

**COMPREHENSIVE MONTHLY REPORT**

**June 2014**

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

July 24, 2014

**PMOC Contract Number:** DTFT60-09-D-00016

**Task Order Number:** 002, **Project Number:** DC-27-5142, **Work Order No.** 04

**OPs Referenced:** 01, 25

**Hill International, Inc.**

One Penn Square West

30 South 15<sup>th</sup> Street

Philadelphia, PA 19102

**PMOC Lead:** [REDACTED]

**Length of Time PMOC Assigned to Project:** 13 years

**Length of Time PMOC Lead Assigned to Project:** 6 years

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1. PROJECT DESCRIPTION .....	1
2. PROJECT STATUS SUMMARY .....	1
3. PMOC’S ASSESSMENT OF PROJECT STATUS.....	4
<b>MAIN REPORT .....</b>	<b>6</b>
1. GRANTEE’S CAPABILITIES AND APPROACH .....	6
a. <i>Technical Capacity and Capability</i> .....	6
b. <i>Project Controls</i> .....	7
c. <i>Compliance</i> .....	8
PROJECT SCOPE .....	8
a. <i>Design Status</i> .....	8
b. <i>Bidding and Construction Status</i> .....	8
c. <i>Real Estate</i> .....	9
d. <i>Utility Coordination</i> .....	9
e. <i>Vehicle Procurement</i> .....	9
f. <i>Safety and Quality Status</i> .....	12
3. PROJECT MANAGEMENT PLAN AND SUB-PLANS .....	14
4. PROJECT SCHEDULE.....	15
a. <i>Critical Path Evaluation</i> .....	16
b. <i>Important Activities – 90-Day Look Ahead</i> .....	17
5. PROJECT COST .....	18
a. <i>Explanation of Variances</i> .....	18
b. <i>Monthly Cost Report – April 2014 Federal Only</i> .....	20
c. <i>Sources of Capital Funding - April 2014</i> .....	21
6. PROJECT RISKS .....	22
7. ACTION ITEMS .....	25
<b>APPENDICES.....</b>	<b>26</b>
APPENDIX A – LIST OF ACRONYMS .....	27
APPENDIX B -- PROJECT OVERVIEW AND MAP.....	30
APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST.....	34
APPENDIX D – PMOC TEAM PERFORMING THIS REVIEW.....	38

## **EXECUTIVE SUMMARY**

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *July 9, 2014* to conduct a monthly progress meeting for work performed in *June 2014*. Additional information for this report was obtained from MWAA during the first and second weeks of *July 2014*. The next PMOC monthly progress meeting is planned to be conducted on *August 7, 2014*.

### **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 (*McLean, Tysons Corner, Greensboro, Spring Hill and Wiehle-Reston East*), 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 in 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) 2014, Congress has appropriated \$797,844,869 in Section 5309 New Starts funds for the Project with the addition of the FY14 New Starts Appropriation of \$96,000,000. The FTA has awarded \$701,844,869 in Section 5309 New Starts and \$75,000,000 in STP funds to date for the Project.

### **2. Project Status Summary**

The PMOC met with MWAA on *July 9, 2014* to conduct a monthly progress review meeting and MWAA provided supplemental information the following week. The status of information is as of *June 30, 2014*, unless otherwise noted.

- **Real estate acquisition** - All 105 parcel packages were acquired as of December 2013. MWAA expects to complete the transfer of property to WMATA between SSCD and RSD.
- **Rail Car Procurement** – *The PMOC participated in a teleconference meeting on July 15, 2014 with MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #46 information package. The PRM #46 meeting was held at WMATA's Jackson Graham Building on July 10, 2014.* Design Qualification Testing (DQT) continues for components and subsystems. The first four production cars (re-assembled prototype cars) were assembled at KMM and shipped to WMATA during the last week of May and first week of June. Kawasaki has also started up the serial production "Fabrication Line" at KMM. The four Pilot Cars were delivered to WMATA in December 2013, and design qualification testing of the Pilot Cars began at Greenbelt on January 7, 2014 and continues. In an attempt to reduce the total

measured average weight of the car of 83,143 pounds versus the contract requirement average weight of 82,500 pounds, Kawasaki submitted a proposal involving the coupler, which WMATA has reviewed and rejected. The current *Kawasaki* forecast completion date for the conditional acceptance of the 64th railcar *remains as March 12, 2015*. This is three months ahead of the June 12, 2015 contractual completion date. This schedule is based on Kawasaki continuing to manufacture the production cars at-risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. The conditional acceptance of the first four production cars *and first four pilot cars remains as August 25, 2014*.

- **Design progress** – MWAA reported that, as of the end of February 2013, all required permit applications have been submitted and approved.
- **Construction progress** is broken into two components: utility relocation (UR), which is 100% complete, and design-build (DB) construction, which remains approximately 99+% complete. During the May 23, 2014 WMATA-MWAA RAP Meeting the Attachment 1 to the Fourth Amendment to the Cooperative Agreement between WMATA and MWAA entitled “Performance Requirements for the Completion of Activities Required Prior to ORD” was reviewed and all items were closed or transferred to the punch list. MWAA wrote Letter No. 10062 dated May 23, 2014 that outlined agreements that paved the way for a May 27, 2014 Operational Readiness Date (ORD). The letter with concurrence signature blocks was signed by MWAA’s Project Director and WMATA’s Deputy General Manager on May 23, 2014 establishing May 27, 2014 as the official Operational Readiness Date. On this date WMATA accepted care and custody of the Silver Line. *Throughout the month of June, DTP continued to complete punch list items and MWAA/DTP and WMATA continued to coordinate on a staff level on a daily basis and on an executive level twice a week. During the July 9 Monthly Meeting, both MWAA and WMATA agreed that all stake holders are committed to supporting the July 26, 2014 RSD that WMATA has now announced to the public. The Tri-State Oversight Committee and the FTA-PMOC conducted a Silver Line Readiness for Service Review on May 27 through May 30, 2014. Reports have been written and are currently being reviewed and addressed by MWAA and WMATA.*
- **The DTP Schedule Update** with a data date of *May 25, 2014* confirmed that the Scheduled Substantial Completion Date (SSCD) was achieved on April 9, 2014. DTP declared SSCD on February 7, 2014, and MWAA rejected the declared SSCD on February 24, 2014. DTP again declared **SSCD on April 9, 2014** that was subsequently accepted by MWAA on April 24, 2014. The Project also achieved ORD on May 27, 2014 *and WMATA has announced to the public a July 26, 2014 Revenue Service Date (RSD)*. MWAA completed its review of the Schedule Update with a data date of *May 25, 2014 on June 19, 2014* indicating that DTP’s schedule was again “Not Accepted”. *MWAA indicated that the contractor’s schedule again failed to include ongoing activities and issues being dealt with on the Project.*
- **West Falls Church Yard (WFCY) completion date**, DTP’s schedule update of *May 25, 2014* reflected a -189 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of *June 27, 2014*. *DTP has previously reported that the accrued delays resulted from weather delays and various owner changes, and now is primarily driven by the requirement for a new wheel stop or bumping post design for the S&I Shop tracks.*

*Various plans were reviewed in the past month. MWAA reported during the July 9 Monthly meeting that it was determined that the tracks would be extended and that spring loaded wheel stops would be installed. MWAA anticipates that the wheel stop modifications will not be completed until mid-September. However, WMATA reported that this should not present an issue for the July 26 RSD since the new storage tracks will be available for train storage.*

- **Budget status as of May 25, 2014 indicates** that \$2,702,856,499 or 94%, of the \$3,142,471,635 budget total, has been expended, excluding Finance Cost and Contingency. MWAA reports \$379,033,732 of the available contingency for the first eleven contingency milestones has been drawn down to date. The current estimate of the contingency available at the end of construction is \$9.52 million. In the PMOC's opinion, the sufficiency of the remaining contingency should be evaluated by MWAA in light of the Potential Change Orders (PCOs) that have not been evaluated with regard to cost and the potential for claims due to the protracted period to attain SSCD. *At the July 9, 2014 update meeting, MWAA indicated that this evaluation would not be completed until the end of July or August.*
- **MWAA's estimate of the Earned Value** for the Project through May is 94.5%.
- **Risk** - The FTA approved MWAA's RCMP Rev. 3 on April 13, 2012. MWAA revised the proposed top ten risks and resubmitted them on March 20, 2013 along with a revised risk register. On May 1, 2013, MWAA submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. PMOC provided comments to MWAA on April 29, 2013. MWAA has incorporated the comments in their listing of the Top Ten Risks in their monthly reports to FTA. On June 3, 2014 MWAA submitted its plans to revise the top ten risks which included the retirement of some risks whose activities have been concluded.
- **The Full Time Equivalentents (FTE)** estimated total for June 2014 is 164 which is a decrease of 86 from the May total of 250. A decrease in FTE's is anticipated to continue as the Project nears completion having achieved SSCD and ORD.

FFGA-MWAA Core Accountability Items			
<b>Project Status:</b>		<b>Original at FFGA:</b>	<b>Current Estimate:</b>
<b>Cost</b>	Cost Estimate	\$3.142B	\$3.142B
<b>Contingency</b>	Unallocated Contingency		
	Total Contingency (Allocated plus Unallocated)	\$297.76M	\$9.52M
<b>Schedule</b>	Revenue Service Date	December 1, 2014	July 26, 2014*
<b>Total Project Percent Complete</b>		Based on Expenditures	94%
		Based on Earned Value	94.5%
<b>Major Issue</b>	<b>Status</b>	<b>Comments/Action/Planned Action</b>	
<b>Alstom Configuration Control</b> – ATC field concerns arose with regard to testers working with unapproved test procedures.	It appears that all LSRO issues have been resolved. However, WMATA is requiring a long term solutions to the LSRO “cab flips” and “bobbing track circuits” and Horton RTU reliability issues that remain.	<i>DTP/Alstom continues to develop plans and estimates to implement what it considers to be changes to the contract.</i>	
<b>Date of Next Quarterly Meeting:</b>		<i>October 20, 2014 (Tentative)</i>	

\* Accepted SSCD is April 9, 2014. ORD was achieved on May 27, 2014. WMATA has announced to the public that it is planning to commence revenue service on July 26, 2014.

### 3. PMOC’s Assessment of Project Status

#### Budget

Through *May 2014*, MWAA has utilized \$379.0 million of contingency resulting in a remaining balance of \$2.76 million through contingency Phase *II*. The budgeted contingency for Phase *12* is \$6.76 million leaving grand total balance, as of the end of *May 2014*, of \$9.52 million in contingency estimated to remain at project completion. **In the PMOC’s opinion, the sufficiency of the remaining contingency should be evaluated by MWAA in light of the Potential Change Orders (PCOs) that have not been evaluated with regard to cost and the potential for claims due to the protracted period to attain SSCD.**

#### Schedule

The Project continues working according to the “Mitigation Schedule” authorized by MWAA’s November 1, 2011 Directive Letter. The DTP mitigation schedule with a data date of *May 25, 2014* reflected a -212 calendar day variance to the contract schedule indicating a SSCD of April 9, 2014 which was subsequently achieved. MWAA again indicates in regard to this update that DTP still fails to include ongoing critical Project issues. *ORD was declared by WMATA on May 27, 2014. However, DTP fails to reflect ongoing work relegated to the Punch List in accordance with a Memorandum of Agreement between DTP and MWAA. All stake holders continue to work toward achieving WMATA’s July 26, 2014 RSD.*

During *June 2014* Alstom, DTP, WMATA and MWAA continued to conduct weekly Table Top review meetings and various other specially scheduled meetings to *review* test data and software changes. *These meetings are continuing in July on an as needed basis.*

**It is the PMOC's opinion that the Alstom QA/QC and document control/configuration had a detrimental impact to the achievement of the RSD. However, the full impact on the schedule cannot yet be determined until all ATC testing, systems integration and RTU function issues have been resolved and associated retesting efforts have been accomplished. In addition, some WMATA mandated changes and corrective efforts will no doubt complicate the settlement of time and cost for Project delays. MWAA has engaged a consultant to conduct a time impact schedule analysis to determine delay liabilities.**

Notwithstanding the schedule disagreements, DTP/Alstom, with the continued cooperation of MWAA and WMATA, continues to progress the ATC and RTU long range corrective effort planning through June and into July 2014. **However, DTP/Alstom continues to assert to MWAA that it has already met the contractually-specified requirements relative to train cab Loss of Speed Readouts (LSRO), and that the LSRO are attributable to either train-borne issues or are incompatible with WMATA train and Project ATC specifications. MWAA's letter of February 5, 2014 notified DTP that the LSRO problems must be corrected as soon as possible. LSROs shorter than one second in duration (commonly referred to cab flips) were detected during WMATA's testing in late May 2014. WMATA is pressing for a software design change to eliminate the cab flips. In addition, WMATA is insisting that DTP/Alstom convert certain tracks circuits from audio to power frequency track circuits in an effort to eliminate potential bobbing circuits.**

WMATA reports that its Startup SCIL *is nearly complete and will not adversely impact the Rail Activation Plan Schedule leading to the planned July 26, 2014 Revenue Service Date (RSD).* WMATA and MWAA meet daily on a staff level and *twice* weekly on an executive staff level to coordinate the completion of the Attachment 2 activities leading to RSD. The schedule reflects a "Pre-Revenue Service Period of July 20, 2014 to July 26, 2014 for familiarization of WMATA's train operators and station managers. The TOC has expressed concern with this date because it states it cannot issue its Final Report and certification until they have observed this activity. This continues to be a matter of discussion.

#### West Falls Church Yard

DTP has incorporated the West Falls Church Yard construction into the mitigation schedule with a target completion date of December 20, 2013. DTP's *May 25, 2014* schedule update reflected a -189 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of *June 27, 2014.* *DTP's June 25, 2014 schedule update reflects an improved completion date of July 11, 2014. This schedule has not yet been analyzed. However, testing is anticipated to be completed by July 16, 2014. In addition, both MWAA and WMATA reported during the July 9, 2014 Monthly Meeting and QPRM that they do not anticipate any issues that would adversely impact the July 26, 2014 RSD.*

## Rail Cars

Kawasaki continues to project the conditional acceptance of the 64<sup>th</sup> rail car several months prior to the contractual date of June 12, 2015. Although Kawasaki has not gone into the full production mode, it is the PMOC's opinion that Kawasaki can achieve their updated forecast for the conditional acceptance of the 64<sup>th</sup> railcar in March 2015. *The completion of the delivery to WMATA of the first four production cars was completed on June 4, 2014. Eight 7000 Series rail cars plus the training car are now at WMATA and undergoing Design Qualification Testing.*

## **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 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 on May 21, 2012, replacing Jon Christensen, who retired. Mr. Kerrigan then retired in December 2013. Mr. Bob Whedon continues to be the acting Manager of Project QA/QC and Safety in the interim. MWAA has decided to have separate QA/QC Manager and Safety Manager positions. *MWAA reported during the July 9<sup>th</sup> monthly meeting that it has been conducting interviews and will be filling the QA/QC Manager and Safety Manager positions in the near future that will serve both Phase 1 and Phase 2.* Mr. Leo Himmel continues to serve as the Project's Team Systems Testing Coordinator. The FTA's letter of January 25, 2013 approved PMP Version 8.0 Final which includes the Testing and Commissioning stages of the project.

Upon completion of the project, WMATA will become the operator of this extension to their system. Over the past year, WMATA's Dulles Project Director staffed a Quality Assurance and Inspection Team *that have kept* pace with Project progress as it entered the Testing and Start-up *and Pre-Revenue phases.* In addition, both MWAA and WMATA have hired Start-up Managers who are coordinating their efforts.



## **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 *and continues to provide good support to WMATA since care and custody was handed off on May 27, 2014 and WMATA began its Pre-Revenue phase.*

- The Project Schedule was updated by DTP through *May 25, 2014*. In this update, DTP reported a loss of 212 calendar days to the SSCD forecasted *that occur on April 9, 2014*. The WFCY *May 2014* schedule update reflected a *-189* calendar day variance to the target date of December 20, 2013, which yields a forecast WFCY completion date of *June 27, 2014*. MWAA completed its schedule review of the schedule updates with a data date of *May 25, 2014 on June 19, 2014* indicating that the schedule was again “Not Accepted.” MWAA indicated that the schedule *still* fails to include *on-going work and* issues that continue to adversely impact completion of the MOU Attachments leading to achievement of the RSD. See Section 4.a for additional information.
- MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *May 2014*, MWAA has utilized \$379.03 million of contingency resulting in a remaining balance of \$2.766 million through contingency Phase 11. The budgeted contingency for Phase 12 is \$6.76 million. As of the end of *May 2014*, contingency estimated to remain at project completion is \$9.528 million. In the opinion of the PMOC, the Project may have adequate contingency. However, a large number of potential change orders remain under review along with new delay claims which could impact the contingency *and MWAA needs to evaluate the adequacy of the 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.
- The Quality Assurance (QA)/Safety group *maintained* an active schedule of audits and surveillances and accident data *throughout the Project*. (See Section 1f. below)

Through *June 2014*, there have been a cumulative total of *14,662,631* hours worked with eight lost time cases. This remains well below the national average for heavy and civil engineering construction. (The most recent Department of Labor (DOL) statistics are for 2011. Those statistics indicate 5.85 injuries per 100 full time employees. The DTP rate translates to less than 0.56 injuries per 100 full time employees.)

DTP submitted the Safety and Security Certifiable Items List (SCIL) Revision 6 to include the WFCY on August 6, 2012. After MWAA review and comment, DTP subsequently resubmitted the SCIL Revision 6, which was approved “as noted” on February 5, 2013.

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 1<sup>st</sup> Quarter of 2014 on May 1, 2014.

## **Project Scope**

### **a. Design Status**

The design is 100% complete.

### **b. Bidding and Construction Status**

DTP has awarded all of the thirty-seven Allowance subcontract packages worth \$571,173,458. The Budget for the Allowance Items was \$426,145,893, resulting in an overrun of \$145,027,565, which was covered by contingency.

During April 2013, WMATA staff raised questions about Automatic Train Control (ATC) field testers working with unapproved marked up test procedures. This apparent lack of configuration control on Alstom's part caused Project partners to lose confidence in the Alstom ATC test program. DTP subsequently reported having spent several days in late April 2013 at Alstom's Rochester, NY facility conducting a workshop. DTP reported that they discovered Alstom had installed 14 vital software changes on the N-Line (not yet operational) that Alstom had not submitted for review or approval. On May 7, 2013, Alstom and DTP senior management made a presentation to MWAA and WMATA Executive Staff. DTP and Alstom were emphatic that they were going to turn the troubled test program around and outlined their plans to do so. They also emphasized they would fully cooperate with MWAA and WMATA to regain their confidence.

The SPD was conducted on January 25 and 26, 2014 with unresolved discrepancies. DTP declared SSCD on February 7, 2014 and MWAA rejected the declaration on February 24, 2014 in accordance with Article 17.4 of the Design-Build (DB) Contract. DTP conducted a second SPD on March 29, 2014 that yielded additional discrepancies that continue to be investigated and have necessitated ongoing software changes and dynamic train testing. Throughout *June 2014*, Alstom, DTP, WMATA and MWAA continued to conduct weekly Table Top Review Meetings and various other specially scheduled meetings to re-review test procedures, software changes and field test data. DTP finally achieved an accepted SSCD on April 9, 2014 but was directed to maintain care and custody as it continued trouble shooting and testing efforts into May 2014. WMATA *finally* declared ORD on May 27, 2014 and accepted care and custody of the Silver Line. Memorandums of Agreement were established between DTP and MWAA and MWAA and WMATA for completion of necessary activities to support WMATA's *planned July 26, 2014* RSD. It remains the PMOC's opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

### c. Real Estate

In December 2013, MWAA had acquired all of the 105 parcels required for the Project.

#### Condemnation Status

MWAA acquired thirty-nine parcel packages with the filing of thirty-three Certificates of Take. The one remaining case (Parcel 03, West Group Properties, LLC) was resolved in March 2014. The Final Order was entered in May 2013 but was appealed by the property owner with the filing of their brief supporting the appeal in late August 2013. The Commonwealth, on behalf of the Project, filed their response in opposition in mid-September, and a writ panel of the Virginia State Supreme Court heard the appeal argument in December 2013 and decided in January 2014 not to hear the appeal. The landowner petitioned the full Court for a hearing, which was rejected on March 7, 2014. The Commonwealth Attorney assigned to the case is pursuing payment of the judgment owed to the Project by the landowner. In the meantime, interest continues to accrue on the judgment amount due the Project.

#### Property Turnover to WMATA

MWAA, VDOT, Fairfax County, and WMATA have been meeting to address the required transfer of property to WMATA that is expected to take place between Substantial Completion and Revenue Service. The following table summarizes the status of the conveyance of property interests and maintenance agreements. The stakeholders have accepted and signed the easements within the right-of-way and associated maintenance agreements, including a revision to a maintenance agreement. Recordation will occur after WMATA executes the documents prior to revenue service.

Conveyance Documents	Total Required	General Format Accepted	Draft of Document Prepared	Plat/ Exhibit Complete	Submitted for Stakeholder Review	Document Accepted	Documents Signed	Document Recorded
Fee/Easement Transfer	26	26	26	26	26	26	26	0
Easements on Public ROW	3	3	3	3	3	3	3	0
Maintenance Documents	3	3	3	3	3	3	3	1

### d. Utility Coordination

MWAA reported that Utility Relocation (UR) was 100% complete during the April 9, 2013 monthly update meeting.

### 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 *equally* the development costs associated with the railcar procurement.

WMATA awarded a rail car contract to Kawasaki on July 27, 2010. The manufacturer's proposed schedule showed the 64<sup>th</sup> car conditional acceptance by September 12, 2014 based on a July 12, 2010 Notice-to-Proceed (NTP); however, WMATA did not issue the NTP until August 16, 2010, resulting in a delay until January 12, 2015, which was six weeks beyond the FFGA completion date of December 1, 2014. On March 16, 2011, Kawasaki formally notified WMATA of potential delays that they believed 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 conditional acceptance date for the 64<sup>th</sup> railcar, which is more than six months beyond the FFGA completion date for the DCOMP.

**Rail Car Procurement** – *The PMOC participated in a teleconference meeting on July 15, 2014 with MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #46 information package. The PRM #46 meeting was held at the WMATA Jackson Graham Building on July 10, 2014. The PMOC visited the Kawasaki Motors Manufacturing Corporation (KMM) in Lincoln, NE on April 10, 2014 to review the status of the first four production cars and the preparations being made for the production of the 7000 Series Rail Cars. Design Qualification Testing (DQT) continues for components and subsystems. The first four production cars (re-assembled prototype cars) were assembled at KMM and shipped to WMATA during the last week of May and first week of June. Kawasaki has also started up the serial production "Fabrication Line" at KMM. The four Pilot Cars were delivered to WMATA in December 2013, and design qualification testing of the Pilot Cars began at Greenbelt on January 7, 2014. In an attempt to reduce the total measured average weight of the car of 83,143 pounds versus the contract requirement average weight of 82,500 pounds, Kawasaki submitted a proposal involving the coupler, which WMATA has reviewed and rejected. The current Kawasaki forecast completion date for the conditional acceptance of the 64th railcar remains as March 12, 2015. This is three months ahead of the June 12, 2015 contractual completion date. This schedule is based on Kawasaki continuing to manufacture the production cars at-risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. The conditional acceptance of the first four production cars and first four pilot cars remains as August 25, 2014. Eight 7000 Series rail cars plus the training car are now at WMATA and undergoing Design Qualification Testing.*

- **Effect on Operations**

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.

MWAA formally informed the FTA Regional Administrator of the railcar delivery delay in a letter dated January 31, 2012. In this letter, MWAA also 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 determine if the existing fleet can support the start of revenue service.

FTA requested the details of a new Operating Plan for the Silver Line service, which incorporates changing the eastern terminus to Largo Station instead of Stadium-Armory Station. After a month’s delay, the revised Plan was presented to the WMATA Customer Service and Operations Committee on April 11, 2013, and approved by the full Board on April 25. The material presented to the WMATA Board of Directors was general in nature.

At the May 22, 2013 QPRM, FTA requested that MWAA obtain an updated letter from WMATA with regard to their ability to supply sufficient vehicles from their existing fleet for the commencement of Silver Line service due to the additional rail cars required to operate service to Largo Town Center Station. MWAA sent a letter requesting WMATA’s reconfirmation of the availability of railcars to WMATA’s Deputy General Manager on June 21, 2013.

To address the new operating plan, WMATA submitted RFMP Revision 4H to the FTA on June 7, 2013 for review and FTA provided comments on June 10, 2013. WMATA submitted RFMP Revision 4I to the FTA on July 5, 2013, which FTA reviewed and provided comments. Subsequently, WMATA issued RFMP Revision 4J dated August 2013, which FTA accepted on August 8, 2013.

Below is a table of the key milestones for this railcar procurement (*as of June 5, 2014*).

<b>Item #</b>	<b>Description</b>	<b>December 2011 Approved Baseline MPS Dates</b>	<b>February 2013 Approved MPS Dates</b>	<b>Actual and Current Forecast Dates</b>
1	Soft Mock up	12/17/10	-	4/28/11A
2	CDR Completion	12/14/10	-	6/30/11A
3	PDR Completion	3/30/11	-	3/16/12A
4	Hard Mock up	10/4/11	-	4/24/12A
5	Completion of HVAC Unit DVR	NA	NA	8/10/12A
6	Completion of Propulsion DVR	NA	NA	9/21/12A
7	Completion of ATC DVR	NA	NA	10/10/12A
8	Completion of Communications DVR	NA	NA	10/19/12A
9	Completion of Network DVR	NA	NA	10/19/12A
10	Begin Production of Pilot Cars #1, 2, 3 and 4 at KMM	9/10/13	-	12/17/12A
11	FDR Completion	10/24/11	-	2/28/13A
12	Begin Car Level Qualification Testing in Japan	10/30/12	-	3/15/13A
13	Completion of Prototype Cars #1, 2, 3, and 4 at KHI	10/29/12	-	5/17/13A
14	Completion of KMM Test Track	NA	NA	7/12/13A
15	Approval Climate Room Testing	2/15/13	7/30/13	4/21/14A

Item #	Description	December 2011 Approved Baseline MPS Dates	February 2013 Approved MPS Dates	Actual and Current Forecast Dates
16	Completion and Approval of Pilot Car Production Activities (MS 7b)	2/20/14	2/20/14	3/21/14A
17	Begin Pilot Car Testing at KMM	10/1/13	7/8/13	8/5/13A
18	First Manual submission (DRAFT)	8/30/13	3/13/14	3/21/14A
19	Completion of Pilot Car Testing at KMM	10/17/13	10/2/13	12/11/13A
20	Completion of Prototype Car Review (Prior to Ship out from Japan)	5/14/13	10/4/13	11/22/13A
21	<b>Completion of Pilot Car FAI (MS 7c)</b>	<b>10/21/13</b>	<b>10/3/13</b>	<b>9/8/14</b>
22	Ship out of Prototype cars from Japan to USA	6/15/13	11/7/13	11/23/13,12/12/13A
23	<b>Completion and Approval of FAI Activities (MS 6e)</b>	<b>12/11/13</b>	<b>12/12/13</b>	<b>12/8/14</b>
24	Shipment of first 4 Pilot Cars to WMATA from KMM	2/20/14	2/20/14	12/13-20/13A
25	Delivery of first 4 production Cars to WMATA	2/11/14	2/20/14	6/2/2014A
26	Final Manual submission (DRAFT)	5/12/14	11/25/14	12/25/14
27	<b>Conditional Acceptance of first 4 pilot Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>8/25/14</b>
28	<b>Conditional Acceptance of first 4 Production Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>8/25/14</b>
29	Completion of On-site Test (After Burn-In)	2/19/15	2/19/15	2/27/15
30	<b>Conditional Acceptance of 64<sup>th</sup> Production Car</b>	<b>6/12/15</b>	<b>6/12/15</b>	<b>3/12/15</b>

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

#### f. Safety and Quality Status

No safety walk downs during this reporting period were needed. As of *June 30, 2014*, DTP had logged *14.662* million project man-hours, with *523* first aid cases and *8* lost time cases. There have been a total of *1,191* incident investigation reports, *95* utility hits, and *55* vehicular accidents. These statistics continue to remain below industry standards. The United States injury rate for 2011 was 5.85 injuries per million hours worked. The 8 lost time cases recorded by DTP result in a rate of less than 0.52 injuries per 100 full time employees.

DTP submitted Safety and Security Certifiable Items List (SCIL) Revision 6 to include the WFCY on August 6, 2012. WMATA submitted comments 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 30, 2012 and MWAA and DTP met on December 18, 2012 to discuss the issues further. DTP subsequently resubmitted the SCIL Revision 6, which was approved “as noted” on February 5, 2013.

DTP submitted its initial System Safety/Security Certification Final Report on February 7, 2014 when it declared SSCD for the first time. SSCD was rejected by MWAA. DTP resubmitted Revision No.1 dated March 27, 2014 which was updated to close out open items and added new items. MWAA “Accepted as Noted” Revision 1 on April 24, 2014. DTP submitted Revision No. 2 updated to incorporate MWAA comments. WMATA felt that the conformance checklists

were sufficiently complete to declare ORD on May 27, 2014. However, WMATA required additional backup data to close numerous items. DTP and MWAA *continue* cooperating to gather and submit the necessary data. *WMATA reports that as of July 9, 2014 they are nearing completion of the conformance checklists and that they don't anticipate any issues that would jeopardize the planned July 26, 2014 revenue service date.*

Regular weekly visits to work sites continue by safety representatives from DTP, MWAA, and WMATA. 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 *June 17, 2014*. The next SCWG Meeting is scheduled for *July 15, 2014*.

MWAA submitted its Safety and Security Management Plan, Revision 8, to the FTA on February 17, 2011. MWAA and WMATA agreed to develop jointly 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.

- **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 undertook stray current tests to calculate the piles' corrosion rate and estimate their remaining service life.

This supplemental testing was successfully completed on September 27, 2013 and UTRS submitted its Report on October 18, 2013. RCC reviewed the data and submitted its "Draft Final Report for Stray Current and Corrosion Evaluation" on November 6, 2013. RCC submitted the Final Report on November 22, 2013. MWAA wrote Letter No. 09350 dated November 26, 2013 and requested WMATA's concurrence with the periodic testing and cross tie replacement recommendations. WMATA responded with Letter No. 343 dated February 4, 2014 indicating that it "took no exceptions to the findings and conclusions" and "will continue to conduct periodic testing." The FTA wrote a letter dated April 11, 2014 stating that the "FTA and its Project Oversight Management Consultant reviewed the RCC Final Report and WMATA's concurrence. Based on that review, FTA closes this matter to any further action by MWAA."

### 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	Test Plan Rev.1 submitted to FTA on March 25, 2013, approved by FTA on May 28, 2013, and forwarded to OIG.
2	Provide documentation to OIG on actions taken on the stray current testing	10 days after action is completed	RCC Final Report submitted to OIG on January 31, 2014
3	Provide documentation to OIG on actions taken on corrosion protection measures installation plan	10 days after action is completed	WMATA letter concurring with RCC Final Report recommendations forwarded to OIG on February 7, 2014.
4	Provide documentation to OIG on actions taken pertaining to the rail car delivery schedule	10 days after action is completed	WMATA RFMP, Revision 4J, submitted on August 5, accepted by FTA on August 8, and forwarded to OIG.

### 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. FTA's email of January 4, 2013 requested the updated organization charts, which MWAA submitted on January 23, 2013. The FTA approved PMP Version 8.0 Final on January 25, 2013.

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. MWAA has made no further QPP procedure updates.

- 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.



- Since WMATA, rather than MWAA, will be **the operator of the completed project**, the **WMATA Rail Fleet Management Plan (RFMP)** is the applicable document. See discussion under Section 2b of this report.
- **Safety and Security Management Plan (SSMP)** see Section 2f.

#### 4. Project Schedule

**Mainline** - The project “Mitigation Schedule” update with a data date of *May 25, 2014* reflects a -212 calendar day variance resulting in an April 9, 2014 SSCD. MWAA completed its schedule review of the schedule update on *June 19, 2014* and notified DTP via MWAA Letter No. *10136* that DTP’s schedule was again “Not Accepted.” MWAA again indicates that the schedule does not accurately represent the remaining work on the Project and does not reflect the complete scope of remaining work.

The PMOC remains confident that the project can be completed before the FFGA RSD of December 1, 2014. ORD was achieved on May 27, 2014. WMATA has taken care and custody and now is working to a Rail Activation Plan Schedule with a *planned* RSD of July 26, 2014. Site Specific Work Plans *have been developed* and approved to grant DTP access to *continue completion of the* remaining punch list work. Some minor troubleshooting and corrective efforts with the ATC and Power Systems continued into June. The Tri-State Oversight Committee and the FTA-PMOC conducted a Silver Line Readiness for Service Review on May 27 through May 30, 2014. Reports were issued in June to MWAA and WMATA for review and comment *and action. All stake holders appear to be united in working towards the common goal of a July 26, 2014 revenue service date.*

MWAA Granted excusable weather delay days as reflected in the table below have resulted in a revised contractual SSCD of September 9, 2013 as of *June 25, 2014*.

##### **MWAA’s Report of Excusable Work Days of Delay through *June 25, 2014***

<b>ACTION</b>	<b>WORK DAYS</b>
<b>Total Excusable Days of Delay on Project Critical Path requested by DTP</b>	<b>27</b>
Under evaluation by MWAA	0
Granted by MWAA	27

DTP submitted letter No. 0321 dated April 11, 2014 claiming 68 days of owner imposed critical path delays. MWAA wrote Letter No. 9963 dated April 29, 2014, and Letter No. 10018 dated May 14, 2014, requesting the schedule native format files in order to conduct a review/analysis and to provide responses and comments. Discussions continue at DTP and MWAA staff levels to determine the facts. It is anticipated by DTP that more delay claims will be submitted by its subcontractors. It is the PMOC’s opinion that ultimately there will be a need for a global

settlement approach. *MWAA reported during the July 9, 2014 QPRM that it has engaged a consultant to conduct an independent time entitlement impact analysis.*

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

**West Falls Church Yard** - MWAA and DTP agreed to a target completion date of December 20, 2013. DTP's schedule update of *May 25, 2014* reflected a -189 calendar day variance yielding a forecasted completion date of *June 27, 2014*. DTP states that the additional delays are attributable to the direction to pursue a new wheel stop or bumping post design for the S&I Shop tracks. *A determination was subsequently made to extend the storage tracks and install spring-loaded wheel stops which are anticipated to be completed in mid-September 2014.* DTP still attributes much of the overall delay to WMATA's changes to the Yard Train Control System, changes to its WFCY Commissioning and Integration Testing Schedule, and poor weather. 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. *DTP's latest yard schedule reflects completion of all yard testing by July 16, 2014. WMATA indicates that the protracted shop track changes will not have an adverse impact on the July 26, 2014 RSD since the additional storage tracks are complete and will be available for train storage and cleaning.*

#### **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 May 2014 Schedule Update for the WFC Yard, their Critical Path No. 1 starts with the completion of the code-related punch list work for the Service and Inspection (S&I) Building; moves to the final inspection and the issuance of a partial Certificate of Occupancy (COO) for the S&I Building; then moves on to the final Safety/Security Certification/COO and completes with Substantial Completion of the WFC Yard. MWAA disagrees that this is the most critical path for the WFC Yard. MWAA believes that completion of the wheel stop/bumping post work, completion of the radio coaxial cable in the sound cover box and tunnel, the FIA testing, and the completion of the SCADA (AC Switchgear) testing are all more critical to the completion of the WFC Yard.*

DTP continues to fail to acknowledge the impact of Alstom's use of unapproved ECNs and procedures on the schedule and since ECN's continue to be developed. On January 25 and 26, 2014 the SPD was conducted and the six minute headway tests were accepted. However, numerous other ATC issues were discovered *that led to a second SPD on March 29* which also had numerous discrepancies. SSCD was technically achieved on April 9, 2014 and accepted by MWAA. However, DTP continued to struggle into *mid-June* to troubleshoot and resolve discrepancies. The Project is now working in accordance with Amendment No. 4 executed on April 23, 2014 to the Cooperative Agreement between MWAA and WMATA which led to the May 27, 2014 WMATA declaration of ORD and acceptance of care and custody. *WMATA is working towards the planned RSD of July 26, 2014. The agreement includes items required to*

be completed prior to RSD, and items that will continue to be addressed following RSD. MWAA and WMATA staffs meet daily to coordinate associated corrective actions and executive staff meetings occur twice a week to monitor and update the associated action items lists.

MWAA continues to carefully analyze the schedule and continues to hold DTP accountable for changes made to the agreed upon schedule.

The following table compares the milestone dates relative to the approved baseline schedule.

MILESTONE	June 2008 Baseline Schedule	December 2010 RECOVERY SCHEDULE	April 2014	May 2014
Receipt of FFGA	03/03/09	03/10/09 <sup>A</sup>	03/10/09 <sup>A</sup>	03/10/09 <sup>A</sup>
Station Design Complete	10/21/09	02/18/11	10/28/11 <sup>A</sup>	10/28/11 <sup>A</sup>
Utility Relocation Complete	03/05/10	09/13/11	01/31/12 <sup>A</sup>	01/31/12 <sup>A</sup>
Aerial and Station Foundations Complete	3/4/11	09/01/11	07/23/11 <sup>A</sup>	07/23/11 <sup>A</sup>
NATM Tunnels Mined	01/29/11	12/03/10 <sup>A</sup>	12/03/10 <sup>A</sup>	12/03/10 <sup>A</sup>
K-Line Track Tie-In	12/23/11	03/28/12	10/14/11 <sup>A</sup>	10/14/11 <sup>A</sup>
Guideway Complete	2/12/12	09/13/12	11/26/12 <sup>A</sup>	11/26/12 <sup>A</sup>
Train Control Installation Complete	10/26/12	10/29/12	02/03/13 <sup>A</sup>	02/03/13 <sup>A</sup>
Systems Testing Complete - Tysons East Station	07/24/12	02/21/13	10/11/13 <sup>A</sup>	10/11/13 <sup>A</sup>
Systems Testing Complete - Wiehle Ave Station	08/13/12	01/16/13	10/11/13 <sup>A</sup>	10/11/13 <sup>A</sup>
Systems Testing Complete - Central 7 Station	01/23/13	04/12/13	11/01/13 <sup>A</sup>	11/01/13 <sup>A</sup>
Systems Testing Complete - Tysons West Station	02/21/13	05/14/13	10/17/13 <sup>A</sup>	10/17/13 <sup>A</sup>
Systems Testing Complete - Tysons 123 Station	12/20/12	03/28/13	11/14/13 <sup>A</sup>	11/14/13 <sup>A</sup>
Substantial Completion Date (SSCD)	07/31/13	07/31/13	04/09/14 <sup>A</sup>	04/09/14 <sup>A</sup>
Completion – WFCY	NA	N/A *	07/26/14	06/27/14
Revenue Service Date (RSD) – <i>Planned</i>	11/27/13	01/02/14	07/26/14	07/26/14**
FFGA Revenue Operations	12/01/14	12/01/14	12/01/14	12/01/14

<sup>A</sup> Actual Date. See narrative in section D.1.3. \*Agreed Target Date was 12/20/13.

\*\* This date represents a *planned* RSD by WMATA.

Please note that the above schedule table data represents the last schedule update that has been fully reviewed and analyzed by MWAA but has become obsolete for all practical purposes. The Project is now working in accordance with the above noted amendment to the MWAA and WMATA Cooperative agreement with an *achieved* ORD of May 27, 2014 and a *planned* RSD of July 26, 2014.

#### **b. Important Activities – 90-Day Look Ahead**

- *Complete N-Line punch list.*
- *Establish agreements on WMATA proposed long term solutions for bobbing track circuits; cab flips and Horton RTU reliability.*
- *Complete WFCY systems testing.*
- *Complete WFCY punch list.*
- *Complete the SCIL sign-off and acceptance.*
- *Complete WFCY SSCD.*
- *Achieve RSD*

## 5. Project Cost

The SCC Budget and Expenditures summary for the period ending *May 25, 2014* is shown below. Overall, approximately *94%* of the budget has been expended.

**Project Cost Summary by SCC Code – May 2014**

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET <sup>1</sup>	EXPENDED TO DATE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 623,124,790	\$ 608,842,896	\$ 613,050,585
20	Stations	\$ 355,278,462	\$ 345,853,168	\$ 352,252,667
30	West Falls Church Yard	\$ 75,689,276	\$ 57,985,842	\$ 72,499,246
40	Site Work & Utility Relocation	\$ 241,143,360	\$ 233,650,441	\$ 253,713,835
50	Systems	\$ 313,140,395	\$ 292,499,336	\$ 309,990,511
60	Right of Way Acquisition	\$ 67,631,026	\$ 57,847,005	\$ 61,898,912
70	Vehicles	\$ 195,352,701	\$ 97,592,310	\$ 194,648,939
80	Professional Service – FD	\$ 740,068,339	\$ 839,269,935	\$ 836,703,522
90	Contingency Mgmt. Reserve	\$ 92,858,713	\$ -	\$ 9,528,848
100	Finance Charge <sup>3</sup>	\$ 438,184,571	\$ 169,315,567	\$ 438,184,571
<b>Total Federal Scope</b>		<b>\$ 3,142,471,635</b>	<b>\$ 2,702,856,499</b>	<b>\$ 3,142,471,635</b>

### a. Explanation of Variances

The major variances from the FFGA project budget are associated in seven categories as noted below:

1. SCC10 – Guideway and Track Elements has been reduced approximately \$51.1 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 and the addition of sales tax to permanent materials.
2. SCC20 – Stations has been increased by approximately \$26.9 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 allowance item for stations finishes and MEP increased over budget.
3. SCC30 – WFC Yard has increased by approximately \$19.4 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 \$24.3 million as a result of a combination of change events (change orders, directive letters and scope transfers) and cost overruns.
5. SCC50 -- Systems has increased by \$28.0 million due to additional WMATA requirements for Emergency Trip Station/Amber Light Warning System and requirements for Communications.
6. SCC60 – Right of Way Acquisition experienced nearly \$15.9 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 \$134.0 million. The change events are numerous with the most significant being the transfer from the tunnel subcontract and the addition of design for and WFCY. The forecast adjustment is predominantly attributed to higher project management costs for MWAA, PMSS, WMATA and VDOT.
9. SCC90 – Contingency Management Reserve estimate at completion of \$19.82 million is the result of the transfer of the Finance Costs (SCC 100) under-run of \$71.8 million, which was authorized by the MWAA Board in December 2012, and the \$19 million under-run in commodity escalation. The PMOC is of the opinion that the remaining \$19.82 million contingency reserve that includes the \$40.3 million in CNPAs is adequate.

MWAA indicates that there are 32 Design-Build Change Orders totaling an estimated \$32.22 million that are under evaluation. In addition, there remain 147 Design-Build Potential Change Orders. MWAA reports that all UR changes have been settled pending final closeout/funding/documentation.

## b. Monthly Cost Report – May 2014 Federal Only

DESCRIPTION	FFGA AMOUNT (Original)	EXPENDITURE TO DATE <sup>1</sup>	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION	PERCENT OF EAC EXPENDED TO DATE
<b>FEDERAL (FFGA SCOPE)</b>					
<b>Design-Build</b>					
Firm Fixed Price <sup>9</sup>	\$ 1,112,052,173	\$ 1,798,936,198	\$ 10,412,549	\$ 1,809,348,747	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 76,959,393	\$ 739,266	\$ 77,698,659	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,875,895,591	\$ 11,151,815	\$ 1,887,047,406	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 782,657	\$ 782,657	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,875,895,591	\$ 11,934,472	\$ 1,887,830,063	
Indexed Commodity Escalation <sup>5</sup>	\$ 77,469,926	\$ -	\$ 17,036,675	\$ 17,036,675	
<b>Design-Build Contract Total</b>	\$ <b>1,684,831,325</b>	\$ <b>1,875,895,591</b>	\$ <b>28,971,147</b>	\$ <b>1,904,866,738</b>	<b>98%</b>
<b>Utility Relocation</b>					
Utility Work	\$ 84,312,807	\$ 97,209,693	\$ 2,109,550	\$ 99,319,243	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,635,306	\$ 119,185	\$ 25,754,491	
<b>Utility Relocation Total</b>	\$ <b>92,736,233</b>	\$ <b>122,844,999</b>	\$ <b>2,228,736</b>	\$ <b>125,073,734</b>	<b>98%</b>
<b>Right of Way</b>					
<b>Right Of Way Total</b>	\$ <b>42,443,132</b>	\$ <b>58,181,208</b>	\$ <b>4,342,704</b>	\$ <b>62,523,912</b>	<b>93%</b>
<b>WMATA Agreement</b>					
Vehicles <sup>10</sup>	\$ 195,138,329	\$ 97,592,310	\$ 97,056,629	\$ 194,648,939	
Construction and Procurement	\$ 31,484,799	\$ 17,272,459	\$ 10,825,657	\$ 28,098,117	
WMATA Force Account Startup <sup>8</sup>	\$ 13,777,100	\$ 18,864,084	\$ (5,459,063)	\$ 13,405,021	
Project Management and Final Design <sup>8</sup>	\$ 31,235,400	\$ 36,832,815	\$ (1,349,263)	\$ 35,483,552	
<b>WMATA Agreement Total</b>	\$ <b>271,635,628</b>	\$ <b>170,561,667</b>	\$ <b>101,073,961</b>	\$ <b>271,635,628</b>	<b>63%</b>
<b>Preliminary Engineering<sup>2,3</sup></b>					
<b>Preliminary Engineering Total</b>	\$ <b>100,968,646</b>	\$ <b>100,730,999</b>	\$ <b>-</b>	\$ <b>100,730,999</b>	<b>100%</b>
<b>Airports Authority Services</b>					
General Conditions <sup>4</sup>	\$ 28,879,153	\$ 13,639,806	\$ 16,410,972	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 39,788,900	\$ 4,309,326	\$ 44,098,226	
Project Management Support	\$ 90,004,649	\$ 151,897,762	\$ 3,880,438	\$ 155,778,200	
<b>Airports Authority Services Total</b>	\$ <b>142,109,519</b>	\$ <b>205,326,468</b>	\$ <b>24,600,736</b>	\$ <b>229,927,204</b>	<b>89%</b>
<b>Contingency<sup>5</sup></b>					
<b>Contingency Total</b>	\$ <b>297,762,579</b>	\$ <b>-</b>	\$ <b>9,528,848</b>	\$ <b>9,528,848</b>	
<b>Finance Costs<sup>6</sup></b>					
<b>Finance Costs Total</b>	\$ <b>509,984,571</b>	\$ <b>169,315,567</b>	\$ <b>268,869,004</b>	\$ <b>438,184,571</b>	
<b>Total Federal (FFGA Scope)</b>	\$ <b>3,142,471,635</b>	\$ <b>2,702,856,499</b>	\$ <b>439,615,135</b>	\$ <b>3,142,471,635</b>	<b>94%</b> <sup>7</sup>

1 Reflects Paid costs through May 31, 2014

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 contingency

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

5 Estimate at Completion for Contingency and Indexed Commodity Escalation represent the remaining amounts

6 The transfer of Finance Costs under-run of \$71.8 million to the contingency was approved in December 2012

7 This percentage does not include Finance Costs and Contingency

8 Negative Estimate To Complete is due to pending budget adjustments for WMATA Agreement

9 Estimate at Completion includes \$1.7M for WMATA ATC RTU Technology Upgrade

10 WMATA Vehicles expenditure to date will be adjusted to remove \$14.5 million for payment towards Option 1 kickoff for Phase 2.

General Comments:

\* During March 2013, \$40.3M was transferred from Fed to Non-Fed as a result of CNPA adjustments making a contribution to Federal contingency and drawdown from Non Federal contingency

\* During October 2013, \$6 million for 4th quarter of 2012 and \$5m for 1st quarter of 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from federal contingency

\* During May 2014, \$1.2 million for 2nd quarter of 2013 and \$7.1 million for 3rd quarter of 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from federal contingency

**c. Sources of Capital Funding - May 2014**

SOURCES OF CAPITAL FUNDING	GRANT ID	PERCENT AT COMPLETE	TOTAL	EXPENDED TO DATE <sup>1</sup>	PERCENT FUND SOURCE EXPENDED TO DATE	REMAINING
<b>Sec 5309 New Starts Federal Funds</b>						
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	VA-03-0113-05		\$ 90,832,000	\$ 90,832,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-06		\$ 90,730,505	\$ 90,730,505	100%	\$ -
FFGA Construction Grant <sup>5,6</sup>	VA-03-0113-07		\$ 96,000,000	\$ 41,773,032	44%	\$ 54,226,968
FFGA Balance	Planned		\$ 102,155,131	\$ -	0%	\$ 102,155,131
<b>Subtotal - New Starts</b>		<b>26.91%</b>	<b>\$ 900,000,000</b>	<b>\$ 743,617,901</b>	<b>82.62%</b>	<b>\$ 156,382,099</b>
<b>Other Federal Funds</b>						
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%	\$ -
<b>STP/Sec. 5307</b>		<b>2.24%</b>	<b>\$ 75,000,000</b>	<b>\$ 75,000,000</b>	<b>100%</b>	<b>\$ -</b>
<b>Local Funds</b>						
VTA 2000			\$ 51,700,000	\$ 51,700,000	100%	\$ -
Commonwealth Transportation Bonds <sup>2</sup>			\$ 125,000,000	\$ 125,000,000	100%	\$ -
Fairfax County Funds <sup>3</sup>			\$ 523,750,000	\$ 414,375,241	79%	\$ 109,374,759
Dulles Toll Road Revenues <sup>2,4,5</sup>			\$ 1,668,429,864	\$ 1,293,163,357	78%	\$ 375,266,507
<b>Subtotal - Local Funds</b>		<b>70.84%</b>	<b>\$ 2,368,879,864</b>	<b>\$ 1,884,238,598</b>	<b>79.54%</b>	<b>\$ 484,641,266</b>
<b>DTR Revenues/Commonwealth Funds<sup>3</sup></b>			<b>\$ 3,343,879,864</b>	<b>\$ 2,702,856,499</b>	<b>80.83%</b>	<b>\$ 641,023,364</b>

<sup>1</sup> Reflects costs through May 31, 2014

<sup>2</sup> In January 2010, \$23.6 million 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.

<sup>3</sup> Includes Tax District Revenues (\$400 million) plus actual debt service payments.

<sup>4</sup> Includes pay-as-you-go revenues and bond proceeds

<sup>5</sup> Expenditures include accruals.

## 6. Project Risks

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. MWAA submitted a list of revised Top Ten Risks dated December 2012 on January 22, 2013. The PMOC submitted its comments on the proposed revised risks to MWAA on February 22, 2013 and the comments were discussed at the March 7, 2013 update meeting. MWAA revised the proposed top ten risks and resubmit them on March 20, 2013 as their re-titled "Proposed Top Tier" list containing nine items along with a revised risk register. The PMOC provided comments on April 3, 2013 and during the April 9, 2013 monthly meeting, the PMOC requested that MWAA resubmit a proposed top ten risks versus a top tier list. The PMOC commented on April 29, 2013 relative to the resubmission dated April 17, 2013, agreeing to the risks but raising some questions relative to numbering. On May 1, 2013, MWAA submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. PMOC provided comments on the revised Top Ten Risks on April 29, 2013. In a letter dated June 27, 2013, the FTA and PMOC concurred with the proposed March 29, 2013, Top Ten Risks List as submitted by the Airports Authority on April 30, 2013. In response to FTA's request, the Airports Authority is evaluating the Risk Register and Top Ten Risks List continually and updating them on a quarterly basis. The table below lists the Top Ten Risks updated as of the end of Q1 2013. The Project team updated the Risk Register and the Top Ten Risks List at the end of Q2 2013 and submitted the documents for FTA/PMOC's review in July 2013.

- a. **Budget Risks:** MWAA has allocated \$71.8 million in finance cost savings and \$19 million of Commodity Escalation under-run to Contingency. This brings the total Contingency to \$388,562,579. Through *May 25, 2014*, MWAA reports that it has utilized \$379,033,732 of the \$381,800,000 available contingency for the first eleven contingency milestones leaving a balance of \$6,762,579. For phase 12 MWAA reports \$6,762,579 remains which leaves an estimated balance at project completion of \$9,528,848. MWAA's transfer of \$90.80 million to contingency and the removal of CNPA expenditures have improved the Project Contingency situation. However, the project must continue to be diligent in its efforts to identify additional contingency monies and to control the project costs. **As noted elsewhere in this report, there is a significant number of Design-Build (32) Change Orders that remain under evaluation, and a large number of Potential Change Orders (147). The Potential Change Orders, which are not yet valued, represent a cause for concern given the delay in achieving SSCD which will inevitably result in claims by the contractor. MWAA should evaluate whether or not the remaining contingency amount is sufficient.**

MWAA provided the following "Major items potentially impacting Contingency" during the July 9, 2014 monthly meeting:

1. DTP's Time Impact Analysis (TIA#11) for Safe Brake Testing + \$7.6M (52 days).
2. DTP's Time Impact Analysis (TIA#12) for Safe Brake Testing = \$0.4M (10 days)



3. *DTP's Time Impact Analysis (TIA#13) for ETS/RM = \$4.5M (6 days or net 68 days)*
4. *WMATA Costs = \$18.0M*
5. *Project Management = \$7.0M*
6. *RFC under evaluation = \$16.0M*
7. *PCO Rough Order of Magnitude (ROM) = \$14.0M*

*Total = \$67.5M*

*The preliminary analysis by MWAA indicates insufficient contingency; however, MWAA continues to review the overall budget.*

- b. 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 available 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 *May 2014*, MWAA has granted DTP time extensions of 40 calendar days reducing the available contingency from 510 to 470 calendar days. The currently approved contractual SSCD is September 9, 2013. The accepted SSCD is April 9, 2014. DTP has submitted Letter No. 0321 dated April 11, 2014 claiming an additional 68 days of excusable compensable delays that if accepted would move the contractual SSCD to November 16, 2013. **It is the PMOC's opinion that further compensable delay claims will be submitted by the Contractor/Subcontractors for further owner imposed changes/delays in an attempt to mitigate the remaining difference between the contract required SSCD and the achieved SSCD.**
- c. Top Ten Risks:** MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the Top Ten Risks for review and approval. FTA approved the revised Top Ten Risks by letter dated November 29, 2012. Below are the MWAA proposed Top Ten Risks dated March 29, 2013 and submitted on April 30, 2013, and approved by FTA on June 27, 2013. MWAA is in the process of updating the Risk Register as the Project nears completion. A detailed report was submitted on June 3, 2014 for FTA/PMOC review and approval.

### Summary Status of the Top Ten Project Risks, June 2014

RISK NUMBER	RISK DESCRIPTION	RISK STATUS			
		SINCE INCLUSION ON TOP TEN LIST		<i>Since June 2014 Update</i>	
		COST	SCHEDULE	COST	SCHEDULE
70.R.27	Delay in new RC-7000 vehicle (railcar) delivery.	Unchanged	Unchanged	Unchanged	Unchanged
80.C.20	WMATA deliverables scope of work, including technical support, may exceed the schedule and therefore the budget.	To be Retired	To be Retired	To be Retired	To be Retired
30.C.39	Construction issues (WFC Yard delayed construction which affects opening of the system). WFC Yard construction issues delaying construction completion.	To be Retired	To be Retired	To be Retired	To be Retired
50.S.2	WMATA required points of testing for acceptance. (Supervisory Control and Data Acquisition (SCADA) Testing Required Points)	To be Retired	To be Retired	To be Retired	To be Retired
10.C.21	Availability of track access for DTP to complete the K-Line connection work. Currently the primary challenge relates to the resolution of ATC problems and rework.	To be Retired	To be Retired	To be Retired	To be Retired
70.S.1	Insufficient number of railcars for Safe Braking Dynamic Testing.	To be Retired	To be Retired	To be Retired	To be Retired
20.C.45	Construction not in accordance with permitted design documents.	Unchanged	Unchanged	<i>Unchanged</i>	<i>Unchanged</i>
50.S.34	Design changes by DTP during construction: 1. This is causing a massive backlog of design review by DTP Engineering. In some instances DTP is proceeding with construction of changes to the Authority Having Jurisdiction (AHJ) approved design documents without the necessary approvals. 2. This is also causing a backlog of design reviews which are required by WMATA. (Reviewing/approving DTP Construction/Test documents)	To be Retired	To be Retired	To be Retired	To be Retired
20.C.40	Delay in Station Finishes (Platform Granite Edge, Platform & Mezzanine Paving Tile, Ceilings and Ceiling Lighting)	To be Retired	To be Retired	To be Retired	To be Retired
50.C.41	Completion of the installation of the upgrade for the new (Proposed) communication center at WMATA's Carmen Turner Building.	To be Retired	To be Retired	To be Retired	To be Retired

## 7. Action Items

### MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
2	2B.01	Submit dates and responsible individuals for the Readiness for Revenue Operations Roadmap provided on February 12, 2013.	FTA and PMOC need to schedule necessary readiness reviews.	Y	Y	Y	Information for roadmap was requested by February 28, 2013. A partially completed roadmap was submitted to the FTA/PMOC at the June 6, 2013 monthly update meeting. This roadmap did not include the start and completion dates for which WMATA is responsible. WMATA submitted Rail Activation Plan, Revision 4.0 dated December 13, 2013. Initial document reviews and interviews with MWAA were conducted on January 14 and 15, 2014. MWAA continues to update the roadmap at monthly update meetings.	R
2	2B.04	Transfer the value of CNPAs out of the federal portion and add to contingency as they arise.	MWAA submitted Letter No.09051 dated September 26, 2013 with CNPA items for FTA review and approval for the 2 <sup>nd</sup> Quarter 2013. MWAA also submitted Letter No. 09555 dated January 17, 2014 regarding CNPAs for the 3 <sup>rd</sup> Quarter of 2013 for FTA review and approval.	Y	Y	N	Additional information about both recommendations was requested with information regarding the September 26, 2013 submittal received on February 26, 2014. PMOC made recommendations to FTA regarding 2 <sup>nd</sup> Quarter 2013 and 3 <sup>rd</sup> Quarter 2013 CNPAs on April 16, 2014.	R
2	2B.05	Evaluate the cost of Potential Change Orders (PCOs) and possible delay claims relative to remaining contingency.	The impact of non-valued PCOs and potential delay claims due to the protracted SSCD attainment may exceed remaining contingency.	N	N	N	As the Project nears completion, MWAA needs to determine what their cost exposure, if any, could be and assess financial capacity.	R

#### **KEY ITEM**

Subtask 2A

CLIN 0002A – PMP Review

Subtask 2B

CLIN 0002 – On-Site Monitoring

#### **LEGEND**

##### **PRIORITY (PR)**

1- Most Critical

2- Critical

3- Least Critical

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

##### **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

# APPENDICES

## APPENDIX A – LIST OF ACRONYMS

AAC	Agreement After Certificate
AEMS	Automated Energy Management System
AIMS	Advanced Information Management System
AMEP	Architectural/Mechanical/Electrical/Plumbing
ARRA	American Reinvestment and Recovery Act
ASSHTO	American Association of State Highway and Transportation Officials
ATC	Automatic Train Control
CAR	Corrective Action Request
CCC	Construction/Procurement/Installation Conformance Checklist
CD	Calendar Days
CDRL	Contract Deliverables Requirements List
CMU	Concrete Masonry Units
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
DQT	Design Qualification Testing
DR	Deficiency Report
DTP	Dulles Transit Partners, LLC
DTR	Dulles Toll Road
DVP	Dominion Virginia Power
ETS	Emergency Trip Station
FAI	First Article Inspection
FFGA	Full Funding Grant Agreement
FIA	Fire and Intrusion Alarm
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FY	Fiscal Year
HC	Heater Cable
HOT	High Occupancy Toll
IDW	Intrusion Detection Warning System
IFC	Issued For Construction
IFP	Issued for Proposal
IRR	Issue Requiring Resolution
KHI	Kawasaki Heavy Industries, Ltd. (Plant in Japan)
KMM	Kawasaki Motor Manufacturing, Corp. (Plant in Lincoln, NE)

KRC	Kawasaki Rail Car, Inc. (Yonkers, NY)
KSA	KSA, INC – Producer of Concrete Crossties
LSRO	Loss of Speed Readout
MH	Manhole
MCI	A communication company now owned by Verizon
MEP	Mechanical, Electrical and Plumbing
MPS	Master Program Schedule (7K Railcars)
MOT	Maintenance of Traffic
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
ORD	Operational Readiness Date
PAC	Point Assignment Charts
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
RAP	Rail Activation 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
ROM	<i>Rough Order of Magnitude</i>
ROW	Right-of-Way
RSD	Revenue Service Date (synonymous with Revenue Operations Date)
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
SCB	Sound Cover Box
SCC	Standard Cost Category
SCIL	Safety and Security Certifiable Items List
S&I	Service and Inspection
SITCC	Startup Integration Testing Conformance Checklist
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
STP	Surface Transportation Program
SWGR	Switch Gear
TBD	To Be Determined

TBS	Tie Breaker Station
TOC	Tri-state Oversight Committee
TPSS	Traction Power Substation
UR	Utility Relocation
VDOT	Virginia Department of Transportation
VTF	Vertical Test Facility (Corrosion Testing)
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:** July 23, 2014 (reporting current through May 2014 - Financials through May 2014)

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

**Grantee:** Metropolitan Washington Airports Authority (MWAA)

**FTA Regional Contact:** Corey Walker, 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

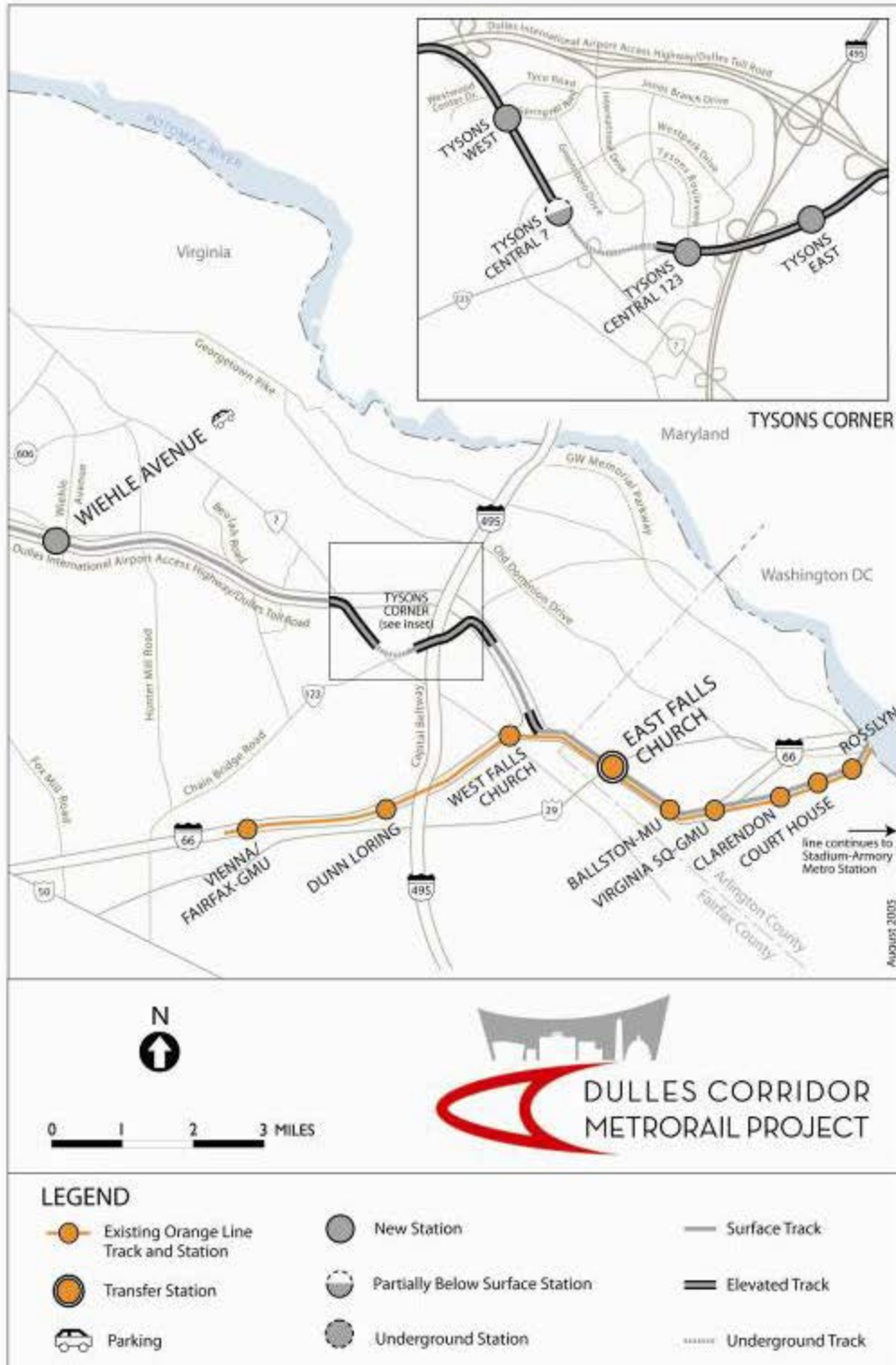
06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
07/26/14	Revenue Service Date (RSD) per WMATA's RAP Schedule <i>and public announcement.</i>		
99.0%	Percent Complete Construction as of <i>June 30, 2014.</i>		
92.0%	Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)		
94.5%	MWAA's Estimate of Project Earned Value through <i>May 2014</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
\$2.702 billion	Expenditures through <i>May 2014</i>
94.0%	Percent complete based on federal expenditures.
\$9.52 million	Total project contingency remaining (allocated and unallocated) through <i>May 2014</i> .

# Project Map



**Construction Operational Areas**



## APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST

<b>Project Overview</b>	<b>Dulles Corridor Metrorail Project</b>		
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		
<b>Project Plans</b>	<b>Version</b>	<b>Review By FTA</b>	<b>Status</b>
Safety and Security Management Plan	3/20/12	4/20/12	Accepted. MWAA submitted SSMP Rev.9 dated March 2012 for review in March 2012 and FTA accepted it on April 13, 2012.
Safety and Security Certification Plan	3/2012	4/13/12	WMATA's SSCPP March 2012 Revision is included as Appendix E to MWAA's SSMP Revision 9, which FTA accepted on April 13, 2012.
System Safety Program Plan	1/2012	N/A	On April 6, 2012, WMATA submitted an updated SSPP dated January 2012 that the TOC approved on April 23, 2012.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)	3/2012	N/A	WMATA's submitted s revised SEPP to TOC in March 2012 that the TOC approved on April 23, 2012.
Construction Safety and Security Plan	1/23/13	1/25/13	Addressed in PMP. FTA approved PMP Version 8.0 Final on January 25, 2013.

<b>Safety and Security Authority</b>	<b>Y/N</b>	<b>Notes/Status</b>
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?	Y	The TOC approved an updated WMATA SSPP dated January 2013.
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 and/or its contractor (TRA) routinely attends the quarterly meetings, including the most recent on December 17, 2013.
Has the grantee submitted its safety certification plan to the oversight agency?	N	SSCPP has been developed and distributed to stakeholders
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	WMATA will be operator.

<b>SSMP Monitoring</b>	<b>Y/N</b>	<b>Notes/Status</b>
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	The Silver Line Project currently has several active committees, including the weekly start-up committee (Tuesdays), monthly safety and security working group (3 <sup>rd</sup> Thursday), and biweekly rail activation committee (Friday)
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	N	Gannett Fleming conducted a PHA dated 5/10/2013 for the project. Volpe conducted a TVA that is on file at WMATA MPTD headquarters.
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	MWAA developed the integrated test plan that WMATA approved on 3/15/2013.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	This will occur after SSCD. Per page 61 of PMP, WMATA is to participate in the review and accept; and MWAA is to participate and issue final acceptance.
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	WMATA meets bi-weekly with MWAA to review the status of the RAP. This meeting is attended by all of WMATA's key staff responsible for implementing the various aspects of the RAP.
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	

<b>Construction Safety</b>	<b>Y/N</b>	<b>Notes/Status</b>
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 523 first aid cases and eight lost time cases in <i>14.662 million</i> 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	

<b>Federal Railroad Administration</b>	<b>Y/N</b>	<b>Notes/Status</b>
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 D – PMOC TEAM PERFORMING THIS REVIEW**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]