

# COMPREHENSIVE MONTHLY REPORT

November 2014

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

January 9, 2015

**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

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## **EXECUTIVE SUMMARY**

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *December 10, 2014* to conduct a monthly progress meeting for work performed in *November 2014*. Additional information for this report was obtained from MWAA during the first and second weeks of *December 2014*. The next PMOC monthly progress meeting is planned to be conducted on *January 8, 2015*. *The next Quarterly Progress Review Meeting will be held during the week of February 23, 2015.*

### **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) undertook 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 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 actual RSD was July 26, 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 \$797,844,869 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 *December 10, 2014* to conduct a monthly progress review meeting and MWAA provided supplemental information the following week. The status of information is as of *November 30, 2014*, unless otherwise noted.

- **Real estate acquisition** - All 105 parcel packages were acquired as of December 2013. MWAA completed transfer of property to WMATA on July 25, 2014.

**Rail Car Procurement** – *The PMOC participated in a teleconference meeting on December 17, 2014 with FTA, MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #51 information package. The PRM #51 meeting was held at WMATA's Jackson Graham Building (JGB) on December 11, 2014. Design Qualification Testing (DQT) continues for components and subsystems and as of November 30, 2014 remain 99% complete and First Article Inspections are 98% complete. 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 83,776 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 April 12, 2015. However, the conditional acceptance of the first eight rail cars, as noted in the PRM No. 51 schedule, has again slipped another month to December 28, 2014 which, taking into account the six month “burn-in” period, makes the April 12, 2015 Kawasaki forecast highly unlikely. (The contract specifications provide for an alternate burn-in period of 1,000 miles without failure.) During the December 17 Update Meeting, WMATA noted that conditional acceptance will be further delayed until mid-January 2015.* 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. *It is the PMOC’s opinion that the contractual date for the conditional acceptance of the 64<sup>th</sup> rail car may not be met without some waiver of the contract provisions by WMATA.*

- **Design progress** – MWAA reported that, as of the end of February 2013, all required permit applications have been submitted and approved.
- **Construction is essentially complete.** The Operational Readiness Date (ORD) was achieved on May 27, 2014 and on that date WMATA accepted care and custody of the Silver Line. WMATA submitted its Final Safety and Security Verification Report and Certificates to the FTA, TOC and PMOC on July 24, 2014. The PMOC provided its Readiness to Enter Revenue Operations (RERO) report to the FTA with an affirmative recommendation on July 24, 2014. On July 25, 2014 the Tri-State Oversight Committee (TOC) provided its Pre-Revenue Service Review Final Report and concurrence that the Silver Line was ready to enter revenue service. In turn the FTA agreed and the joint efforts led to the achievement of a successful July 26, 2014 Revenue Service Date and Silver Line grand opening. MWAA/DTP and WMATA *are continuing* to coordinate at the staff level on a daily basis and on an executive level on a weekly basis as punch list corrective activities continued through *November* and into *December* 2014. The punch list and an Attachment 3 to Amendment 5 of the Cooperative Agreement have been established to monitor progress on all remaining activities including the issuance of change order(s), executing Alstom ATC contract(s) that MWAA will manage with WMATA support and the award of additional monies to WMATA for their implementation of certain corrective efforts. See 2.b.

**The DTP Schedule Update** - MWAA continues to indicate that the contractor’s schedule fails to include ongoing activities and issues being dealt with on the Project. Although the RSD has been achieved, continued debate over the schedule updates in the months to come will be critical to achieving delay claim settlement and contract closeout. During the November 6, 2014 monthly meeting MWAA reported that MWAA and DTP have agreed that there is no extension to the September 9, 2013 SSCD. However, MWAA and DTP continue to discuss other related schedule impact costs claimed by DTP. It should also be noted that MWAA stated during the November 6 monthly meeting that it is aware that there are more claims that DTP intends to submit.

**West Falls Church Yard (WFCY) completion date** - DTP’s **final** schedule update of July 25, 2014 reflected a -215 calendar day variance to the targeted completion date of December 20, 2013,

resulting in a forecast completion date of July 23, 2014 and DTP executed its Substantial Completion Certificate (SCC) on July 23, 2014. MWAA subsequently approved the SCC with exceptions for the shop wheel stop changes, radio changes and SCADA testing. The radio changes and the SCADA testing were completed in September, and MWAA reported during the November 6, 2014 monthly meeting that the shop track changes have been completed.

*The S&I Shop Contractor, Whiting and Turner, has pulled off the job over a pay dispute with DTP. Efforts are underway to resolve the dispute so that Whiting and Turner's subcontractor can proceed with necessary WMATA training for the automated building system controls and fire sprinkler system testing needed to obtain the final fire marshal's approval. DTP is taking steps to get those responsible for the fire sprinkler work get paid. DTP has indicated that they will order those workers to complete their work. These issues need to be resolved before an approved safety certificate and an occupancy permit can be obtained. The current temporary use permit expires on January 20, 2015; however, MWAA will seek an extension. MWAA's anticipates having all issues resolved prior to the expiration of the temporary use permit. Also currently under dispute is recent WMATA ADA mandated changes to the shop men's locker room.*

- **Budget status as of October 31, 2014 indicates** that \$2,750,042,490 or 95%, of the \$3,142,471,635 budget total, has been expended, excluding Finance Cost and Contingency. MWAA reports \$374,544,925 of the available contingency has been drawn down to date. The current estimate of the contingency available at the end of construction is \$14.017 million. In the PMOC's opinion, the sufficiency of the remaining contingency still needs to 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. *However, it should be noted that MWAA has emphasized their confidence that the FFGA budget will not be exceeded.* At the October 9, 2014 update meeting, MWAA indicated that this evaluation and settlement process would likely take an additional four to six months.
- **MWAA's estimate of the Earned Value** for the Project through *October* is 95.8%.
- **Risk** - 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 Equivalents (FTE)** estimated total for *November* 2014 is 89 which includes an estimated number of 30 DTP personnel.

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	\$14.017M
<b>Schedule</b>	Revenue Service Date	December 1, 2014	July 26, 2014*
<b>Total Project Percent Complete</b>		Based on Expenditures	95%
		Based on Earned Value	95.8%
<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, ATC lab <i>delivery, and installation and testing of more reliable third rail heat tape components.</i>	DTP/Alstom continues to develop plans and estimates to implement what it considers to be changes to the contract. These changes are included in Attachment 3 to Amendment 5 of the Cooperative Agreement. MWAA reported during the <i>December 10, 2014</i> monthly meeting that <i>the five outstanding activities will be accomplished by issuance of change orders or task order contracts.</i>	
<b>Date of Next Quarterly Meeting:</b>		<i>Week of February 23, 2015</i>	

\* Accepted SSCD is April 9, 2014. ORD was achieved on May 27, 2014. RSD was achieved on July 26, 2014.

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

#### Budget

Through *October 2014*, MWAA has utilized \$374.54 million of contingency resulting in a remaining balance of \$14.01 million through achievement of the FFGA anticipated to be December 1, 2014. **In the PMOC’s opinion, the sufficiency of the remaining contingency still needs to 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. Based on MWAA’s comments during the October 2014 Update Meeting, this assessment will be completed sometime between February and April, 2015. MWAA continues to emphasize that it anticipates that the FFGA budget will not be exceeded.**

#### Schedule

The DTP’s **last** mitigation schedule with a data date of July 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 and RSD was achieved on July 26, 2014. However, DTP again failed to reflect ongoing work relegated to the Punch List in accordance with a Memorandum of Agreement between DTP and MWAA. DTP stated in its Letter No. 00725 dated July 25, 2014 that it would not be submitting any more monthly schedule updates

for the remainder of the Project. MWAA responded and indicated that DTP has a contractual responsibility to submit schedule updates until Final Acceptance is achieved. *However, DTP is not responding.*

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 has not yet been determined since DTP continued to submit schedule updates that did not appear to reflect the realities of actual activities and their critical paths. In addition, some WMATA mandated changes and corrective efforts will no doubt complicate the settlement of time and cost for Project delays. MWAA engaged TDF, LLC to conduct an initial time impact schedule analysis that led to additional discussions with DTP. MWAA subsequently hired Trauner Consulting Services, Inc. to continue with a detailed forensic time impact analysis and to assist in determining delay liabilities. MWAA reported in the October 9, 2014 monthly meeting that the analysis and settlement process will require an additional four to six months. The PMOC notes that time entitlement and associated claims and change order settlements have the potential of extending the contract closeout for a much longer period of time due to the complex issues being addressed. MWAA reported during the November 6 monthly meeting that they have achieved an agreement with DTP that no additional excusable delays will be granted beyond the current September 9, 2013 contract SSCD. However, additional claimed schedule impact costs are still under consideration.

Complicating the existing seven month delay to the SSCD were WMATA mandated changes that have impacted several subcontractors both before the RSD and after the RSD. The changes yet to be accomplished have been noted in Attachment 3 to the Amendment 5 to the Cooperative Agreement **but the change orders/contracts have not yet been issued with the exception of the Alstom RTU replacement contract.** The status of the changes to be accomplished is summarized in the table located in Section 2b of this report.

WMATA and MWAA continue to meet weekly at the staff level and bi-weekly on an executive staff level to coordinate the completion of the Attachment 3 activities leading to **final acceptance and contract closeout.** MWAA indicates the completion of these activities could take up to an additional year. **It is the PMOC's opinion that they could take a year or more to fully accomplish since the issuance of the change orders continues to lag.**

#### West Falls Church Yard

DTP incorporated the West Falls Church Yard construction into the mitigation schedule with a target completion date of December 20, 2013. DTP's July 25, 2014 schedule update reflected a -215 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of July 23, 2014. DTP executed its Substantial Completion Certificate on July 23, 2014 and MWAA subsequently approved it with exceptions for the shop wheel stop changes, radio changes and SCADA testing *that were completed in September, October and November.* DTP has stated it will not be submitting any more schedule updates. The WFCY delays will likely be included in a global settlement with the main line delays which are currently under forensic analysis. *Additional issues, as noted above, remain open that prevent achieving a final occupancy permit as noted above in section 2.*

## 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 *at risk*, it is the PMOC's opinion that Kawasaki *cannot* achieve their *current* forecast for the conditional acceptance of the 64<sup>th</sup> railcar *on April 12, 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 at WMATA and continue to undergo Design Qualification Testing.

*In the PMOC's opinion, Kawasaki's projected conditional acceptance date of April 12, 2015 for the 64<sup>th</sup> rail car does not appear likely. The contract with Kawasaki for the rail cars states that the first two Quad units shall be subject to an eight car revenue service test. "The duration of the test shall be 6 months, subject to a minimum of 30,000 miles" (Section 3.10.6 Burn-in Testing) or the burn-in can be considered completed if 1000 miles are traveled over all rail lines without failure (Subsection 3.10.6.2 - Test Reporting and Pass/Fail Criteria). The conditional acceptance of the first eight rail cars continues to slip with the current projected date being December 28, 2014, a slippage of one additional month from last month's Kawasaki forecast. WMATA would need to have the Test Track completed at the end of March 2015 for all 64 rail cars to be conditionally accepted by Kawasaki's contractual completion date of June 12, 2015. It is the PMOC's opinion that the contractual date for the conditional acceptance of the 64<sup>th</sup> rail car may not be met without some waiver of the contract provisions by WMATA.*

## **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. The PMOC recommended that the Grantee add several staff positions and that reporting protocols be enhanced to ensure important project status information *was* shared in a timely manner with the Federal Transit Administration (FTA) and the PMOC. MWAA adopted the recommendations and augmented their staff. During the course of the Project the PMOC worked closely with MWAA to ensure that the staffing remained qualified and adequate to complete the Project. The PMOC continues to provide oversight as MWAA works through the final acceptance and contract closeout phase.

#### **b. Project Controls**

WMATA became the operator of this extension to their system as of July 26, 2014. Over the past year, WMATA's Dulles Project Director staffed a Quality Assurance and Inspection Team that kept pace with Project progress as it entered the Testing and Start-up and Pre-Revenue Phases. In addition, both MWAA and WMATA hired Start-up Managers who successfully coordinating efforts to achieve the July 26, 2014 RSD. WMATA's DCMP Director Ildefonso Burgos was replaced by Acting Director Neil Nott in October 2014.

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 transferred on May 27, 2014 and WMATA began revenue service on July 26, 2014.

The **final** Project Schedule was updated by DTP through July 25, 2014. In this update, DTP reported a loss of 212 calendar days to the SSCD that occurred on April 9, 2014. The WFCY July 2014 schedule update reflected a -215 calendar day variance to the target date of December 20, 2013, which yielded a forecast WFCY completion date of July 23, 2014 and DTP executed its Substantial Completion Certificate (SCC) on July 23, 2014. MWAA again indicated that the schedule failed to include the on-going work and issues that continued to adversely impact completion of the MOU Attachments leading to final acceptance and contract closeout. DTP indicated that the July 25, 2014 update would be the last schedule update that it would submit. MWAA responded that DTP must contractually provide the updates until "Final Acceptance" is achieved. Despite MWAA's stated position, DTP refuses to submit further schedule updates. See Section 4.a for additional information.

MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *October 2014*, MWAA has utilized \$374.54 million of contingency resulting in a remaining balance of \$14.017 million through contingency Phase 12. MWAA reiterated during the November 6, 2014 monthly meeting that it anticipates Phase 12 will conclude with the December 1, 2014 achievement of the FFGA. **In the opinion of the PMOC, the Project may not have adequate contingency.** 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. **Based on MWAA's comments during the October 2014 Update Meeting, this assessment will be completed sometime between February and April, 2015.**

- 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 July 2014, there was a cumulative total of 14,685,172 hours worked with eight lost time cases. This remained well below the national average for heavy and civil engineering construction. **DTP has informed MWAA that these were the last statistics that it would be submitting for the Project.**

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 as it works towards project final acceptance and contract closeout.

MWAA submitted updates to the Amended Record of Decision Summary Mitigation Report to the FTA for the 3<sup>rd</sup> Quarter of 2014 on October 31, 2014.

## **2. 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.

MWAA reported during the *December 10, 2014* monthly meeting that the WMATA punch list was approximately 96% complete.

The Project achieved RSD on July 26, 2014 and entered its final phase that will lead to Final Acceptance and contract closeout. MWAA and WMATA have entered an agreement on a path forward to achieve Final Acceptance. The agreement is documented as Attachment 3 to Amendment 5 to the Cooperative Agreement and is summarized in the status table below:

<b>Item No</b>	<b>Issue</b>	<b>Performance Resolution</b>	<b>Projected Completion</b>	<b>Actual Completion</b>
1	Alstom Contract	MWAA to execute the RTU replacement contract with Alstom. WMATA will provide support.	10/31/14	12/05/14
2	Traction Power RTUs	MWAA to implement the agreed solution to the Traction Power RTU communications issue.	02/28/15	
3	Arts in Transit	MWAA to award necessary contracts for installation of art at the five stations and shall have completed the installation by June 30, 2015.	6/30/15	
4	Punch list	MWAA to complete the remaining punch list items by the 90 <sup>th</sup> day following WMATA Acceptance.	12/15/14	
5	Pavilion Entrances	MWAA to complete the entrance enhancement work.		7/18/14
6	Derailer #13 at Wiehle Avenue	MWAA to deliver the point detector rod for WMATA installation.	11/30/14	11/24/14
7	Bobbing Track Circuits	MWAA to have agreed to reimburse WMATA for costs associated with implementation of converting track circuits at K-98, N-91 and N06 from audio to AC single rail power frequency track circuits.	12/15/14	
8	Loss of Speed Readouts – Cab Flips	MWAA to direct DTP to develop a solution to eliminate the cab flips.	07/01/15	
9	Heat Tape Testing	MWAA to have resolved all outstanding issues identified in WMATA Letter No. 390.	3/30/15	
10	WFCY Mimic Panel	MWAA to deliver a WFCY mimic panel to WMATA.		8/14/14
11	Radio Coverage at the WFCY	MWAA to provide radio coverage in the WFCY lead tracks and sound cover box.		10/15/14
12	Certificates of Occupancy (CO)	MWAA to obtain Final COs	01/15/15	
13	WFCY Safety and Security Certification	MWAA to resolve all open hazards and issue the Certification.	12/15/15	
14	Spare Parts	MWAA to deliver the remaining spare parts.	12/30/14	
15	O&M Related Deliverables	MWAA to deliver special tools, manuals, etc. as outlined Article 6, Condition 5 of the Cooperative Agreement.	12/30/14	
16	Documentation	MWAA to deliver final test reports; O&M Manuals; final Compliance Verification Matrix; as-builts; warranty documents;.	12/30/14	
17	Amber Light Controls	MWAA shall agree to pay for eligible costs by WMATA to design and implement amber light controls.	12/30/14	

### **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. The landowners made an offer that MWAA rejected. An agreement in the amount of \$2.3 million has been reached with West Group, and the Governor *approved the settlement in early December 2014. MWAA anticipates receiving a check in early January 2015.*

#### Property Turnover to WMATA

The conveyance documents and maintenance agreements were executed by WMATA in July, and were recorded, as appropriate, on July 25, 2014.

### **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 DCMP.

**Rail Car Procurement** – *The PMOC participated in a teleconference meeting on December 17, 2014 with MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #51 information package. The PRM #51 meeting was held at WMATA's Jackson Graham Building (JGB) on December 11, 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 2014 and first week of June 2014. 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 84,146 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 April 12, 2015*. This is two months ahead of the June 12, 2015 contractual completion date *which in the PMOC’s opinion cannot be met*. 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. *According to Kawasaki’s PRM #51 schedule, the conditional acceptance of the first four production cars and first four pilot cars has slipped an additional month to December 28, 2014 and the completion of the FAI for the first four production cars has slipped an additional month to December 28, 2014. During the December 17, 2014 Project Update Meeting, WMATA indicated that due to issues with ATC testing, Kawasaki will not be meeting the end of December date. It is anticipated that the earliest date that conditional acceptance of the first eight rail cars will not be achieved until mid-January 2015. The upcoming winter months will most likely have a further negative impact on Kawasaki’s delivery schedule. Eight 7000 Series rail cars plus the training car are at WMATA and continue to undergo Design Qualification Testing. Design Qualification Testing continues for components and subsystems and is currently reported as remaining at 99% complete. First Article Inspections continue and are currently reported as remaining at 98% complete.*

*The contract with Kawasaki for the rail cars states that the first two Quad units shall be subject to an eight car revenue service test. “The duration of the test shall be 6 months, subject to a minimum of 30,000 miles” (Section 3.10.6 Burn-in Testing). WMATA would have to waive this test period and have the Test Track completed at the end of March 2015 for all 64 rail cars to be conditionally accepted by Kawasaki’s contractual completion date of June 12, 2015. An alternate acceptance criterion is contained in Section 3.10.6.2 of the contract specifications where-in it states: “The test will be considered complete when the consist has travelled 1,000 miles, covering all rail lines without failure.”*

*In the PMOC’s opinion, Kawasaki’s projected conditional acceptance date of April 12, 2015 for the 64<sup>th</sup> rail car does not appear likely. It is the PMOC’s opinion that Kawasaki’s contractual date for the conditional acceptance of the 64<sup>th</sup> rail car of June 12, 2015 may not be met without some waiver of the contract provisions by WMATA.*

- **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.

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. During July, leading up to RSD, WMATA has provided daily car availability statistics indicating that sufficient rail cars would be available for revenue operations. *However, daily rail car availability statistics from the past month of November indicate that WMATA is generally meeting the 954 daily rail car requirements.*

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 November 30, 2014*).

<b>Item #</b>	<b>Description</b>	<b>December 2011 Approved Baseline MPS Dates</b>	<b>February 2013 Approved MPS Dates</b>	<b>Kawasaki’s 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

<b>Item #</b>	<b>Description</b>	<b>December 2011 Approved Baseline MPS Dates</b>	<b>February 2013 Approved MPS Dates</b>	<b>Kawasaki's Actual and Current Forecast Dates</b>
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
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>11/28/14</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>1/8/15</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	3/15/15
27	<b>Conditional Acceptance of first 4 pilot Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>12/28/14</b>
28	<b>Conditional Acceptance of first 4 Production Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>12/28/14</b>
29	Completion of On-site Test (After Burn-In)	2/19/15	2/19/15	4/27/15
30	<b>Conditional Acceptance of 64<sup>th</sup> Production Car</b>	<b>6/12/15</b>	<b>6/12/15</b>	<b>4/12/15</b>

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

#### **f. Safety and Quality Status**

**DTP's final report** as of July 31, 2014, had logged 14.685 million project man-hours, with 524 first aid cases and 8 lost time cases. There were a total of 1,192 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. DTP subsequently resubmitted 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. It was not until May 27, 2014 that MWA and

WMATA felt that the conformance checklists were sufficiently complete to declare SSCD and ORD. Finally WMATA reported on July 24, 2014 that it was satisfied with the conformance checklists and the successful simulated service that began on July 20. WMATA SAFE subsequently recommended to WMATA's General Manager that the Silver Line extension be adopted into the regional system and revenue service began on July 26, 2014.

MWAA submitted its Safety and Security Management Plan, Revision 8, to the FTA on February 17, 2011. After numerous meetings and revisions, the FTA accepted the SSMP on April 13, 2012.

### 3. Project Management Plan and Sub-plans

- The FTA accepted MWAA's **Project Management Plan (PMP)** Version 7.0 Final on February 14, 2011. 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 and various updates throughout the Project duration.
- MWAA's **Real Estate Acquisition Management Plan (RAMP)**, Revision 2, dated September 15, 2009, was 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's **final** "Mitigation Schedule" update with a data date of July 25, 2014 reflected a -212 calendar day variance resulting in an April 9, 2014 SSCD. MWAA completed its schedule review of the schedule update on August 14, 2014 and notified DTP via MWAA Letter No. 10272 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. **DTP informed MWAA that the July 2014 schedule update would be the last project schedule update submitted. MWAA responded**

**that DTP must contractually provide the updates until “Final Acceptance” is achieved. No further schedule updates have been submitted.**

The PMOC notes that item 9 (Heat Tape Testing) on the Attachment 3 matrix of remaining project activities is currently scheduled for completion on March 30, 2015. MWAA reported during the *December 10, 2014 monthly meeting that item 9 would be included in a task order contract to be awarded within the next several months. For Item 8 (Loss of Speed Readouts (LSRO) – Cab Flips) MWAA anticipates issuing a contract to Alstom by January 15, 2015 to conduct a study of the LSRO issues and anticipates the study will be completed by May 1, 2015 and a solution implemented by July 1, 2015.* The PMOC anticipates that any action in response to the report *could easily* extend into the *4th quarter of 2015*. It is not yet known if the activities going beyond the FFGA RSD of December 1, 2014 will impact Final Acceptance or not.

To date MWAA has granted 27 excusable weather delay days which yielded a revised contractual SSCD of September 9, 2013.

DTP submitted letter No. 0321 dated April 11, 2014 claiming 68 days of owner imposed critical path delays. MWAA reported during the November 6, 2014 monthly meeting that its analysis finds no merit for additional excusable delays and stated that DTP and MWAA are now in agreement with this position. *MWAA reported during the December 10 monthly meeting that DTP’s claimed schedule impact costs are still being analyzed and discussed. MWAA also reported that it expects DTP to submit additional claims but declined to discuss the nature or the monetary magnitude of the anticipated claims. However, during the December 10 monthly meeting, MWAA provided the following claim information as estimated by DTP to be valued at \$77 Million. It is the PMOC opinion that the \$77 million may be a conservative number from DTP.*

*Allowance Item CPAs Not Agreed – 29 Items  
RFCs 234, 247, and 283 (TIAs 11, 12 and 13)  
RFC 291 and 295 – 2 Items  
RFCs Currently in Negotiation – 95 Items  
RFCs Currently in Development – 6 Items*

It is the PMOC’s opinion that ultimately there will be a need for a global settlement approach that will include the WFCY.

Since the submission of DTP’s initial claims, DTP and MWAA have exchanged numerous letters with both parties providing compelling arguments for and against the claimed delays and associated impact costs. Additional letters were exchanged in September and October 2014 between MWAA, DTP and WMATA as each have been requesting additional information necessary to determine which claimed costs may or may not have merit. **It is the PMOC’s opinion that there will likely be additional delays and costs to be dealt with that have not yet been submitted by DTP and there will ultimately be some measure of entitlement granted to DTP.**

MWAA engaged TDF, LLC to conduct an initial time impact schedule analysis that led to additional discussions with DTP. During the September 9, 2014 monthly meeting, MWAA reported that it subsequently hired Trauner Consulting Services, Inc. to continue the process

with a detailed forensic time impact analysis and to assist with a determination of delay liabilities. MWAA reported in the October 9, 2014 monthly meeting that the analysis and settlement process will require an additional four to six months. The PMOC notes that time entitlement and associated claims that have not yet been submitted and the associated change order settlements have the potential of extending the contract closeout for a longer period of time than is currently being reported by MWAA.

Complicating the existing seven month delay to the SSCD are WMATA mandated changes that have been incorporated into Attachment 3 to Amendment 5 to the Cooperative Agreement for activities that will be completed beyond the RSD. MWAA reported during the October 9, 2014 monthly meeting that it anticipates issuing three change orders *or contracts* for the above noted work in the near future. *During the December 10, 2014 monthly meeting, MWAA reported that it issued a contract to Alstom that will be managed by MWAA with WMATA support for the installation of ATC RTU replacements.*

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 previously agreed to a target completion date of December 20, 2013. DTP's **final** schedule update of July 25, 2014 reflected a -215 calendar day variance yielding a forecasted completion date of July 23, 2014 which was achieved. Radio change work and SCADA testing were completed in September. MWAA reported in the November 6 monthly meeting that the shop track wheel stop changes *had* been completed and *MWAA anticipated achieving final safety certification and obtaining a final occupancy permit by late December 2014.*

*The S&I Shop Contractor, Whiting and Turner, has pulled off the job over a pay dispute with DTP. Efforts are underway to resolve the dispute so that Whiting and Turner's subcontractor can proceed with necessary WMATA training for the automated building system controls and fire sprinkler system testing needed to obtain the final fire marshal's approval. DTP is taking steps to get those responsible for the fire sprinkler work get paid. DTP has indicated that they will order those workers to complete their work. These issues need to be resolved before an approved safety certificate and an occupancy permit can be obtained. The current temporary use permit expires on January 20, 2015; however, MWAA will seek an extension. MWAA's anticipates having all issues resolved prior to the expiration of the temporary use permit. Also currently under dispute is recent WMATA ADA mandated changes to the shop men's locker room.*

**a. Critical Path Evaluation**

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

MILESTONE	June 2008 Baseline Schedule	December 2010 RECOVERY SCHEDULE	June 2014	July 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 *	06/27/14	07/23/14 <sup>A</sup>
Revenue Service Date (RSD) – Actual	11/27/13	01/02/14	07/26/14	07/26/14 <sup>A</sup>
Final Acceptance	N/A	N/A	03/15/15	03/15/15
FFGA Revenue Operations	12/01/14	12/01/14	12/01/14	7/26/14

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

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 an achieved 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; an ATC Lab; and associated change order or task order contract issuance.
- Complete WFCY punch list.
- Complete the WFCY SCIL sign-off and acceptance and obtain the final occupancy permit.
- Achieve Final Acceptance.

## 5. Project Cost

The SCC Budget and Expenditures summary for the period ending *October 25, 2014* is shown below. Overall, approximately 95% of the budget has been expended.

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

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET <sup>1</sup>	EXPENDED TO DATE	ESTIMATE COST TO COMPLETE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 610,572,856	\$ 609,385,046	\$ 1,837,810	\$ 611,222,856
20	Stations <sup>5</sup>	\$ 361,505,267	\$ 353,987,621	\$ (6,232,354)	\$ 347,755,267
30	West Falls Church Yard	\$ 74,887,678	\$ 58,713,687	\$ 12,983,961	\$ 71,697,648
40	Site Work & Utility Relocation	\$ 243,308,565	\$ 234,912,031	\$ 20,967,007	\$ 255,879,039
50	Systems	\$ 307,005,098	\$ 289,172,689	\$ 14,682,525	\$ 303,855,214
60	Right of Way Acquisition	\$ 67,631,026	\$ 58,167,992	\$ 878,933	\$ 59,046,925
70	Vehicles	\$ 195,352,701	\$ 89,955,964	\$ 104,692,974	\$ 194,648,939
80	Professional Service – FD <sup>4</sup>	\$ 749,528,339	\$ 859,132,894	\$ (12,969,372)	\$ 846,163,522
90	Contingency Mgmt. Reserve <sup>2</sup>	\$ 94,495,533	\$ -	\$ 14,017,654	\$ 14,017,654
100	Finance Charge <sup>3</sup>	\$ 438,184,571	\$ 196,614,566	\$ 241,570,005	\$ 438,184,571
<b>Total Federal Scope</b>		<b>\$ 3,142,471,635</b>	<b>\$ 2,750,042,490</b>	<b>\$ 392,429,145</b>	<b>\$ 3,142,471,635</b>

1 Current budget equals FFGA amount plus change orders CO#001-117, 119-137, 139-149, 151-153, 155-164, 167-168, 170, 172, 174-181, 183, 185-195, 198, 202, 204-207, 209, 212, 213, 216, 218, 219, 221-224, 232, Directive Letters 001-050, 052-068, 070-072,074, 076-083, 086-087, 089-092, 094-114, PA066-C11-03, PA065-C13-18, PA071-C10-07, PA067-C1-02, PA070-C6-10, PA072-C6-11, UR-CO-001-039, UR-F11 CO#118 is for betterment CO#138 is for contract time extension due to weather with no cost impact

2 Estimate at Completion for Contingency reflects the remaining amount

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

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

5 Negative Estimate To Complete is due to pending CNPA transfer

### General Comments:

\* During March 2013, \$40.3 million was transferred from federal to non-federal as a result of CNPA adjustments making a contribution to federal contingency

\* During October 2013, \$6 million for Q4 2012 and \$5 million for Q1 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from federal contingency

\* During May 2014, \$1 million for Q2 2013 and \$7 million for Q3 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from federal contingency

### 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 \$55.28 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 \$30.23 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 \$19.97 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 \$23.09 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 \$13.10 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 \$13.50 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 \$149.63 million. The change events are numerous with the most significant being the transfer from the tunnel subcontract and the addition of design for 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 \$14.02 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 \$14.02 million contingency reserve that includes the \$40.3 million in CNPAs is not adequate given the Change Orders under evaluation and Potential Change Orders mentioned below.

MWAA indicates that there are 83 (increase of 17 since *November* 2014 report) Design-Build Change Orders totaling an estimated \$49.66 million that are under evaluation. In addition, there remain 92 Design-Build Potential Change Orders. **MWAA also reported during the *December 10* monthly meeting that it expects DTP to submit six additional claims that have not yet been quantified. This lack of information with regard to the magnitude of the claims puts the total Project Cost at additional unknown risk.** *However, it should be noted that MWAA has indicated that the noted six additional claims are part of the \$77 million in change costs noted above that MWAA currently has under consideration.* MWAA reports that all UR changes have been settled pending final close/funding/documentation.

## b. Monthly Cost Report – October 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	\$ 1,803,667,925	\$ 10,875,852	\$ 1,814,543,777	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 77,293,331	\$ 405,328	\$ 77,698,659	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,880,961,256	\$ 11,281,180	\$ 1,892,242,436	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 782,657	\$ 782,657	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,880,961,256	\$ 12,063,837	\$ 1,893,025,093	
Indexed Commodity Escalation <sup>5</sup>	\$ 77,469,926	\$ -	\$ 2,036,675	\$ 2,036,675	
<b>Design-Build Contract Total</b>	\$ 1,684,831,325	\$ 1,880,961,256	\$ 14,100,512	\$ 1,895,061,768	99%
<b>Utility Relocation</b>					
Utility Work	\$ 84,312,807	\$ 97,651,448	\$ 1,735,945	\$ 99,387,393	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,665,222	\$ 89,269	\$ 25,754,491	
<b>Utility Relocation Total</b>	\$ 92,736,233	\$ 123,316,670	\$ 1,825,214	\$ 125,141,884	99%
<b>Right of Way</b>					
<b>Right Of Way Total</b>	\$ 42,443,132	\$ 58,502,195	\$ 1,169,731	\$ 59,671,925	98%
<b>WMATA Agreement</b>					
Vehicles <sup>10</sup>	\$ 195,138,329	\$ 89,955,964	\$ 104,692,974	\$ 194,648,939	
Construction and Procurement	\$ 31,484,799	\$ 21,425,365	\$ 6,672,751	\$ 28,098,117	
WMATA Force Account Startup <sup>8</sup>	\$ 13,777,100	\$ 19,864,578	\$ (6,459,557)	\$ 13,405,021	
Project Management and Final Design <sup>8</sup>	\$ 31,235,400	\$ 42,385,301	\$ (6,901,749)	\$ 35,483,552	
<b>WMATA Agreement Total</b>	\$ 271,635,628	\$ 173,631,208	\$ 98,004,420	\$ 271,635,628	64%
<b>Preliminary Engineering<sup>2,3</sup></b>					
<b>Preliminary Engineering Total</b>	\$ 100,968,646	\$ 100,730,999	\$ -	\$ 100,730,999	100%
<b>Airports Authority Services</b>					
General Conditions <sup>4</sup>	\$ 28,879,153	\$ 16,904,761	\$ 13,146,016	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 42,139,369	\$ 3,058,857	\$ 45,198,226	
Project Management Support	\$ 90,004,649	\$ 157,241,466	\$ 5,536,734	\$ 162,778,200	
<b>Airports Authority Services Total</b>	\$ 142,109,519	\$ 216,285,596	\$ 21,741,608	\$ 238,027,204	91%
<b>Contingency<sup>5</sup></b>					
<b>Contingency Total</b>	\$ 297,762,579	\$ -	\$ 14,017,654	\$ 14,017,654	
<b>Finance Costs<sup>6</sup></b>					
<b>Finance Costs Total</b>	\$ 509,984,571	\$ 196,614,566	\$ 241,570,005	\$ 438,184,571	
<b>Total Federal (FFGA Scope)</b>	\$ 3,142,471,635	\$ 2,750,042,490	\$ 392,429,145	\$ 3,142,471,635	95% <sup>7</sup>

1 Reflects Paid costs through October 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 \$1.7 million for WMATA ATC RTU Technology Upgrade

10 WMATA Vehicles expenditure to date was adjusted in October 2014 to remove Phase 2 Option 1 kickoff amount of \$14.5 million.

General Comments:

\* During March 2013, \$40.3 million 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 \$5 million 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 - November 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	\$ 55,405,809	58%	\$ 40,594,191
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>\$ 757,250,678</b>	<b>84.14%</b>	<b>\$ 142,749,322</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	\$ 1,497,225,914	89%	\$ 171,203,950
<b>Subtotal - Local Funds</b>		<b>70.84%</b>	<b>\$ 2,368,879,864</b>	<b>\$ 2,088,301,155</b>	<b>87.58%</b>	<b>\$ 280,578,709</b>
<b>DTR Revenues/Commonwealth Funds<sup>3</sup></b>			<b>\$ 3,343,879,864</b>	<b>\$ 2,920,551,833</b>	<b>87.34%</b>	<b>\$ 423,328,031</b>

<sup>1</sup> Reflects costs through September 30, 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

Throughout the course of the Project, the PMOC and the FTA worked closely with MWAA to develop and maintain an acceptable Risk Register and Top Ten Risks List. The table below lists the current Top Ten Risks updated in April 2014. Revenue Service began on July 26, 2014 and, therefore, many risks are no longer applicable.

- 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 *October 25, 2014*, MWAA reports that it has utilized \$374,544,925 of the \$381,800,000 available contingency for the first eleven contingency milestones leaving a balance of \$7,255,075. MWAA reports \$6,762,579 remaining for phase 12 which leaves an estimated balance at project completion of \$14,017,654. MWAA's transfer of \$90.80 million to contingency and the removal of CNPA expenditures have improved the Project Contingency situation. MWAA submitted Letter No. 10298 dated September 3, 2014 recommending an additional \$12,083,020 of CNPA expenditures for the 4<sup>th</sup> Quarter of 2013 for the PMOC/FTA's review. On October 9, 2014 MWAA submitted CNPAs for the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2014. The FTA/PMOC provided review comments on October 20, 2014. In response to the review comments, MWAA submitted a revised list along with its cost allocation recommendations on November 4, 2014. *The FTA/PMOC provided additional comments on November 14, 2014 and MWAA responded via Letter No. 10370 dated December 9, 2014 which was reviewed by the PMOC with a recommendation for acceptance submitted to the FTA on December 15, 2014.*

*The PMOC recommends* the project 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 (83) Change Orders that remain under evaluation, and a large number of Potential Change Orders (92). 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 additional claims by the contractor. MWAA should evaluate whether or not the remaining contingency amount is sufficient. MWAA has indicated that their updated Estimate at Completion will be submitted by the end of December 2014.**

MWAA updated the PMOC on the "Major items potentially impacting Contingency" during the July 9, 2014 monthly meeting. The preliminary analysis by MWAA indicates insufficient contingency; however, MWAA continues to review the overall budget. **MWAA reported during the August 7, 2014 monthly meeting that it has received informal estimates from Alstom not yet included in the numbers for claimed changes and delays that Alstom wants to settle by year's end. MWAA and DTP are still trying to identify the remaining issues and finalize a strategy to address and settle/resolve all claims. The PMOC anticipates that the yet unreported claims could be in the many millions of dollars. In addition, the mandated WMATA changes to address ATC bobbing track circuits and cab flips during the coming months or year will extend the contract closeout date. MWAA provided a change order summary during the December 10, 2014 monthly meeting that reflected a current DTP Request For Change (RFC) list valued at \$77 million that was reported to include costs for approximately 6 RFC's not yet submitted by DTP.**

- b. Schedule Risks:** MWAA and DTP worked with a 2nd Mitigation Schedule with a data date of October 25, 2011 that was accepted “as noted” on November 23, 2011. Through *October 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 which constitutes a full seven month delay to the Project. DTP submitted Letter No. 0321 dated April 11, 2014 claiming an additional 68 days of excusable compensable delays. MWAA reported during the November 6, 2014 monthly meeting that MWAA and DTP have agreed that no additional excusable delays will be granted. However, DTP’s claimed schedule impact costs are still being discussed. In addition, MWAA reported during the November 6 monthly meeting that DTP has additional claims to be submitted but declined to report on the nature or the monetary magnitude of the claims. *During the December 10 monthly meeting MWAA reported that DTP plans to submit an additional six RFCs. The PMOC anticipates that these reported six un-submitted claims will include further compensable delay claims by the Subcontractors for owner imposed changes/delays in an attempt to mitigate the existing 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.

*Note that Risk Number 70.R.27, the delay in new RC-7000 vehicle (railcar) delivery did not impact the start of service; however, the rail cars are part of the FFGA scope of work.*

## Summary Status of the Top Ten Project Risks, November 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.04	Transfer the value of CNPAs out of the federal portion and add to contingency as they arise.	MWAA submitted CNPA items for FTA review and approval for 4 <sup>th</sup> Quarter 2013 on September 23, 2014. MWAA submitted CNPAs for the 1 <sup>st</sup> and 2 <sup>nd</sup> quarters of 2014 on October 9, 2014.	Y	Y	N	<i>The FTA/PMOC and MWAA have had several exchanges of comments for the combined CNPAs for the 4<sup>th</sup> quarter of 2013 and the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2014. MWAA's latest revision with adjustments and recommendations per the November 12, 2014 FTA/PMOC comments was provided via MWAA Letter No. 10370 dated December 9, 2014. The latest submittal was reviewed by the PMOC with a recommendation for acceptance made to FTA on December 15, 2014.</i>	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 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	Rough Order of Magnitude
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:** *January 9, 2015* (reporting current through *November 2014* - Financials through *October 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.

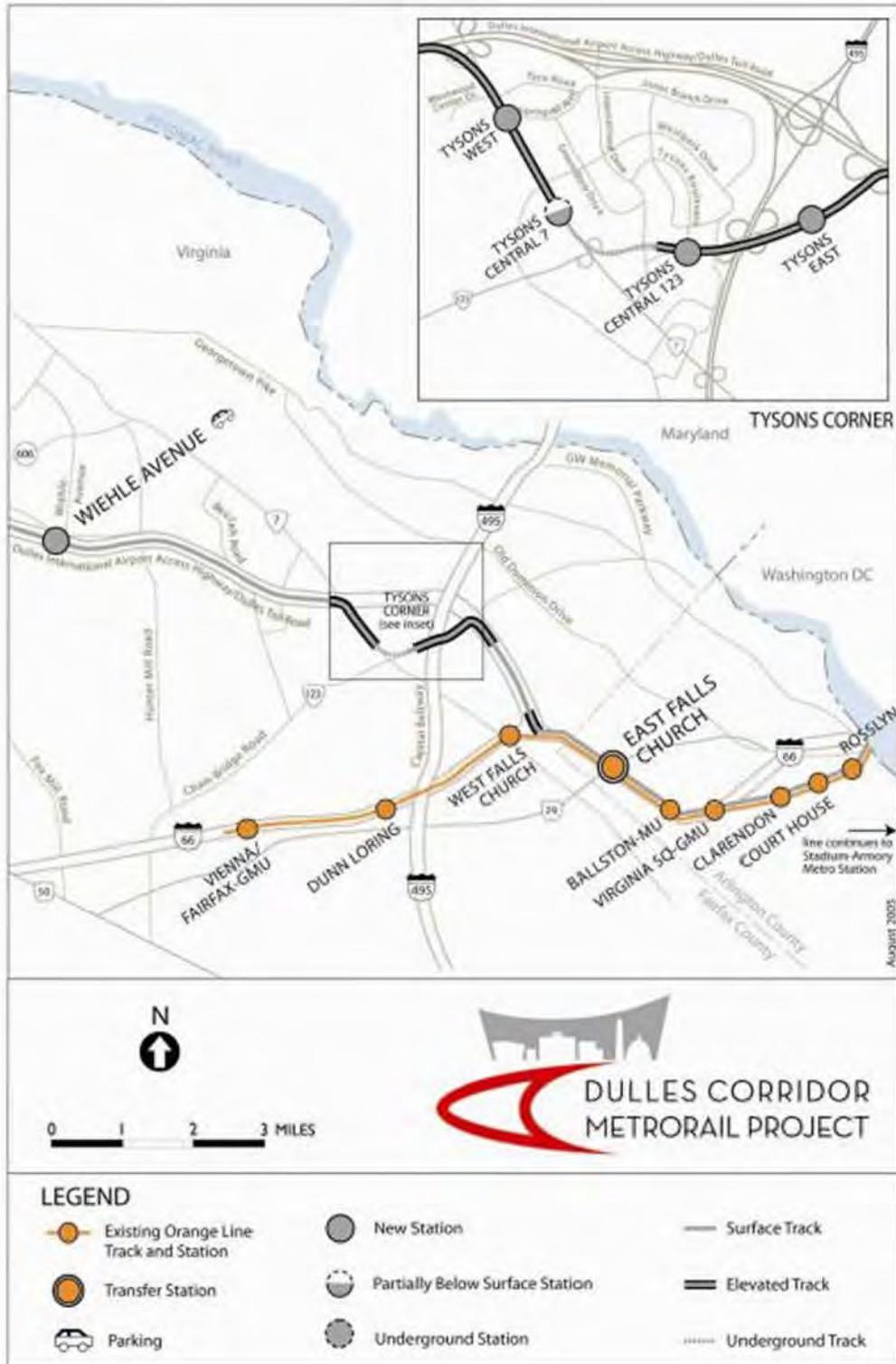
### Schedule

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)		
99.0%	Percent Complete Construction as of <i>November 30, 2014</i> .		
99.7%	Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)		
95.8%	MWAA's Estimate of Project Earned Value through <i>October 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
\$2.750 billion	Expenditures through <i>October 2014</i>
95.0%	Percent complete based on federal expenditures excluding finance costs.
\$14.017 million	Total project contingency remaining (allocated and unallocated) through <i>October 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 July 9, 2014.
Has the grantee submitted its safety certification plan to the oversight agency?	Y	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.	Y	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?	Y	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	Y	WMATA met bi-weekly with MWAA to review the status of the RAP. These meetings were 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?	Y	
Has the grantee issued the final safety and security verification report?	Y	

<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 524 first aid cases and eight lost time cases in 14.685 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	

<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]

operations, construction, and operations analysis for rail car procurement, rail manufacturing

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]