

**COMPREHENSIVE MONTHLY REPORT**

**August 2014**

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

September 26, 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:** 

**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 *September 9, 2014* to conduct a monthly progress meeting for work performed in *August 2014*. Additional information for this report was obtained from MWAA during the first and second weeks of *September 2014*. The next PMOC monthly progress meeting is planned to be conducted on *October 9, 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) *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 \$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 *September 9, 2014* to conduct a monthly progress review meeting and MWAA provided supplemental information the following week. The status of information is as of *August 31, 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 September 16, 2014 with MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #48 information package. The PRM #48 meeting was held at Kawasaki's Motor Manufacturing, Corporation (KMM) facility in Lincoln, NE on September 11, 2014. Design Qualification Testing (DQT) continues for components and subsystems and as of September 5, 2014 were 97% 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 83,143 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 *has slipped an additional three weeks to October 15, 2014 and the completion of the Pilot Car FAI has slipped more than an additional month to October 30, 2014*. In the PMOC's opinion, *Kawasaki's projected conditional acceptance date of March 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). 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. It is the PMOC's opinion that the contractual date for the conditional acceptance of the 64<sup>th</sup> rail car will 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 continued to coordinate at the staff level on a daily basis and on an executive level twice a week as punch list corrective activities continued through August and into September 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 and change orders yet to be completed in order to achieve Final Acceptance. MWAA noted during the September 9, 2014 monthly meeting that change orders have yet to be issued which may prevent Final Acceptance for up to a year. See 2.b.*
- **The DTP Schedule Update** with a data date of July 25, 2014 reflected the Scheduled Substantial Completion Date (SSCD) *that* was achieved on April 9, 2014 and an achieved ORD of May 27, 2014. WMATA subsequently achieved a July 26, 2014 Revenue Service Date (RSD). MWAA completed its review of the Schedule Update with a data date of *July 25, 2014 on August 14, 2014* indicating that *DTP's* schedule was again "Not Accepted". 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.

- **West Falls Church Yard (WFCY) completion date**, DTP's 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 rail stop changes, radio changes and SCADA testing that are ongoing.

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 design for the S&I Shop tracks. Various plans were reviewed in the past *several months*. MWAA *reported during the September 9 monthly meeting that a design has now been approved by MWAA, WMATA and DGS. The associated track modifications and installation of the new wheel stops are anticipated to be completed in November 2014.*

- **Budget status as of July 25, 2014 indicates** that \$2,740,312,852 *or 96%*, of the \$3,142,471,635 budget total, has been expended, excluding Finance Cost and Contingency. MWAA reports \$368,804,015 (A downward adjustment from *June's Report*) of the available contingency for the first eleven contingency milestones has been drawn down to date. The current estimate of the contingency available, *to include Phase 12 monies*, at the end of construction is \$19.758 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 August 7, 2014 update meeting, MWAA indicated that this evaluation would not be completed until October 2014.
- MWAA's estimate of the **Earned Value** for the Project through *July* is *94.8%*.
- **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 Equivalent (FTE)** estimated total for *August 2014* is *177*.

<b>FFGA-MWAA Core Accountability Items</b>			
<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	\$19.75M
<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	94.8%
<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 that remain.	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 <i>Amendment 5</i> of the Cooperative Agreement. <i>MWAA reported during the September 9, 2014 monthly meeting that change orders will be issued in September 2014.</i>	
<b>Date of Next Quarterly Meeting:</b>		<i>November 20, 2014</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 *July 2014*, MWAA has utilized \$368.80 million of contingency resulting in a remaining balance of \$12.99 million through contingency Phase 11. The budgeted contingency for Phase 12 is \$6.76 million leaving a total balance, as of the end of *July 2014*, of \$19.75 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 DTP 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.*

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 anticipates meeting with DTP again in mid-September 2014 to progress the discussion related to the analysis and contract delays. The PMOC anticipates that contract closeout will be protracted and costly.

*Complicating the existing seven month delay to the SSSCD are WMATA mandated changes that have been incorporated into Attachment 3 to the Amendment 5 to the Cooperative Agreement for activities that will be completed beyond RSD. MWAA reported during the September 9, 2014 monthly meeting that it anticipates issuing change orders for the above noted work in September 2014.*

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 that could take up to an additional year.**

#### 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 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 are ongoing.

#### 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 cannot 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 at WMATA and continue to undergo Design Qualification Testing.*

*In the PMOC's opinion, Kawasaki's projected conditional acceptance date of March 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). 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. It is the PMOC's opinion that the contractual date for the conditional acceptance of the 64<sup>th</sup> rail car will 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.*

### 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.*

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 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 occur 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 subsequently approved the SCC with exceptions for the shop wheel stop changes, radio changes and SCADA testing that are ongoing.* MWAA completed its schedule review of the schedule updates with a data date of *August 14, 2014 again* indicating that the schedule was "Not Accepted." MWAA again indicated that the schedule fails to include on-going work and issues that continue 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.* See Section 4.a for additional information.

- MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *July 2014*, MWAA has utilized \$368.80 million of contingency resulting in a remaining balance of \$12.99 million through contingency Phase 11. The budgeted contingency for Phase 12 is \$6.76 million. As of the end of *July 2014*, contingency

estimated to remain at project completion is \$19.758 million. **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.**

- 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. (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 0.545 injuries per 100 full time employees.) ***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.

MWAA submitted updates to the Amended Record of Decision Summary Mitigation Report to the FTA for the 2<sup>nd</sup> Quarter of 2014 on August 6, 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.

*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 and designate WMATA as the contract manager.	9/30/14	
2	Traction Power RTUs	MWAA to implement the agreed solution to the Traction Power RTU communications issue.	9/30/14	
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.	10/24/14	
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.	9/30/14	
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.		
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.		8/12/14
11	Radio Coverage at the WFCY	MWAA to provide radio coverage in the WFCY lead tracks and sound cover box.	9/15/14	8/29/14
12	Certificates of Occupancy (CO)	MWAA to obtain Final COs	10/15/14	
13	WFCY Safety and Security Certification	MWAA to resolve all open hazards and issue the Certification.	12/31/14	
14	Spare Parts	MWAA to deliver the remaining spare parts.	9/30/14	
15	O&M Related Deliverables	MWAA to deliver special tools, manuals, etc. as outlined Article 6, Condition 5 of the Cooperative Agreement.	12/31/14	
16	Documentation	MWAA to deliver final test reports; O&M Manuals; final Compliance Verification Matrix; as-builts; warranty documents;.	11/15/14	
17	Amber Light Controls	MWAA shall agree to pay for eligible costs by WMATA to design and implement amber light controls.		

### **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. In the meantime, interest continues to accrue on the judgment amount due the Project.

#### 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 DCMF.

**Rail Car Procurement** – *The PMOC participated in a teleconference meeting on September 16, 2014 with MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #48 information package. The PRM #48 meeting was held at Kawasaki's KMM facility in Lincoln, NE on September 11, 2014. The PMOC participated in the PRM #48 and reviewed the progress at the KMM facility. The PMOC previously 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 has slipped an additional three weeks to October 15, 2014 and the completion of the FAI for the first four production cars has slipped an additional month to October 30, 2014. 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 at 97% complete. First Article Inspections continue and are currently reported at 95% complete.*

*In the PMOC’s opinion, Kawasaki’s projected conditional acceptance date of March 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). 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. It is the PMOC’s opinion that the contractual date for the conditional acceptance of the 64<sup>th</sup> rail car will 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. *WMATA has been meeting the demand for rail cars through September 2014.*

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.*

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 August 31, 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
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

Item #	Description	<i>December 2011 Approved Baseline MPS Dates</i>	<i>February 2013 Approved MPS Dates</i>	Actual and Current Forecast Dates
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>10/30/14</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>10/15/14</b>
28	<b>Conditional Acceptance of first 4 Production Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>10/15/14</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

As of July 31, 2014, DTP had logged 14.685 million project man-hours, with 524 first aid cases and 8 lost time cases. There have been 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 informed MWAA in August 2014 that it will no longer be providing project safety data.*

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 MWAA and WMATA felt that the conformance checklists were sufficiently complete to declare SSCD and ORD. *Finally* WMATA reported on July 24 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, 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 *July 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 *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.*

ORD was achieved on May 27, 2014. 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, comment and action. All stake holders worked together to complete the remaining activities required to achieve RSD. This led to WMATA submitting 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. WMATA *took* care and custody and *achieved* RSD on 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.

*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 September 9, 2014 monthly meeting that items 12 (Final Certificates of Occupancy) and 15 (O&M Related Deliverables) may need to be extended. However, only the WFC Yard permit will need to be extended to November 30, 2014. It is not yet known if these activities going beyond the FFGA RSD of December 1, 2014 will impact Final Acceptance or not. It is the PMOC's opinion that Final Acceptance can be achieved before the FFGA RSD.*

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 *August 25, 2014*.

**MWAA's Report of Excusable Work Days of Delay through *August 25, 2014***

ACTION	WORK DAYS
<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. Discussions continue at DTP and MWAA staff levels to determine the facts. DTP *anticipates* 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.

*Since the submission of DTP's initial claims, DTP and MWAA have exchanged numerous letters with both providing compelling arguments for and against the claimed delays. To date, MWAA has denied the time entitlement claims. These delay claims have not yet been monetarily quantified by DTP. It is the PMOC's opinion that there will likely be additional delays and costs to be dealt with that have not yet been cited by 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 anticipates meeting with DTP again in mid-September 2014 to progress the discussion related to the analysis and contract delays. **The PMOC anticipates that contract closeout will be protracted and costly.***

*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 September 9, 2014 monthly meeting that it anticipates issuing change orders for the above noted work in September 2014.*

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 schedule update of July 25, 2014 reflected a -215 calendar day variance yielding a forecasted completion date of July 23, 2014. DTP executed its Substantial Completion Certificate on July 23, 2014 which MWAA subsequently accepted despite remaining radio change work, SCADA testing and shop track wheel stop changes that remain to be completed. Both DTP and MWAA anticipate that these changes will be completed by November 2014.

#### **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 July 25, 2014 schedule update, DTP documented its position with regard to the Critical Path Method (CPM) schedule as follows:

“As explained in previous Monthly Schedule Update (MSU) submittals and discussed during Joint Monthly Review Meetings when Substantial Completion has been achieved, DTP will no longer provide a Primavera schedule for the remaining close out and direct changes activities. Instead, the Monthly Schedule Update will provide appropriate information, tailored for the remaining activities required in advance of Final Acceptance. For the July 2014 MSU, this includes information on the West Falls Church (WFCY) and the remaining N-Line work, as identified in the approved SSWPs at this time. DTP executed its Substantial Completion Certificate (SCC) for the WFCY on July 23, 2014, which has been submitted for MWAA's review and the July 2014 MSU reflects this accordingly.

DTP has previously been notified by MWAA that it does not agree with DTP's approach, including other tools to track Punch List or remaining non-critical items. DTP's narrative that accompanied their July 25, 2014 Schedule Update states: “DTP respectfully disagrees with MWAA's position and would like to point MWAA's attention to the ACCE (sic.) International Recommendation Proactive No. 29R-03 Section 4.3 Critical Path and Float- B.4 which states:

As the project approaches completion, CPM may not be the best tool to assess critically. This is true especially in a project where many activities are being performed out-of-sequence in an attempt to meet an aggressive deadline. Even on a normal project, as the work transitions from final finishes to punch list work, CPM updates may be abandoned in favor of a list or matrix format of work scheduling. It is often said that the nearer to the end ‘everything is critical’.

As a note of progress on the N-Line, DTP has received all Certificates of Occupancy as of this MSU. These Certificates of Occupancy were forwarded to MWAA in letter 25235-000-T14-GAMM-0706 dated July 22, 2014.”

It is the PMOC’s opinion that from a practical standpoint, the above noted Association for the Advancement of Cost Engineers International (AACE) Recommendation Section citation may have merit with regard to managing the realities of the activities near the end of a big project. However, it does not negate the contract requirements to manage a CPM baseline schedule from cradle to grave of the project in order to manage and document the various activity delay culpabilities that are inevitable in any big construction project. DTP has continually failed to provide a schedule that adequately compares the baseline schedule to the realities of the project and has instead used the schedule for self-serving purposes to minimize or hide its own culpabilities and to accentuate the culpabilities of other stakeholders. MWAA has done a good job throughout the project to hold DTP accountable and to document this failure. However, it will still present difficulties in settling the costs associated with the large delays to this Project.

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**
Final Acceptance	N/A	N/A	03/15/15	03/15/15
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 the actual RSD achieved 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 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.
- Complete WFCY systems testing.
- Complete WFCY punch list.
- Complete the WFCY SCIL sign-off and acceptance.
- Complete WFCY SSCD.
- Achieve Final Acceptance

## 5. Project Cost

The SCC Budget and Expenditures summary for the period ending *July 25, 2014* is shown below. Overall, approximately 96% of the budget has been expended.

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

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET	EXPENDED TO DATE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 610,572,856	\$ 609,035,277	\$ 611,222,856
20	Stations	\$ 361,002,667	\$ 352,232,640	\$ 347,252,667
30	West Falls Church Yard	\$ 74,689,276	\$ 58,410,178	\$ 71,499,246
40	Site Work & Utility Relocation	\$ 240,143,360	\$ 234,981,857	\$ 252,713,835
50	Systems	\$ 306,490,395	\$ 300,838,232	\$ 303,340,511
60	Right of Way Acquisition	\$ 67,631,026	\$ 57,857,458	\$ 59,046,925
70	Vehicles	\$ 195,352,701	\$ 104,288,687	\$ 194,648,939
80	Professional Service – FD	\$ 748,168,339	\$ 853,352,956	\$ 844,803,522
90	Contingency Mgmt. Reserve	\$ 100,236,442	\$ -	\$ 19,758,564
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>\$ 2,740,312,852</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 \$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 *\$19.71* 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 *\$19.75* 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 *\$25.18* 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 *\$13.46* 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 *\$146.33* 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 *\$19.75* 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 *\$19.75* 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 *36* Design-Build Change Orders totaling an estimated *\$36.59* million that are under evaluation. In addition, there remain *124* Design-Build Potential Change Orders. MWAA reports that all UR changes have been settled pending final closeout/funding/documentation.

## b. Monthly Cost Report - July 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 11</sup>	\$ 1,112,052,173	\$ 1,812,702,540	\$ (3,831,522)	\$ 1,808,871,018	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 77,024,669	\$ 673,989	\$ 77,698,659	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,889,727,209	\$ (3,157,532)	\$ 1,886,569,677	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 782,657	\$ 782,657	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,889,727,209	\$ (2,374,875)	\$ 1,887,352,334	
Indexed Commodity Escalation <sup>5</sup>	\$ 77,469,926	\$ -	\$ 2,036,675	\$ 2,036,675	
<b>Design-Build Contract Total</b>	\$ <b>1,684,831,325</b>	\$ <b>1,889,727,209</b>	\$ <b>(338,200)</b>	\$ <b>1,889,389,009</b>	<b>100%</b>
<b>Utility Relocation</b>					
Utility Work	\$ 84,312,807	\$ 97,263,346	\$ 2,055,898	\$ 99,319,243	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,636,526	\$ 117,965	\$ 25,754,491	
<b>Utility Relocation Total</b>	\$ <b>92,736,233</b>	\$ <b>122,899,872</b>	\$ <b>2,173,862</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>58,191,660</b>	\$ <b>1,480,265</b>	\$ <b>59,671,925</b>	<b>98%</b>
<b>WMATA Agreement</b>					
Vehicles <sup>10</sup>	\$ 195,138,329	\$ 104,288,687	\$ 90,360,251	\$ 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	\$ 42,542,717	\$ (7,059,165)	\$ 35,483,552	
<b>WMATA Agreement Total</b>	\$ <b>271,635,628</b>	\$ <b>188,121,348</b>	\$ <b>83,514,281</b>	\$ <b>271,635,628</b>	<b>69%</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	\$ 15,607,680	\$ 14,443,097	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 41,337,415	\$ 3,860,811	\$ 45,198,226	
Project Management Support	\$ 90,004,649	\$ 154,381,101	\$ 8,397,099	\$ 162,778,200	
<b>Airports Authority Services Total</b>	\$ <b>142,109,519</b>	\$ <b>211,326,197</b>	\$ <b>26,701,007</b>	\$ <b>238,027,204</b>	<b>89%</b>
<b>Contingency<sup>5</sup></b>					
<b>Contingency Total</b>	\$ <b>297,762,579</b>	\$ <b>-</b>	\$ <b>19,758,564</b>	\$ <b>19,758,564</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>2,740,312,852</b>	\$ <b>402,158,783</b>	\$ <b>3,142,471,635</b>	<b>96%<sup>7</sup></b>

1 Reflects Paid costs through July 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

11 Negative Estimate To Complete is due to pending CNPA adjustments.

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

**c. Sources of Capital Funding - July 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	\$ 52,240,510	54%	\$ 43,759,490
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>\$ 754,085,379</b>	<b>83.79%</b>	<b>\$ 145,914,621</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	\$ 1,473,776,038	88%	\$ 194,653,826
<b>Subtotal - Local Funds</b>		<b>70.84%</b>	<b>\$ 2,368,879,864</b>	<b>\$ 2,064,851,279</b>	<b>87.17%</b>	<b>\$ 304,028,585</b>
<b>DTR Revenues/Commonwealth Funds<sup>3</sup></b>			<b>\$ 3,343,879,864</b>	<b>\$ 2,893,936,658</b>	<b>86.54%</b>	<b>\$ 449,943,206</b>

<sup>1</sup> Reflects costs through July 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.

<sup>6</sup> Pending Amendment and Budget in TEAM.

## 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 July 25, 2014, MWAA reports that it has utilized \$368,804,015 of the \$381,800,000 available contingency for the first eleven contingency milestones leaving a balance of \$12,995,985. MWAA reports \$6,762,579 remaining for phase 12 which leaves an estimated balance at project completion of \$19,758,564. 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.* 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 (36) Change Orders that remain under evaluation, and a large number of Potential Change Orders (124). 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 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/DTP are still trying to identify the issues and create a strategy to address and settle the claims. The PMOC anticipates that these yet unreported claims are in the many millions of dollars given the mandated WMATA changes to address ATC bobbing track circuits and cab flips during the coming months or year.*

- 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 June 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 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, August 2014

RISK NUMBER	RISK DESCRIPTION	RISK STATUS			
		SINCE INCLUSION ON TOP TEN LIST		Since June 2014 Update	
		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.	C
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. MWAA submitted Letter No. 10298 dated September 3, 2014 with CNPA items for FTA review and approval for 4 <sup>th</sup> Quarter 2013.	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. <i>The PMOC and FTA are now reviewing proposed CNPA items for the 4<sup>th</sup> Quarter 2013.</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  
Subtask 2B

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

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

#### **LEGEND**

**PRIORITY (PR)**  
1- Most Critical  
2- Critical  
3- Least Critical

#### **GRANTEE ACTION**

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

#### **PMO CONTRACTOR STATUS**

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

# 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:** *September 19, 2014* (reporting current through *August 2014* - Financials through *July 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.

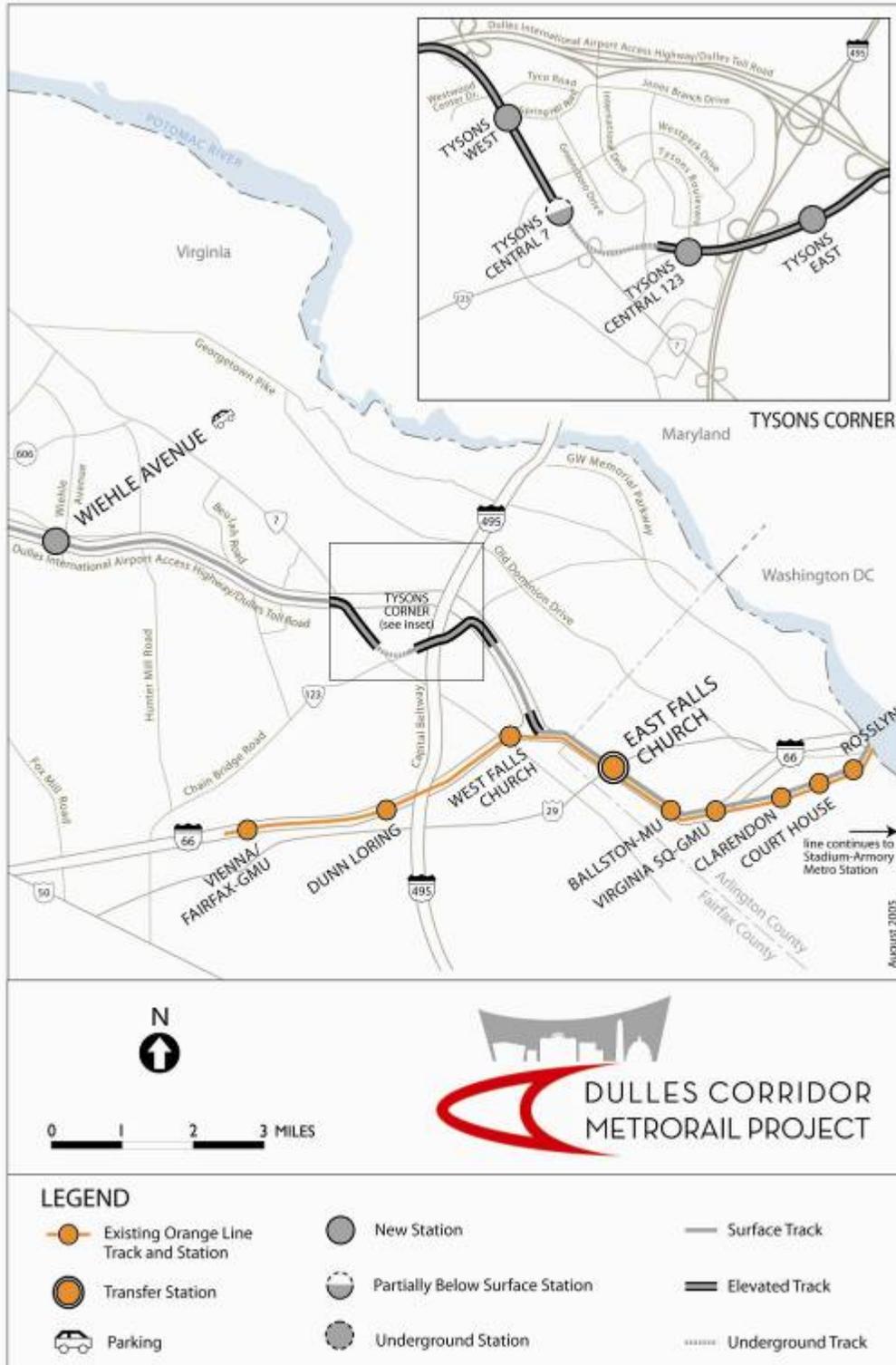
### Schedule

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>August 31, 2014</i> .		
95.4%	Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)		
94.8%	MWAA's Estimate of Project Earned Value through <i>July 2014</i>		

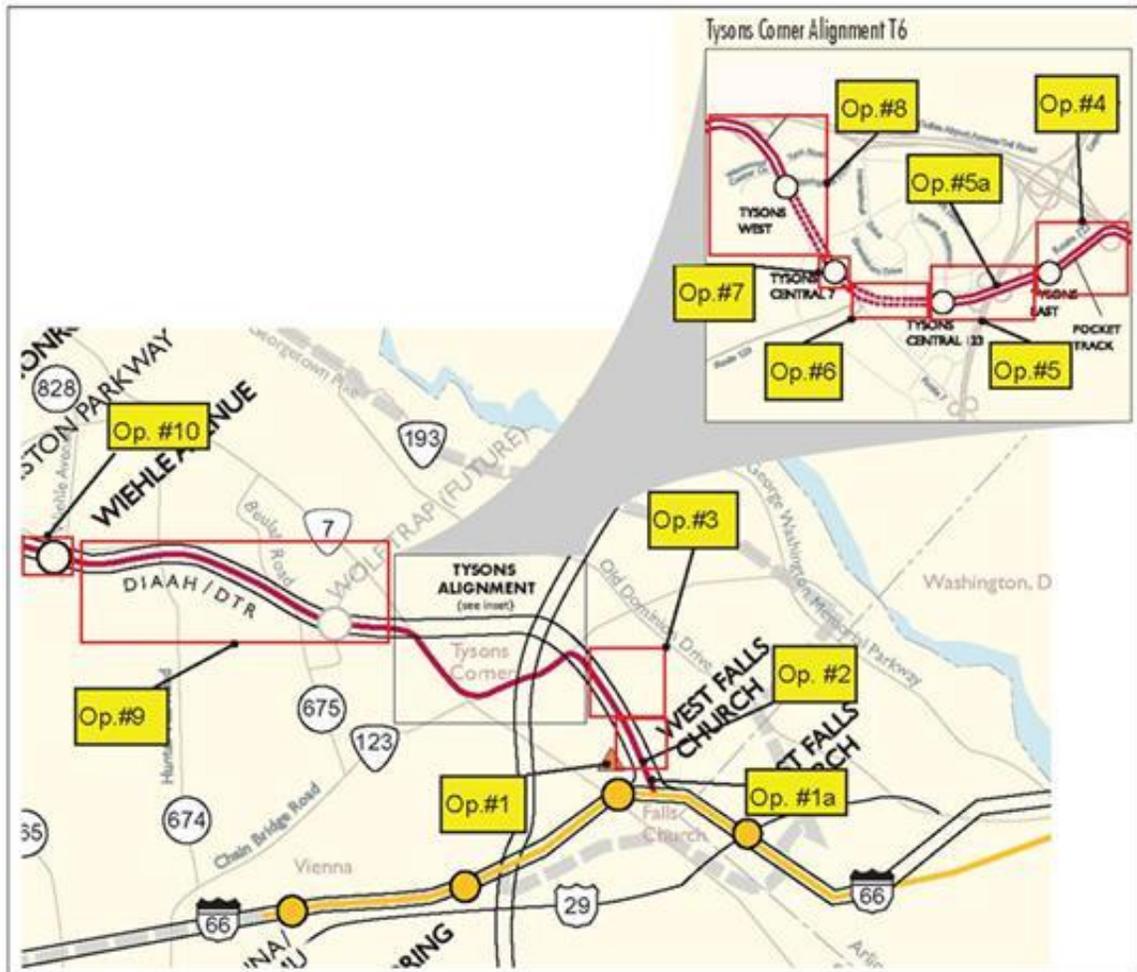
**Cost**

\$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
\$2.740 billion	Expenditures through <i>July 2014</i>
96.0%	Percent complete based on federal expenditures excluding finance costs.
\$19.758 million	Total project contingency remaining (allocated and unallocated) through <i>July 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**

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