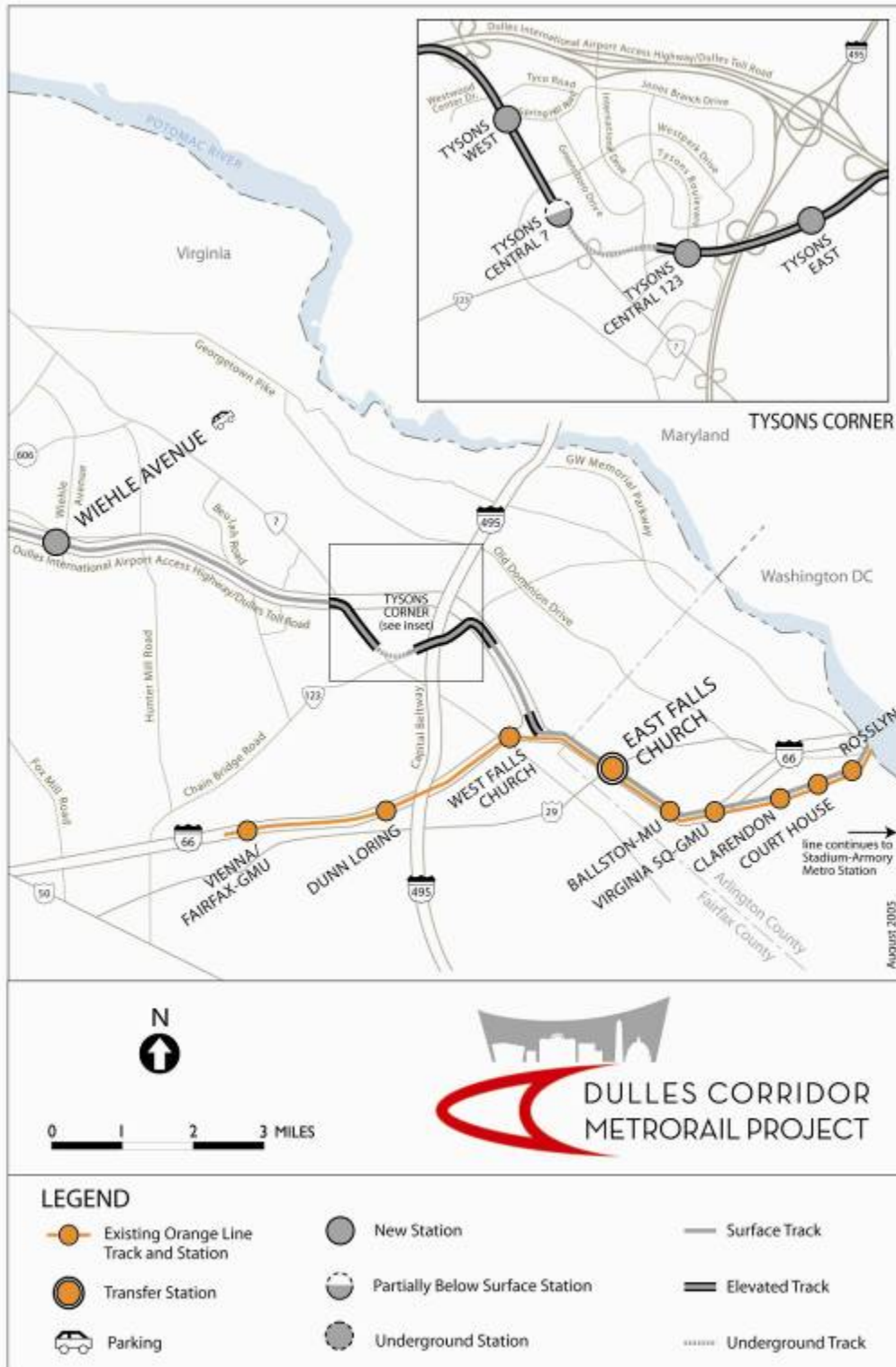
Schedule

06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
01/07/14	Revenue Service Date (RSD) <i>as of November 25, 2012</i>		
87.0%	Percent Complete Construction <i>as of December 31, 2012.</i>		
66.0%	Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)		
84.8%	MWAA's Estimate of Project Earned Value through <i>November 2012</i>		

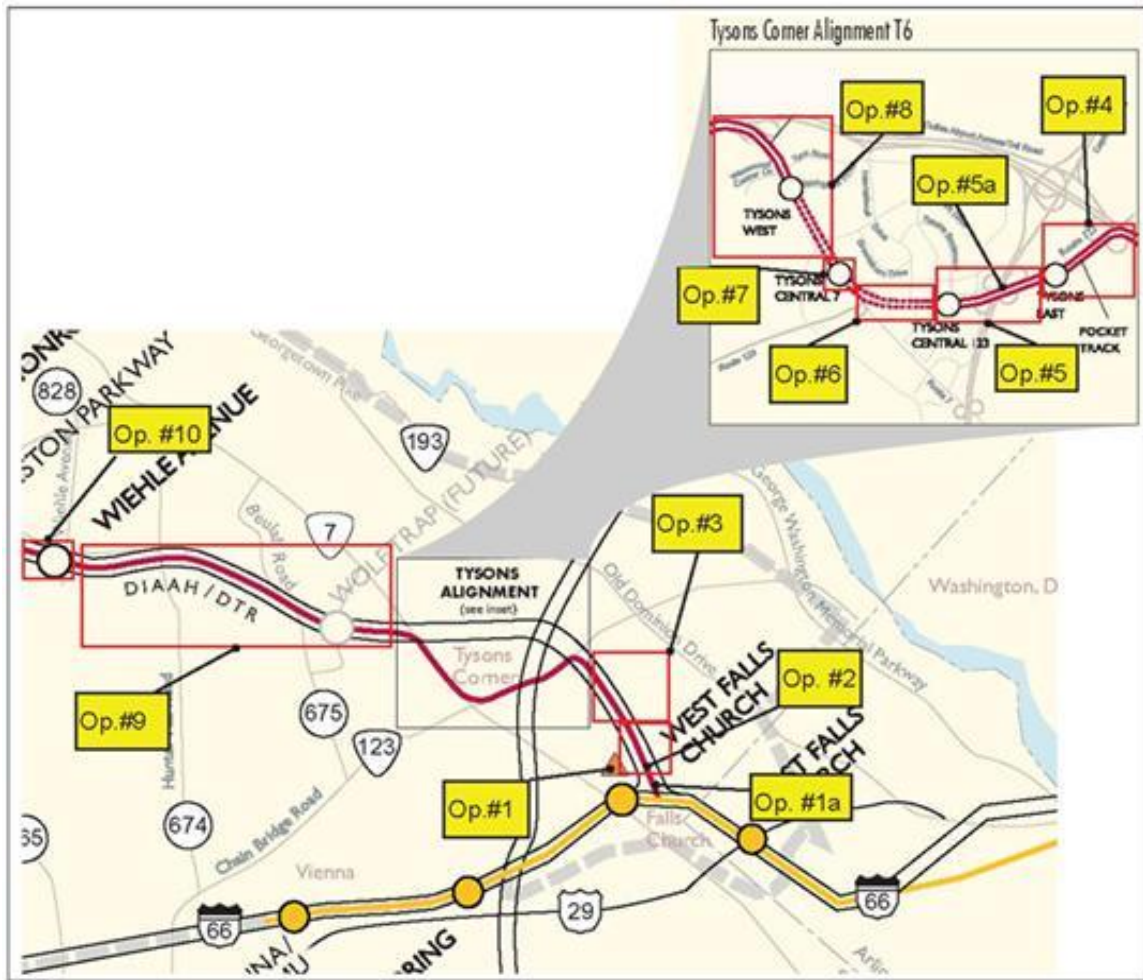
Cost

\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
\$2.259 billion	Expenditures through <i>November 2012</i> from total project budget of \$3.142B
80%	Percent complete based on federal expenditures excluding contingency and finance charges through <i>November 2012</i> .
\$17.83 million	Total project contingency remaining (allocated and unallocated) through <i>November 2012</i> .

Project Map



Construction Operational Areas



APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST

Project Overview	Dulles Corridor Metrorail Project		
Project Mode (Rail, Bus, BRT, multimode)	Rail		
Project Phase (Preliminary Engineering, Design, Construction, or Start-up)	Design and Construction		
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGG, etc)	Design/Build		
Project Plans	<i>Version</i>	<i>Review By FTA</i>	Status
Safety and Security Management Plan	3/20/12	4/20/12	Accepted. MWAA's SSMP Rev.9 dated March 2012 was submitted for review in March 2012 and accepted by the FTA on April 13, 2012.
Safety and Security Certification Plan			WMATA's SSCPP March 2012 Revision is included as Appendix E to MWAA's SSMP Revision 9, which was accepted by the FTA on April 13, 2012.
System Safety Program Plan	1/20/2011		In response to FTA's Safety and Security Oversight Audit of TOC/WMATA and TOC Triennial Review findings, WMATA submitted an updated SSPP dated January 20, 2011, which was approved by TOC on February 22, 2011 with minor comments to be addressed in the next revision.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA submitted a revised SEPP to TOC in March 2010. TOC approved the SEPP on August 2, 2010.
Construction Safety and Security Plan			Addressed in PMP Version 8 was submitted on May 1, 2012 and is under revision.

Safety and Security Authority	Y/N	Notes/Status
Is the grantee subject to 49 CFR Part 659 State Safety Oversight requirements?	Y	Tri-State Oversight Committee (TOC)
Has the State designated an oversight agency as per Part 659.9?	Y	Tri-State Oversight Committee (TOC)
Has the oversight agency reviewed and approved the grantee's SSPP as per 659.17?	N	An updated WMATA SSPP dated January 20, 2011 was approved by TOC on February 22, 2011.
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	Y	Approved on August 2, 2010
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	TOC had a representative at the November 9, 2011 QPRM.
Has the grantee submitted its safety certification plan to the oversight agency?	N	Plan in progress. TOC participates in monthly meetings.
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	WMATA will be operator.

SSMP Monitoring	Y/N	Notes/Status
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	
Grantee reviews the SSMP and related project plans to determine if updates are necessary?	Y	
Does the grantee 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.	N	WMATA will be operator.
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	N	WMATA will be operator.
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	N	WMATA will be operator.
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	N	WMATA will be operator.
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	N	WMATA will be operator.
Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	

Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Design and Construction only. WMATA participates
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	N	MWAA's letter of September 7, 2011 to WMATA indicated that they believed that such an evaluation is not required but that they would support WMATA if it chooses to conduct such an analysis.
Has the grantee ensured the development of safety design criteria?	Y	
Has the grantee ensured the development of security design criteria?	Y	
Has the grantee ensured conformance with safety and security requirements in design?	Y	
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	
Has the grantee verified construction specification conformance?	Y	
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	Y	In progress.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	After SSCD
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	Y	
Has the grantee 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	N	In progress with WMATA.
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	

Construction Safety	Y/N	Notes/Status
Does the grantee have a documented/implemented Contractor Safety Program with which it expects contractors to comply?	Y	
Does the grantee's contractor(s) have a documented company-wide safety and security program plan?	Y	DTP's Construction Safety, Health and Security Plan accepted on January 6, 2009.
Does the grantee's contractor(s) have a site-specific safety and security program plan?	Y	
Provide the grantee's OSHA statistics compared to the national average for the same type of work. If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	Y	DTP has recorded 465 first aid cases and six lost time cases in 11.990 million project man-hours, which is below the national average.
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	

Federal Railroad Administration	Y/N	Notes/Status
If shared track: has grantee submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested)	N/A	Heavy Rail Transit Project. No FRA involvement.
If shared corridor: has grantee specified specific measures to address shared corridor safety concerns?	N/A	
Is the Collision Hazard Analysis underway?	N/A	
Other FRA required Hazard Analysis – Fencing, etc.?	N/A	
Does the project have Quiet Zones?	N/A	
Does FRA attend the Quarterly Review Meetings?	N/A	

APPENDIX B – PROJECT OVERVIEW AND MAP

See separate document 4 pages
p.1

p.2

p.3

p.4

APPENDIX C – SAFETY AND SECURITY CHECKLIST

See separate document 4 pages
p.1

p.2

p.3

p.4

APPENDIX D – PMOC TEAM PERFORMING THIS REVIEW

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