

**COMPREHENSIVE MONTHLY REPORT**

**June 2010**

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

July 30, 2010

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

**Task Order Number:** 002, **Project Number:** DC-27-5142, **Work Order NO.** 01

**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:** 9.5 years

**Length of Time PMOC Lead Assigned to Project:** 2 years

## **Executive Summary**

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on June 30, 2010 to conduct a monthly progress meeting (in conjunction with the FTA Quarterly Progress Meeting for the period March 2010 through May 2010) for work performed in June 2010. The full time on-site PMOC attended various project meetings throughout this reporting period and participated with MWAA and FTA representatives in a complete field tour of the Project on the morning of June 30, 2010. Future PMOC monthly progress meetings are planned to occur during the last week of each month.

### **1. Project Description**

MWAA, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), proposes to implement a 23.1-mile rapid transit system in the Dulles Corridor of Northern Virginia. The proposed corridor follows the alignment of the Dulles International Airport Access Highway (DIAAH) and the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. The Project (Initial Operating Segment) undertakes the construction of the initial 11.7-miles of the rail project from the existing Metrorail Orange Line just east of the West Falls Church (WFC) Station to a station to be constructed at Wiehle Avenue with a total project cost of \$3.142 billion. Included in the Project are five new stations (Tysons East, Tysons Central 123, Tysons Central 7, Tysons West and Wiehle Avenue), improvements to the existing yard at WFC, and tail tracks beyond the Wiehle Avenue station. Sixty-four rail cars are required to provide service for the Project. Based on the Full Funding Grant Agreement (FFGA), the Revenue Operations Date (ROD) is December 1, 2014. Based on the selected manufacturer's proposed schedule, the 64<sup>th</sup> car will be delivered by September 12, 2014 based on a July 12, 2010 notice to proceed. The Federal New Starts share is \$900 million for the Initial Operating Segment (extension to Wiehle Avenue). Through Federal fiscal year (FY) 2009, Congress has appropriated \$279 million in Section 5309 New Starts funds and \$77.3 million in American Reinvestment and Recovery Act (ARRA) Capital Investment funds.

The Project Map is located in Appendix B.

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

The PMOC met with MWAA on June 30, 2010 to conduct a quarterly progress review meeting. Subsequent to the update meeting, MWAA provided data via emails containing the detailed information for work accomplished in June 2010; the last was received on July 16, 2010.

**Real estate acquisition** continues to keep ahead of construction requirements, often resorting to rights-of-entry (ROE) to gain access to required parcels.

**Design progress** continues to lag behind the baseline schedule but currently does not affect construction progress. Final Design of the stations was originally anticipated to be completed by the end of the third quarter of 2009. Final design of the station structures has been completed and submitted for review and coordination. Agency reviews and the incorporation of all comments continues, along with subsequent permitting by VDOT and DGS. This design excludes the

access pavilions and final bridge alignments *at the stations that are* subject to coordination with adjacent developers. *Anticipated overall* design completion of the five stations through “Issued for Construction” (IFC) drawings including pavilions *has again been bumped from the third quarter of 2010 to the first quarter of 2011 for the civil and the third quarter of 2011 for systems.* Overall project design is at 92% complete as of the end of June 2010. The project *design does not appear to have adversely impacted* the schedule’s critical path *at this point in time.* This is due to the DGS permitting of prioritized segments of the design packages. MWAA provided the PMOC with the impact on cost contingency as a result of overdue IFP and IFC station designs. *The PMOC will review and comment on this submission.* MWAA reported that property owners adjacent to the station sites are requesting modifications to the design.

**Construction progress** is broken into two components: utility relocation, which is 94% complete and design-build (DB) construction, which is approximately 16% complete. *Three* utility companies completed their work *in June.* The remaining utility companies are forecast to complete their work in *mid August* 2010. The east-bound Route 7 road shift to accommodate the Central 7 Station construction was accomplished on June 5, 2010. *The west-bound Route 7 road shift to accommodate the Tysons Central 7 Station construction is now scheduled to occur in late July 2010 according to reports received at the June 30, 2010 Quarterly Progress Meeting. The most recent schedule with a data date of June 25, 2010 (not yet analyzed) indicates that there will be three separate traffic detours to accommodate the Tysons West Station construction. The first is scheduled to occur on August 28, 2010, the second and third to occur on September 10 and 23, 2010, respectively.*

The O-1 Guideway is approximately 55% complete. The Tysons East Guideway/Station is approximately 30% complete and the NATM Tunnel is approximately 56% complete with the contractor completing 1,050 of 1,670 feet for the Outbound (OB) track and 831 of 1,686 feet for the Inbound (IB) track. Tysons East Station is approximately 10% complete and Tysons Central 123 Station is approximately 8% complete. The Wiehle Avenue Station is approximately 13% complete. The pre-cast yard is approximately 99% constructed, and has cast 735 of 2,600 concrete box girders segments to date. *The casting of station guideway segments in the long line casting yard continues and the assembly of balanced cantilever box girder molds has begun.*

**The Schedule** showed a 7 calendar day *loss* with the most current analyzed update schedule (data date of *May 25, 2010*) showing a total -90 calendar days (*-83 in April*) variance from the approved baseline schedule. This results in a projected ROD of *March 4, 2014.* DTP’s *June* schedule update, which has not yet been analyzed, *reflects a total -92 calendar days delay.* MWAA continues to note that it does not agree with the critical paths presented by DTP as being reflective of the *actual* critical path of the Project. *MWAA plans a concerted effort during the month of July to work out the critical path disagreements and the DTP potential change orders for excusable delays.* MWAA anticipates that the discussion and agreement on the critical path along with the implementation of work-arounds and schedule adjustments will significantly lessen the *calendar day* losses currently shown on the schedule.

It remains the PMOC’s opinion that recovery of the reported schedule losses, is within the Project’s ability via work-arounds and schedule adjustments. *However, recovery of any excusable weather delays or meritorious utility relocation delays will likely require a*

*constructive acceleration.* Therefore the Contract Completion Date is not considered to be in serious jeopardy at this time. The Project will need to continue its efforts to resolve disagreements relative to the West Falls Church Yard (WFCY), critical path, logic and delay issues in order to minimize the risk of irretrievable schedule creep leading to costly schedule compression or constructive acceleration. *It is the PMOC's opinion that the majority of the UR work and design related permit issues will be resolved within the next several months and that schedule recovery will progress during the third and fourth quarters of 2010.*

**Budget** status as of May 25, 2010 indicates that \$696,377,940 (22 %) has been expended of the \$3,142,471,634 budget total. MWAA reports \$69,766,624 of the available contingency for the first three contingency milestones has been utilized with a remaining balance of \$69,233,376 available through the completion of stations design and utility relocation work *which are expected to be completed by January 2011 and August 2010, respectively.* The PMOC does not agree that the Phase 2 contingency milestone has been achieved, and has reviewed MWAA's draft justification paper dated April 20, 2010, which was presented at the May 6<sup>th</sup> meeting. The PMOC reported during the June 3, 2010 update meeting that its position remains unchanged since the justification addresses only schedule and not cost. MWAA provided the FTA and PMOC with a white paper documenting why MWAA believes that both Phase 2 schedule and cost contingency have been completed. The PMOC will review and comment on this new submission. MWAA's estimate of the earned value for the Project through May 2010 is 34.77%.

### **3. PMOC's Assessment of Project Status**

The PMOC continues to observe delays in the design development particularly with regard to station design and now with the systems designs. To date, this has had no known impact on the critical path *because of the work-around efforts in the field and the division of design packages resulting in prioritized permitting by DGS.* However, some of the late design packages are continuing to accumulate negative float on the May schedule. The impact on cost contingency for the complete station design and utility completion milestones has not been determined. MWAA continues to meet with DGS, VDOT, WMATA and DTP to coordinate and resolve the design and design review issues. MWAA's ongoing efforts are yielding progress. However, MWAA and DTP continue to voice concerns with the lengthy review cycles by WMATA, VDOT and DGS.

Utility relocation continues with utility companies striving to meet the requirements of the Project. Efforts to recover lost time caused by inclement weather and unforeseen obstacles continue along the Route 7 corridor utilizing extra shifts, weekend work and other mitigation efforts. Completion of utility relocation work continues to be critical to the project's three upcoming Route 7 road shifts in the Tysons West Station area. The remaining utility companies are expected to complete in *mid August 2010.* The civil contractor and the utility contractors continue to meet on a weekly basis to coordinate their efforts and priorities needed to support the upcoming roadway shifts. *This has resulted in limiting the schedule impacts of the UR delays by allowing critical work to proceed sooner. However, it has also resulted in work areas that are smaller and are likely to cause construction inefficiencies in the months to come.*

The Full Time Equivalent (FTE) total for June is 1,511, which is an increase from May of 66 and appears to provide suitable support to the scheduled activities. The pre-casting facility continues to produce pre-cast concrete girder segments and long line station segments in advance of their erection schedule. The New Austrian Tunneling Method (NATM) tunneling is ahead of schedule.

The Pier 7 IB PDA testing was successfully completed on April 14, 2010. PDA/static load tests were successfully conducted on piers 1-IB, 6-IB, 5A-OB and 4-IB during the May 29, 2010 weekend Orange Line track outage. Successful PDA tests were conducted on 2-OB, 3-OB and 2-IB during the June 5, 2010 weekend Orange Line track outage. The eighth and final PDA test was successfully conducted on pier 5-IB on June 12, 2010. The 2 remaining static load tests were successfully completed on pier 5B-OB and 3-IB on June 16 and 25, 2010, respectively. This concluded the load tests on all eleven existing pier foundations. The peripheral tests, i.e. soils, metallurgical, stray current, corrosion and concrete tests continued in the field and laboratory during the month of June. All indicators to date have yielded positive results. A complete assembly and review of all related data will be completed during the month of July with independent reports expected from DTP, MWAA and CTI by the end of July 2010.

DTP has submitted a test plan for use of existing piles at the Difficult Run Bridge and the plan was submitted to WMATA and VDOT. The Project team has reviewed and "Accepted as Noted" the plan. The plan is similar to the one for testing the existing piers at the O-1 Guideway. These tests will also be witnessed by CTI in the same manner as for the O-1 Guideway tests. The SCIL has been revised to include the witnessing of the tests by CTI and the conduct of the QA audit of DTP engineering by the Project team to verify proper inclusion of the test results into the final design for the O-1 Guideway piers and the Difficult Run Bridge Abutment. Unlike the O-1 Guideway piers, DTP has obtained the "as-built" drawings for the piles to be re-used.

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# 1. Grantee's Capabilities and Approach

## a. Technical Capacity and Capability

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

In September 2009, MWAA reorganized by implementing an integrated project management organization consisting of MWAA and PMSS staff. However, the personnel involved remained the same as was evaluated in the January 2008 Technical Capacity and Capability Report. It is the PMOC's opinion that the staffing levels and technical capabilities are still adequate.

- **Project Staffing**

All vacancies have been filled as of March 2010.

Upon completion of the project, WMATA will become the operator of this extension to their system. WMATA personnel have been active participants in the project.

## b. Project Controls

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

The updated project schedule, with a data date of June 25, 2010 (not yet analyzed), reflects a -92 calendar day variance with the contractor's baseline schedule with a Revenue Operations Date (ROD) of December 4, 2013. The current variance would result in a ROD of *March 6, 2014*. It is the PMOC's observation that MWAA continues to carefully scrutinize the schedule update submissions and meets with the contractor within two weeks of the schedule submission to discuss their observations and to discuss mitigation strategies with DTP. *MWAA plans a concerted effort during the month of July to work out the critical path disagreements and the DTP potential change orders for excusable delays.* MWAA anticipates that the discussion and agreement on the critical path along with the implementation of work-arounds and schedule adjustments will significantly lessen the *calendar day* losses currently shown on the schedule. The FFGA ROD is December 1, 2014.

MWAA continues to monitor expenditures to date and update the estimate at completion. To date, MWAA has utilized \$69,766,624 of the Phase 1 and Phase 2 contingency total of \$99,000,000. Although MWAA has indicated that the project has progressed to the Phase 3 level of contingency, the PMOC does not agree. At the May 6, 2010, update meeting with MWAA, the Authority presented a justification for moving to the Phase 3 level of

contingency. The PMOC reviewed the justification and reported at the June 3, 2010 update meeting that there was still disagreement since the justification addresses only schedule and not cost. MWAA *revised* the white paper to include a discussion of cost.

The Quality Assurance (QA)/Safety group maintains an active schedule of audits and surveillances and accident data. Through *June* 2010, of the cumulative total of hours worked of 2,897,870 there have been no lost time events. The required sign-offs on the “System Safety/Security Certifiable Items List” (SCIL) continue to be a problem. However, a meeting held between MWAA and DTP to address these problems and a path forward was conducted on May 25, 2010. This is discussed further in section 2e of this report. Revision 2 of the SCIL was distributed for review and comment on March 15, 2010. Comments were received from WMATA in May and combined with MWAA’s comments that were forwarded to DTP for action on May 24, 2010. *DTP will issue Revision 3 in July which MWAA expects will lead to the approval of the base SCIL.*

MWAA continues to monitor the risk status and reports this information on a monthly basis.

### **c. Compliance**

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

- **Project Management Plan and Sub-plans**  
MWAA’s Project Management Plan (PMP), Version 6.0 dated September 26, 2008 has been accepted by the FTA. The PMOC did a review of MWAA’s compliance with the PMP and issued a Spot Report on December 8, 2009. MWAA is in the process of updating the PMP based on the PMOC’s observations and the recent MWAA reorganization to an integrated MWAA and PMSS organization. MWAA anticipates completing the PMP update in late *July* 2010. The PMOC’s various compliance reviews performed during 2009 have found MWAA to be in compliance with their various project plans and sub-plans.
- MWAA’s Quality Program Plan (QPP), Revision 6, dated June 25, 2008 was accepted by the FTA on September 19, 2008. MWAA submitted a revised QPP, Revision 7 to FTA on January 7, 2010. MWAA awaits FTA’s comments on the revised plan or an indication that no comments will be forthcoming. *MWAA reported that three Project Management Procedures were updated in the period from March through May 2010.*
- 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 is in the process of addressing the comments by revising Procedure PM-3.01(Monitoring the Design-Build Contractor Property Acquisition Services) and requesting DTP to revise their Procedure PIQ-5.1.
- MWAA’s Risk Management Plan (RMP) dated October 2008 has been reviewed and accepted by the FTA. The PMOC requested MWAA to begin the process to update



the RMP by the end of the summer *with a meeting to discuss the update to be scheduled in September 2010.*

- Since WMATA, rather than MWAA, will be the operator of the completed project the WMATA Rail Fleet Management Plan (RFMP) is the applicable document. The FTA accepted the WMATA RFMP on September 25, 2007. However, WMATA has updated the RFMP to reflect the 7000 Series Cars' quad concept and has submitted a draft copy dated February 26, 2010 to the FTA for review and comment. The PMOC issued its Spot Report on its review of the draft RFMP on March 11, 2010, finding the plan to be deficient in many areas. The FTA provided comments to WMATA on March 15, 2010 based on the PMOC's Spot Report. The PMOC met with WMATA on April 6, 2010 to review the comments on the draft RFMP. The PMOC again met with WMATA on June 2, 2010, at WMATA's request, to further discuss the comments. *WMATA is in the process of updating the RFMP but no date for completion has been specified.*
- MWAA's Safety and Security Management Plan, Revision No. 6 dated January 2009 was accepted by the FTA on January 27, 2009. MWAA submitted the SSMP, Revision 7, to the FTA on September 23, 2009. The changes in Revision 7 were minor in nature and reflected changes in personnel assignments, integration of the Fire/Life Safety Working Group with the Safety/Security Certification Working Group, and updates to schedules. Due to the minor nature of the changes, no response is expected from the FTA.

## **2. Project Scope**

### **a. Bidding and Construction Status**

Utility relocation is *94%* complete and DB construction is approximately *16%* complete. Utility companies continue to relocate their facilities into the duct banks and facilities installed by MWAA's utility contractor *and to remove overhead cable lines*. Efforts to recover lost time caused by *inclement* weather and unforeseen obstacles continue along the Route 7 corridor with extra shifts and weekend work. *Three* Utility companies completed their work in *June* and the others are striving to meet the requirements of the Project. Completion of utility relocation work *remains* critical to the project's plans to shift the Route 7 roadway to support construction starts at Tysons Central 7 and Tysons West Station areas.

- *The west-bound Route 7 road shift to accommodate the Central Tysons 7 Station construction is now scheduled to occur in late July 2010 according to reports received in the June 30, 2010 Quarterly Progress Meeting. The most recent schedule with a data date of June 25, 2010 (not yet analyzed) indicates that there will be three separate traffic detours to accommodate the Tysons West Station construction. The first is scheduled to occur on August 28, 2010, the second and third to occur on September 10 and 23, 2010, respectively. The civil contractor and the utility contractors meet on a weekly basis to coordinate their efforts and the priorities needed to support the remaining west-bound road shift.*
- Work continues on the completion of designs, with stations' designs continuing to lag. The problems with regard to stations design are due to a combination of poor

quality control of the documents and cumbersome review processes and the lack of resources by reviewing agencies. MWAA and DTP continue to meet with the various permitting agencies in an effort to improve the processes. MWAA continues to stress to DTP the need for better quality assurance reviews of their submissions and is reviewing DTP's submissions before submitting them to the permitting agencies. MWAA reports that the quality of the DTP package submissions is improving, but some packages are still being returned for corrective action. Efforts are also continuing by VDOT and WMATA to improve their design review cycle times. Overall, basic design for all five stations is reported as complete. However, the "Issued for Permit" (IFP) and subsequent "Issued for Construction" (IFC) drawings are proving to be a drawn out process. Anticipated issuance dates for IFC drawings for *Tysons East, Tysons 123 and Wiehle Avenue Stations* are now in October 2010. *Tysons Central 7 Station* is now December 2010 and *Tysons West Station* is now January 2011. Issuance of completed IFC design packages has not yet impacted the project's critical path since DGS continues to assist with the permitting of partial packages. However, various design packages continue to accumulate negative float on the Project schedule. The impact on cost contingency for the complete station design milestone has not been determined.

- Through *May 2010*, \$231,250,355 of the \$437,278,511 Federal Allowance Items Budget had been awarded to subcontractors and suppliers. An \$11,870,978 overrun now exists for the 9 of 17 contracts awarded thus far for federally funded allowance items. The remaining contingency for the applicable phase 1, 2 and 3 items is \$69,233,376.

The following are the major accomplishments of the DB contractor:

- **Operations Areas OP-1, OP-2 and OP-3 (I-66/DCR/Laydown Area 1)** – Completed PDA testing of H-piles at abutment A-OB, piers 2-IB, 5-IB, 2-OB and 3-OB during the Orange line track outages during the first two weekends in June. All testing of existing H-piles is now completed on the O-1 Guideway foundations. DTP completed the static load testing on existing piles at piers 3-IB and 5B-OB which resulted in the successful completion of load testing on all existing K-Line tie-in foundations' piles. DTP poured the pile cap at abutment A-IB and poured the guideway pier column at pier 5B-OB to bring the total piers completed to twenty-seven to date. AASHTO girders were set in place at spans 16-OB, 17-OB and 20-IB. Steel guideway girders were set at span 10-OB. Completed setting the bridge decking for the bridge deck at Magarity Road Bridge. Completed backfilling abutment B at the Pimmit Run Bridge, and completed pile cap construction at abutment A on the east side. Continued SOE and excavation on the first of three sections of WFCY Cut and Cover Tunnel at the median side of the east-bound Connector Road. Continued storm drain installation west of Magarity Road and continued pouring retaining wall footings and walls west of Pimmit Run.
- **Operations Area OP-4 (Tysons East Guideway/Station)** - Completed caissons at piers 28-IB, 29-OB, 39-OB, 39-IB, 40-OB, 40-IB, 41-IB, 48-IB/OB, 60-OB and 62-IB bringing the total to sixty one completed to date. Completed pile caps at piers 13-IB/OB, 15-OB, 16-IB/OB, 17-IB/OB, 17-IB/OB, 24-IB/OB, 34-OB, 35-OB, 56-IB/OB and 57-IB/OB bringing the total to forty-one completed to date. Poured pier columns

- at piers 13-IB/OB, 20-IB/OB, 21-IB/OB, 23-IB/OB, 24-IB/OB, 31-IB and 32-OB bringing the total to thirty-three completed to date. Poured pier caps at piers 9-IB/OB, 46-IB/OB and 59-IB/OB bringing the total to fourteen completed to date. Completed segmental box girder guideway erection of spans 1-IB 2-IB and 2-OB between the abutment and pier 3. Continued with rebar placement and pouring sections of straddle bents at piers 7-IB/OB and 8-IB/OB.
- **Operations Area 5A (I-495 Crossing/Tysons Central 123 Station)** - Completed caisson installation at piers 63-OB, 72-OB and 72-IB bringing the total to thirteen completed to date. Completed pile caps at piers 63-OB, 64-OB, 64-IB, 65-OB and 65-IB bringing the total to eight completed to date. Completed columns at piers 66-IB and 66-OB bringing the total to two completed to date. Continued installing SOE and excavation in preparation for pile installation at Station foundations.
  - **Operations Area OP-6 (Laydown Area #6/NATM Tunnel/East Cut & Cover and Ventilation Structure)** - DTP continued excavation of the OB tunnel completing 1,050 feet of 1,670 feet to date and the excavation of the IB tunnel completing 831 feet of 1,686 feet to date.
  - **Operations Area OP-6 (West Cut and Cover Tunnel)** - Pouring walls and roof sections on the OB stage 1B continues with four of five sections completed to date. Installation of waterproofing and invert slab pouring at the IB tunnel is complete. Pouring walls and roof sections on the IB stage 1 continues with one of six sections completed to date.
  - **Operations Area OP-7 (Tysons Central 7 Station)** - East-bound Route 7 lane shift was completed between Best Buy (west of Gosnell Road) and Route 123 in early June. Installation of SOE for the Station started in June and is continuing. Storm drain and grading work for the next east-bound road shift between Westwood Center Drive and Best Buy continues.
  - **Operations Area OP-9 (DIAAH)** - Installation of abutment B piles was completed at the W&OD Bridge. Construction of abutment B pile cap and walls is continuing and construction of pier cap and bearing pedestals at intermediate pier 2 at the W&OD Bridge was completed. Continued abutment B wall construction at the west side of the Hunter Mill Road Bridge and continued with H-pile installation for abutment A on the east side of the Hunter Mill Road Bridge. Installation of SOE and excavation at the abutments for the Difficult Run Bridge continues. Continued with retaining walls on the OB and IB sides between W&OD and Difficult Run Bridges. Storm drain installation between Hunter Mill Road and Difficult Run continues in the median.
  - **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)** - Forming and pouring of platform walls continues. Continued installation of underground sanitary sewer lines and waterlines. Completed the east-bound DIAAH road shift to facilitate installation of waterlines and construction of outside pile caps on the south side of the track way. Continued grading work and permanent barrier rail on the west-bound DIAAH median side for the upcoming road shift.

- **Laydown Area #10 (Pre-cast Yard)** - Casting of segmental box girders continued with 735 completed to date. *Continued casting segments for the station guideways in the long line casting area and started assembly of the balanced cantilever girder molds.*

**b. Third Party Coordination & Agreement Status**

All Intergovernmental Agreements and Agreements with utility companies were executed prior to the FFGA.

- Real Estate

Real Estate Acquisition continues to keep ahead of construction requirements, often resorting to ROE to gain access to required parcels. Through *June 2010*, 60 of the 99 parcels required for the Project have been acquired.

The table below summarizes acquisition activities for the Project through *June 2010*.

**PARCELS ACQUIRED<sup>1</sup>**  
(Number of parcel packages)

LOCATIONS	TOTAL	Period			To Date		
		Planned <sup>2</sup>	Actual	Var	Planned <sup>2</sup>	Actual	Var
Route 66 / Dulles Connector	1	0	0	0	1	1	0
Route 123	23	0	0	0	19	19	0
Route 7	51	3	1	(2)	41	34	(7)
DIAAH	24	1	0	(1)	7	6	(1)
<b>TOTAL</b>	<b>99</b>	<b>4</b>	<b>1</b>	<b>(3)</b>	<b>68</b>	<b>60</b>	<b>(8)</b>

- Notes:
1. Parcels secured through recordation of deed/easement and filing of Certificates of Take. These values include rights obtained for another 27 parcels for which Certificates of Take have been filed.
  2. Planned values are based on the March 31, 2010 Property Acquisition Status Update.

**c. Utility Coordination**

The various utility companies continue to relocate their facilities for the project. Utility coordination meetings are held with the various utilities to schedule and coordinate work. Specific utility relocation work completed in *June 2010* includes the following:

- **Along Route 7 (123 Overpass to Marshall's)** – Dominion Virginia Power continued splicing at Phase 5 on the north side of Route 7.
- **Along Route 7 (Marshall's to Gosnell/Westpark)** – MCI continued customer notifications and splicing work. AT&T long distance continued cable splicing and removal of cables between SAIC and Verizon MH VZN-S07 in the right lane of Route 7. Dominion Virginia Power continued splicing at Phase 5 on the north side of Route 7.

- **Along Route 7 (Gosnell/Westpark to Spring Hill Road)** – Verizon continued splicing cables in Segment 4 conduits between Spring Hill Road and Ernst & Young on the north side of Route 7. AboveNet completed cable splicing and cutovers on the south side of Route 7. Dominion Virginia Power continued pulling cables and splicing at Phase 4 on the north side of Route 7. XO completed all cutovers and relocation work.
- **Along Route 7 (Spring Hill Road to Tyco/Westwood)** – Cox Communications completed all cutover of services, but overhead line removal is yet to be accomplished. MCI completed lift and lay work on the south side to mitigate conflicts with the DB road work. Washington Gas completed bypass work at Spring Hill Road. Waterline tie-in work on Spring Hill Road is complete. Verizon continues splicing copper cables.
- **Along Route 7 (Tyco/Westwood to Route 267/Toll Road)** – Verizon continues to install copper service cables to customers as part of Segment 4. Verizon also continues splicing copper and fiber cables. AboveNet completed lift and lay work at the retaining wall in front of the Sheraton Hotel. AboveNet continues with customer notifications and splicing cutovers on the north side of Route 7. Dominion Virginia Power (DVP) completed removal of overhead lines on the north side of Route 7. DVP continues with cable splicing and cutovers on the south side of Route 7. MCI continues with customer notifications and splicing work. Quest Government completed all cutovers and relocation work.
- **Along Route 123 (Route 7 to the Route 267 Connector Road)** – DTP/Lane completed electrical ductbank installations and started restoration work at Colshire Drive and Route 123. DTP/Lane continues work on the bypass 34.5 kV manhole and ductbanks near the Tysons Central 123 Station. AboveNet continues test pitting at Route 123 and Scotts Crossing. DVP continues cable pulling and tie-ins in ductbanks at Scotts Crossing and Colshire Drive.
- **The DIAAH/Dulles Toll Road (Route 7 to Route 267 – DIAAH West)** – DTP/Lane completed the jack and bore crossing #159 on the east-bound Toll Road at Trap Road for Traction Power Substation (TPSS) #7. DTP/Lane continued with grouting conduits at the jack and bore crossing #156 at the west-bound Toll Road just west of Hunter Mill Road for TPSS #10. DTP/Lane continued traction power ductbank installation at the median between the east-bound Toll Road and the DIAAH between Difficult Run and Hunter Mill Road and on the west-bound DIAAH between Wiehle Avenue and the end of the tail tracks.

#### **d. Vehicle Procurement**

WMATA is acquiring the 64 vehicles required for the project. The WMATA Board chose not to act on the recommendation to award the procurement contract during their March 25, 2010 Board meeting. The WMATA Board did subsequently approve award of the contract to Kawasaki during its May 27, 2010 Board Meeting. *However, the contract signing has not occurred pending resolution of a Buy America Act issue and Virginia's funding commitment. Kawasaki has reportedly agreed to an extension to August 13, 2010 while the issue is worked out with the FTA.*

WMATA is purchasing 300 additional cars under the same procurement. The WMATA Board approved the award of a contract and a sharing of development costs with the Airports Authority at its May 27 meeting. The Airports Authority Board agreed at its June 2, 2010 meeting to share the development costs associated with the railcar procurement equally with WMATA.

The schedule requires the last (64<sup>th</sup>) car to be delivered by September 20, 2013 to support the Operational Readiness Date (ORD). However, WMATA's presentation to their Board indicated that the delivery of the 64<sup>th</sup> vehicle is April 1, 2014 (based on a March 26, 2010 award date). This date does not meet the Project's needs. WMATA has stated that they will be able to support the Project's ORD needs with existing fleet cars if the car supplier is unable to improve the delivery schedule.

#### **e. Safety and Quality Status**

The Airports Authority participated in *six* safety walk downs with DTP during the month of *June*. *One* was related to utility relocation and *five* were related to Design-Build work. As of *June 30, 2010*, DTP had logged a total of 2.9 million project man hours with 92 first aid cases and no lost time cases. There have been a total of *124* incident investigation reports, *69* utility hits and 14 vehicular accidents

Revision 2 of the SCIL was distributed for review to the Airports Authority and WMATA on March 16, 2010 with a comment response request date of April 9, 2010. Airports Authority comments were transmitted to DTP on May 24, 2010 and included informal comments received from WMATA's System Safety and Security Department. *Revision 3 is scheduled to be received in July and the Airports Authority anticipates accepting this revision.*

*DTP has struggled with its 90-day Design Conformance Checklist submissions since September 2009. DTP's first two 90-day submittals of completed design conformance checklist items repeatedly failed the MWAA review and approval process after several resubmission cycles.*

*On May 25, 2010, a meeting was held between Airports Authority and DTP management to discuss unacceptable issues that had resulted in the rejection of the first two Design Conformance Checklist submittals. DTP presented a plan for addressing these issues and for proceeding in a timely manner with the sign-off of items in the Checklist. Beginning June 8, 2010, DTP and the Airports Authority meet every two weeks to review the status of issued for construction designs (including subcontractor designs) and determine the status of sign-offs of the design Conformance Checklist items related to all issued for construction designs. DTP engineering personnel responsible for Checklist sign-offs will be re-trained to ensure correction of previously identified problems. During the initial DTP/Airports Authority meetings, it was agreed that the next Design Conformance Checklist submittal would be scheduled for September 2, 2010 and that the next Construction/Procurement/Installation Conformance Checklist would be submitted on October 4, 2010.*

The Project team is currently conducting a review of all 386 items in the first two populations. A total of 163 items from the first two submittals have now been accepted by the Airports Authority. The remainder of the items in the first two submittals will be re-reviewed and re-submitted to the Airports Authority.

WMATA will be implementing a procedure that involves potential selection of additional items from a checklist population for Airports Authority review in addition to those chosen randomly by the Project team for review. These items will be safety critical items selected on a “judgment” basis by WMATA Safety. The Tri-State Oversight (TOC) and the FTA’s on-site PMO representative continue to meet monthly with the Safety/Security Certification Working Group and continue ongoing involvement in the certification process.

MWAA’s QA group continues to monitor DTP’s quality program and maintains a schedule of audits and surveillances. In addition, MWAA continues to perform safety walk downs with DTP.

During June 2010 the following QA audits/surveillances were performed:

- *Rizzani Safety Program: Subject program was audited on June 9 and 10, 2010. There were nine issues requiring a response which is due July 2, 2010.*
- *DTP Concrete Subcontractor (Dubrook): An audit was conducted on June 9, 2010. There were no issues found and the audit is considered closed.*
- *DTP Subcontractor – Delta Railroad: A DTP led audit was conducted on June 14 and 15, 2010. There were five observations and one recommendation made. A report is being prepared.*
- *DTP Subcontractor Safety Program: Subject program was audited on June 23, 2010 with no issues found and two recommendations made. The audit is considered closed.*
- *ROCLA QA Program (concrete tie supplier): Subject program was audited on June 23 and 24, 2010. There were three observations made.*
- *Evaluation of Implementation of PM-5.05: The evaluation was conducted on June 16, 2010. There were no issues found. This led to closing CARs MWAA-06 and 07.*

**The QA Audit and Surveillance Schedule through September 2010**

<b>Tentative Date</b>	<b>Audit (A) Surveillance (S)</b>	<b>Organization/Activity</b>	<b>Joint Audit/ Surv.</b>	<b>Lead</b>
TBD	A	DTP Environmental	N	MWAA
TBD	A	J.P. Concepts/Progress Rail Services (Rail) (Steelton, PA)	Y	DTP
TBD	A	Progress Rail Services (Covington, KY)/KSA (Portsmouth, OH)	Y	DTP
7/21-22/10	A	MWAA QA Program	N	MWAA

<b>Tentative Date</b>	<b>Audit (A) Surveillance (S)</b>	<b>Organization/Activity</b>	<b>Joint Audit/ Surv.</b>	<b>Lead</b>
7/28-29/10	A	Facchina Construction	Y	DTP
8/04-05/10	A	<i>DTP Construction Safety Program</i>	N	MWAA
8/04/10	S	<i>DTP Subcontractor/Supplier Submittal Process: DTP/Subcontractors Nonconformance Control Systems</i>	N	MWAA
8/11-12/10	A	<i>Brayman Construction</i>	Y	DTP
8/18-19/10	A	<i>Lane Construction (Early MEP)</i>	Y	DTP
8/25-26/10	A	<i>DTP Acquisitions</i>	Y	DTP
9/15/10	S	<i>DTP Subcontractor/Supplier Submittal Process: DTP/Subcontractors Nonconformance Control Systems</i>	N	MWAA
9/22-23/10	A	<i>DTP Construction and QC</i>	N	MWAA

### **3. Project Schedule**

The most recent MWAA analyzed project schedule update has a data date of *May 25, 2010*. The primary critical path identified by DTP reflects a *-90* calendar day variance in the achievement of the SSCD from that reflected in the approved Baseline Schedule. This variance reflects a *7* calendar day *loss* in the critical path since the *April* schedule update and yields a *March 4, 2014* ROD.

DTP's *June* schedule update, which has not yet been analyzed, reflects a total *-92* calendar days delay. MWAA continues to note that it does not agree with the critical paths presented by DTP as being reflective of the critical path of the Project. MWAA plans a concerted effort during the month of *July* to work out the critical path disagreements and the DTP potential change orders for excusable delays. MWAA anticipates that the discussion and agreement on the critical path along with the implementation of work-arounds and schedule adjustments will significantly lessen the *calendar day* losses currently shown on the schedule.

*There were several key schedule accomplishments in late May and through June. They included the Route 7 eastbound traffic detour at Tysons Central 7 Station on June 5, 2010; start of the launch girder (truss 1) in the Tysons East Guideway on May 27, 2010; and the work performed on WMATA's K-Line during three consecutive weekend track outages. These are all significant steps to the work ahead.*

*DTP's June schedule narrative notes that the primary driver behind the adverse impacts to the critical path schedule continues to be the forecast completion of UR Program work required to support the interface with the DB's C-6 Early Roadway subcontractor working along the Route 7 corridor in the vicinity of Tysons West Station. Although UR delays continued this month with the remaining utility agencies, DTP reports that it was able to mitigate much of the delay by providing an alternate MOT approach along the Route 7 corridor at Tysons West Station and accelerating the roadway detour at available work*



areas. As a result, the update now shows three separate traffic detours within Operation Area 8, which include Route 7 eastbound at Tysons West Station by August 28, 2010; Route 7 westbound at Tysons West Station by September 10, 2010; and Route 7 west of the station by September 23, 2010. While the completion of the Route 7 detours slipped to September 23, 2010, a delay of 23 days since last month, by staging the MOTs, this month's schedule impact to the subsequent DB work was reduced to only two days according to DTP. The alternate MOT along Route 7 eastbound and westbound allows for staged accessing to the DB work areas, with priority given to the Tysons West Station followed by the area to the west of the station. DTP notes that while this allows critical work to proceed sooner, the resulting work areas are smaller and will cause some inefficiencies in the construction.

DTP states that the UR work continues to impede access and/or progress of work in a continuous manner, specifically in the vicinity of Spring Hill Road and to the west. The delay is due to various utility agency impacts, with the primary delay being Verizon Telephone. This schedule impact is the result of Verizon Telephone's new requirement for circuit designs, which delays the cut-overs to the new service along the north and south sides of Route 7. In addition, UR delays continue with the balance of utility agencies, including DVP, Level 3, Verizon Business (MCI), AboveNet, AT&T Long Distance, and Fiberlight. MCI is performing lift-and-lay operations to mitigate some of their impact to the Facchina road work.

The WFC Yard upgrade work now reflects a completion of the full facility in January 2014 as compared to the August 2014 completion date forecast in the *April* schedule. DTP states in its May schedule narrative that this improved date "incorporates a number of assumptions with regards to permitting and access to perform the work. DTP continues to finalize the WFCY schedule, which will be provided in a revised RFC-065 proposal." The WFCY work is still disconnected from the schedule's critical path. DTP's reason was stated in response to MWAA's review comment on the February Schedule as follows: "DTP has previously advised MWAA that the WFCY schedule will be excluded from the Project SSCD due to the delay imposed on the WFCY work. Until design progression allows for a firm schedule for this work and resolution of the commercial issues surrounding the WFCY, DTP's position remains unchanged. Therefore, the MWAA/PMSS suggestion that the WFCY is the primary critical path is not valid." MWAA continues to state its disagreement with DTP's completion date in light of the incomplete WFCY scope. *DTP's June Schedule narrative states that "DTP resubmitted RFC-065 for the West Falls Church Yard schedule showing a completion in January 2014. DTP anticipates that a new and separate contractual completion date for the WFCY will be established independent of the Project SSCD." It is the PMOC's opinion that the 'independent contractual completion date' must still support the Project Operational Readiness Date".*

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

- Utility companies meeting the project schedule.
- Utility redesign/relocation due to interference/conflicts with HOT Lanes Project.
- WFCY design, construction and commissioning.
- Weather Delays.

Bi-weekly meetings held between MWAA and DTP with regard to the schedule and schedule mitigation efforts continue to yield work-arounds and some increased shifts, particularly with regard to the late UR work, VDOT MOT approvals and design package reviews. It remains

the PMOC's opinion that MWAA is maintaining control over the Project master schedule, with the exception of the WFCY schedule that continues to be of concern relative to meeting the scheduled Project Operational Readiness Date (ORD). In addition, the critical path, the weather delays and schedule logic issues are yet to be resolved. *MWAA reported during the June 30, 2010 Quarterly Progress Review Meeting" that they were going to make a concerted effort to resolve these schedule disagreements during the month of July 2010.* Also, MWAA and DTP continue to voice concern with WMATA's, VDOT's and DGS's abilities to provide timely design review comments *and to issue timely permits.*

#### **a. Critical Path Evaluation**

The PMOC agrees with MWAA's assessment regarding the critical path. The Project will need to continue its efforts to resolve disagreements relative to the WFCY, critical path, logic and delay issues in order to minimize the risk of irretrievable schedule creep leading to costly schedule compression or constructive acceleration. *It is the PMOC's opinion that the majority of the UR work and design related permit issues will be resolved within the next several months and that schedule recovery will progress during the third and fourth quarters of 2010.*

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

The important milestones that are expected to be completed during the next 90 – days include the following:

- Completion of the engineering for the K-Line Tie-in (OP-1).
- Completion of engineering for the Tysons East Aerial Guideway (OP-5a).
- Completion of utility relocation.
- Property acquisitions for the Tysons West Aerial Guideway (OP-8).

## 4. Project Cost

The SCC Budget and Expenditures summary for the period ending *May 25, 2010* is as follows. Overall, approximately 22% of the budget has been expended through *May 25, 2010*.

FTA SCC CODE	DESCRIPTION	BASELINE BUDGET	CURRENT BUDGET <sup>1</sup>	EXPENDED TO DATE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 666,500,284	\$ 634,850,680	\$ 93,426,579	\$ 634,850,680
20	Stations	\$ 317,023,977	\$ 315,699,620	\$ 19,824,067	\$ 315,699,620
30	West Falls Church Yard	\$ 51,789,538	\$ 51,484,608	\$ 2,657,758	\$ 51,846,378
40	Site Work & Utility Relocation	\$ 232,936,985	\$ 235,947,517	\$ 83,451,856	\$ 238,826,378
50	Systems	\$ 278,157,645	\$ 285,644,779	\$ 25,893,637	\$ 284,412,001
60	Right of Way Acquisition	\$ 45,953,303	\$ 45,953,303	\$ 47,714,121	\$ 70,207,408
70	Vehicles	\$ 211,103,775	\$ 211,629,775	\$ 6,277,288	\$ 210,926,012
80	Professional Service	\$ 527,590,480	\$ 715,736,376	\$ 417,132,634	\$ 726,605,759
90	Contingency Mgmt. Reserve	\$ 130,000,075	\$ 135,540,405	\$ -	\$ 99,112,828
100	Finance Charge	\$ 509,984,571	\$ 509,984,571	\$ -	\$ 509,984,571
<b>TOTAL (Federal portion)</b>		<b>\$ 3,142,471,634</b>	<b>\$ 3,142,471,634</b>	<b>\$ 696,377,940</b>	<b>\$ 3,142,471,634</b>

1. Current budget equals FFGA amount plus approved Change Orders CO-001-050 except CO-0049, Directive Letters 001-011, UR-CO-001-020

### a. Explanation of Variances

The major variance is the nearly \$24 million increase in the right-of-way (ROW) acquisition. This was due to a single property that had been anticipated as being a dedication having to be acquired by condemnation.

## a. Monthly Cost Report - May 2010

DESCRIPTION	FFGA AMT. (Original)	EXPENDITURE TO DATE <sup>1</sup>	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION
<b>FEDERAL (FFGA SCOPE)</b>				
<b>Design Build Contract</b>				
Firm Fixed Price	\$ 1,112,052,172	\$ 332,890,893	\$ 1,025,204,860	\$ 1,358,095,753
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 60,277,119	\$ 5,194,422	\$ 65,471,540
Firm Fixed Price Subtotal	\$ 1,177,161,580	\$ 393,168,012	\$ 1,030,399,282	\$ 1,423,567,293
Subcontract Allowance	\$ 430,199,817		\$ 234,080,872	\$ 234,080,872
Design Build Contract Prices	\$ 1,607,361,397	\$ 393,168,012	\$ 1,264,480,154	\$ 1,657,648,165
Indexed Commodity Escalation	\$ 77,469,926		\$ 58,720,324	\$ 58,720,324
<b>Design Build Contract Total</b>	\$ 1,684,831,324	\$ 393,168,012	\$ 1,323,200,478	\$ 1,716,368,489
<b>Utility Relocation</b>				
Utility Work	\$ 84,312,807	\$ 62,291,975	\$ 24,962,766	\$ 87,254,741
Terf Tax		\$ -	\$ 0	\$ 0
Project Management and Final Design	\$ 8,423,426	\$ 14,267,128	\$ 827,860	\$ 15,094,988
<b>Utility Relocation Total</b>	\$ 92,736,233	\$ 76,559,102	\$ 25,790,627	\$ 102,349,729
<b>Right of Way</b>				
<b>Right Of Way Total</b>	\$ 42,443,132	\$ 47,714,121	\$ 22,493,286	\$ 70,207,408
<b>WMATA Agreement</b>				
Vehicles	\$ 195,138,329	\$ 6,277,288	\$ 188,157,279	\$ 194,434,567
Construction and Procurement	\$ 31,484,799	\$ 1,632,468	\$ 28,934,556	\$ 30,567,024
WMATA Force Account Startup	\$ 13,777,100	\$ 136,240	\$ 13,268,781	\$ 13,405,021
Project Management and Final Design	\$ 31,235,400	\$ 6,533,915	\$ 26,695,103	\$ 33,229,017
<b>WMATA Agreement Total</b>	\$ 271,635,628	\$ 14,579,911	\$ 257,055,717	\$ 271,635,628
<b>Preliminary Engineering<sup>3,4</sup></b>				
<b>Preliminary Engineering Total</b>	\$ 100,968,646.49	\$ 100,730,999	\$ -	\$ 100,730,999
<b>Airports Authority Services</b>				
General Conditions <sup>2</sup>	\$ 28,879,153	\$ 3,405,018	\$ 23,464,666	\$ 26,869,684
Airports Authority Project Management and Wiehle Ave	\$ 23,225,717	\$ 12,134,364	\$ 11,161,353	\$ 23,295,717
Project Management Support	\$ 90,004,649	\$ 48,086,413	\$ 45,491,170	\$ 93,577,583
<b>Airports Authority Services Total</b>	\$ 142,109,519	\$ 63,625,795	\$ 80,117,189	\$ 143,742,984
<b>Contingency</b>				
<b>Contingency Total</b>	\$ 297,762,579	\$ -	\$ 227,451,825	\$ 227,451,825
<b>Finance Costs</b>				
<b>Finance Costs Total</b>	\$ 509,984,571		\$ 509,984,571	\$ 509,984,571
<b>Total Federal (FFGA Scope)</b>	\$ 3,142,471,634	\$ 696,377,940	\$ 2,446,093,694	\$ 3,142,471,635
<b>INTERRELATED HIGHWAY IMPROVEMENTS</b>				
<b>Design Build Contract</b>				
Firm Fixed Price - Engineering	\$ 5,929,082	\$ 3,348,065	\$ 24,247,113	\$ 27,595,178
Firm Fixed Price Insurance and Bonds	\$ 2,889,450	\$ 2,631,347	\$ 379,979	\$ 3,011,326
Firm Fixed price Subtotal	\$ 8,818,532	\$ 5,979,412	\$ 24,627,092	\$ 30,606,504
Subcontract Allowance	\$ 18,854,682		\$ 18,854,682	\$ 18,854,682
<b>Design Build Contract Total</b>	\$ 27,673,214	\$ 5,979,412	\$ 43,481,773	\$ 49,461,186
<b>Utility Relocation</b>				
Utility Work	\$ 31,552,369	\$ 34,405,357	\$ 10,030,898	\$ 44,436,255
Terf Tax		\$ -	\$ -	\$ -
Project Management and Final Design	\$ 4,727,549	\$ 6,485,565	\$ 1,161,624	\$ 7,647,189
<b>Utility Relocation Total</b>	\$ 36,279,918	\$ 40,890,922	\$ 11,192,523	\$ 52,083,444
<b>Right of Way</b>				
<b>Right Of Way Total</b>	\$ 44,772,663	\$ 14,147,117	\$ 3,340,616	\$ 17,487,733
<b>Airports Authority Services</b>				
General Conditions <sup>2</sup>		\$ 1,289,148	\$ 126,108	\$ 1,415,256
<b>Airports Authority Services Total</b>	\$ -	\$ 1,289,148	\$ 126,108	\$ 1,415,256
<b>Contingency</b>				
<b>Contingency Total</b>	\$ 14,482,435	\$ -	\$ 2,760,610	\$ 2,760,610
<b>Total Interrelated Highway Improvements</b>	\$ 123,208,229	\$ 62,306,599	\$ 60,901,630	\$ 123,208,229
<b>TOTAL PROJECT COST</b>	\$ 3,265,679,863	\$ 758,684,539	\$ 2,506,995,324	\$ 3,265,679,863

1 Reflects Costs through May 25, 2010

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

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

4 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.

**b. Project Funding Sources: May 2010**

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		\$ -
Final Design Grant	VA-03-0113-01		\$ 159,001,838	\$ 159,001,838		\$ -
ARRA Construction Grant	VA-36-0001-00		\$ 77,260,000	\$ 77,260,000		\$ -
FFGA Construction Grant	VA-03-0113-02		\$ 28,809,000			\$ 28,809,000
FFGA Balance	Planned		\$ 580,516,636	\$ -		\$ 580,516,636
<b>Subtotal - New Starts</b>		<b>28.64%</b>	<b>\$ 900,000,000</b>	<b>\$ 290,674,364</b>	<b>32.30%</b>	<b>\$ 609,325,636</b>
<b>Other Federal Funds</b>						
<i>Sec 5307 Surface Transportation Program</i>						
Construction Grant	VA-95-X056-01		\$ 47,218,109	\$ 14,938,062		\$ 32,280,047
STP Balance	Planned		\$ 27,781,891	\$ -		\$ 27,781,891
<b>STP/Sec. 5307</b>		<b>2.39%</b>	<b>\$ 75,000,000</b>	<b>\$ 14,938,062</b>	<b>20%</b>	<b>\$ 60,061,938</b>
<b>Local Funds</b>						
VTA 2000			\$ 51,700,000	\$ 51,700,000		\$ -
Commonwealth Transportation Bonds <sup>2</sup>			\$ 125,000,000	\$ 65,475,502		\$ 59,524,498
Fairfax County Funds <sup>3</sup>			\$ 523,750,000	\$ 47,000,000		\$ 476,750,000
Dulles Toll Road Revenues <sup>2,4</sup>			\$ 1,467,021,634	\$ 226,590,012		\$ 1,240,431,622
<b>Subtotal - Local Funds</b>		<b>68.97%</b>	<b>\$ 2,167,471,634</b>	<b>\$ 390,765,514</b>	<b>18.03%</b>	<b>\$ 1,776,706,120</b>
<b>Total Project Budget</b>		<b>100%</b>	<b>\$ 3,142,471,634</b>	<b>\$ 696,377,940</b>		<b>\$ 2,446,093,694</b>
<b>Interrelated Highway Activities</b>						
DTR Revenues/Commonwealth Funds <sup>3</sup>			\$ 123,208,229	\$ 62,306,599		\$ 60,901,630
			\$ 123,208,229	\$ 62,306,599	<b>50.57%</b>	<b>\$ 60,901,630</b>
<b>TOTAL</b>			<b>\$ 3,265,679,863</b>	<b>\$ 758,684,539</b>		<b>\$ 2,506,995,324</b>

<sup>1</sup> Reflects costs through May 2010.

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

<sup>3</sup> Includes Tax District Revenues (\$400M) plus debt service costs allocated to Project Budget.

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

## 5. Project Risks

The PMOC commenced the risk assessment process with the first workshop held April 4-7, 2006. Risk Assessment Workshops were held on June 12-14, 2007 and July 10-12, 2007 at the Project offices.

In August 2008, the PMOC was directed by the FTA to resume the risk process and to prepare a report that combines the requirements of PG-40: Subtasks PG-40E, PG-40F, and PG-40G. These subtasks are to identify the framework for primary and secondary mitigation of project cost and schedule. A draft PG-40EFG report was prepared and the Risk Register was updated. The documents were shared with MWAA and a workshop was held on August 26-27, 2008 to review the Risk Register, reach a consensus on the top ten cost and schedule risks and to identify MWAA's cost, schedule and secondary mitigation procedures. The PMOC issued the Final PG-40EFG spot report on October 6, 2008.

Through *May 25, 2010*, MWAA reports that it has utilized \$69,766,624 of the available authorized contingency of \$139,000,000 for Contingency Phases 1, 2 and 3. Phases 1 and 2 were to carry the Project through the completion of stations design which was anticipated to have been completed by the end of the third quarter of 2009. The completion of stations design is now anticipated during the *first* quarter of 2011. Phase 3 would complete the Utility Relocation Program now anticipated to complete in late *August* 2010. Of the total project contingency of \$297,762,579, the project has \$227,995,955 available. The impact of the completion of station design and utility relocation on the cost contingency must be determined and remains an unknown. MWAA presented information to the PMOC at the May 6, 2010 meeting which it feels justifies advancing to Contingency Phase 3. The PMOC noted during the June 3<sup>rd</sup> meeting that the white paper only addresses schedule contingency and not cost contingency. MWAA *revised* the white paper to include a discussion of cost contingency. The PMOC also requested that MWAA update the Risk Management Plan.

With regard to Schedule Contingency, the Project has utilized 92 calendar days of the total of 510 calendar days. The balance in schedule contingency is 418 calendar days.

MWAA has been following their Risk Management Plan dated October 2008. The following are the Project's top 10 cost and schedule risks, along with their current status.

### Top 10 Project Risks

Risk No.	Risk Description	SCC Reference	Risk Category		Status (Change from Previous Month)
			Cost	Sched	
M-21	Allowance items- a substantial part of the contract price is tied to "Allowance Subcontracts." There is potential risk for increased project cost and schedule if the actual subcontracts exceed the allocated cost and schedule components in the contract.	10, 20, 30, 40, 50	X	X	Unchanged. Nine of sixteen contracts have been awarded to date. The variance of the awarded cost versus allowance budget is \$11.87 million.
C-8	NATM tunnel—there are a limited number of qualified tunneling contractors, unforeseen conditions, tunnel collapse, production rate slower than anticipated, and possible critical path delay.	10.07	X	X	Unchanged. The contractor is self-performing this work. Mining construction has commenced, with 1,050-feet of excavation complete on the outbound tunnel and 831-feet of excavation complete on the inbound tunnel.
C-29	Soils Management – risk that costs for disposal of soil (clean and contaminated) may exceed budget.	40.1	X	X	Unchanged. Agreements with MWAA allow "clean" soils, which represent about 90% of all project soils to be transferred to Laydown Area #11, and management of contaminated soils is being mitigated as schedule progresses.
D-29	WFCY maintenance annex – Design constraints and WMATA requirements may erode the cost reductions anticipated.	30	X		Unchanged.
C-34	Utility companies performing utility relocation are not performing in accordance with the durations incorporated in the project schedule.	40.02	X	X	<i>Increased.</i> Replaced risk C-14. In recent months, utility contractors heavy spring rains and unforeseen obstacles. Mitigation efforts continue and progress is being made. However, the cost and schedule impacts are not yet known <i>and forecast completion dates continue to slip.</i>

Risk No.	Risk Description	SCC Reference	Risk Category		Status (Change from Previous Month)
			Cost	Sched	
M-16	Cost risk for vehicle procurement – size and timing of base order and options could change the car manufacturer’s interest in project and proposal pricing; vehicles may not be available in time for revenue operations.	20.01 20.02	X	X	Unchanged. Bids were received on June 19, 2009. The WMATA Board approved an award recommendation to Kawasaki on May 27, 2010. However, the delivery of the last car is not scheduled to occur until September 12, 2014 which does not support Project needs and a “Buy America” issues currently prevents the issuance of a signed contract.
M-12	Unpredictability of ROW settlement costs.	10.04	X		Unchanged. Use of condemnation has increased the ROW costs.
C-20	WMATA scope of work, including site access support, technical support and WMATA construction elements may exceed the budget and schedule. In addition, there is the risk that WMATA will have difficulty supporting the DB contractor’s requirements.	10.00 20.00 50.00	X	X	Unchanged. Technical support for design has been generally provided in a timely manner. SSWPs required to access WMATA property are lengthy. There is potential for this risk to increase as more DTP construction activities commence.
D-19	Cost of Dominion Virginia Power (DVP) 34.5 kV distribution – Level of design is not typical of 100% PE design.	50.04	X		Unchanged. Design of ductbank that will contain 34.5 kV power the length of project has been completed and the ductbank construction continues. Design by DVP to bring power to project has not been completed.
D-27	Permit Approvals – Potential delays due to the Virginia Department of Transportation (VDOT) requiring their review/approval of final design plans prior to Issued for Proposal (IFP) submittals. Potential delays due to the Department of General Services (DGS) making design-related comments rather than strictly permit/code comments.	10.00 20.00 40.00	X	X	Unchanged. The issuance of construction permits is taking longer than anticipated and the contractor is claiming that its costs are increasing. The Six Sigma process improved turn-around time with VDOT. The VDOT requirement for final design plans prior to IFP submittals may increase the risk. In addition, DGS is making design-related comments rather than strictly code/permit evaluations.



## 6. Action Items

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

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
1	2A.01	PMP Update (Nov. 2009)	MWAA's PMP needs to be updated to reflect the new integrated organization.	Y	N	N	The integrated organizational structure has been formally implemented, and the PMP is now being updated to reflect this. MWAA received the PMOC's comments from the PMP Compliance Review held on October 14, 2009. MWAA now anticipates updating the PMP by late July 2010.	R
1	2B.01	Final Testing Plan for Re-used Piers (Feb. 2010)	MWAA approved the final testing plan (Rev 0) proposed by DTP for the Re-used Piers on March 30, 2010.	Y	Y	N	<i>Eight PDA tests and 3 static load tests were conducted between the period of April 14, 2010 and June 25, 2010. This concluded the load tests on all eleven existing pier foundations. The peripheral tests, i.e. soils, metallurgical, stray current, corrosion and concrete tests continued in the field and laboratory during the month of June. All indicators to date have yielded positive results. A complete assembly and review of all related data will be completed during the month of July with independent reports expected from DTP, MWAA and CTI by the end of July 2010.</i>	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

#### GRANTEE ACTION

D – Remedial Action Developed

A – Remedial Action Approved

I – Action Implemented

#### PMO CONTRACTOR STATUS

R – Review On-going

C – Completed – No further review required

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

## APPENDICES

## APPENDIX A – LIST OF ACRONYMS

ARRA	American Reinvestment and Recovery Act
BFMP	Bus Fleet Management Plan
CD	Calendar Days
CPM	Critical Path Method
DB	Design-Build
DGS	(Virginia) Department of General Services
DIAAH	Dulles International Airport Access Highway
DTP	Dulles Transit Partners, LLC
DVP	Dominion Virginia Power
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FY	Fiscal Year
IFP	Issued for Proposal
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
ORD	Operational Readiness Date
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
RFMP	Rail Fleet Management Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROE	Right-of-Entry
ROW	Right-of-Way
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
VDOT	Virginia Department of Transportation
W&OD	Washington and Old Dominion
WFC	West Falls Church
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX E – PMOC TEAM PERFORMING THIS REVIEW

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[Redacted]

[Redacted]

[Redacted]

## **Appendix B - Project Overview and Map**

**Date:** July 30, 2010 (reporting current through June, 2010)

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

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

**FTA Regional Contact:** Brian Glenn, P.E.

**FTA Headquarters Contact:** Dale Wegner, P.E.

### **Scope**

- **Description:** MWAA The Project is the initial 11.7-miles of the LPA, which will run from the current Metrorail Orange Line near the West Falls Church (WFC) station to Wiehle Avenue in Reston, providing direct service to the commercial and office center of Tysons Corner. The Project will be constructed in or parallel to the Dulles Connector Road, Routes 123 and 7 through Tysons Corner, and the Dulles International Airport Access Highway (DIAAH). It will include five new passenger stations, one 2300-car parking facility (provided through a joint development agreement), 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 is planning to purchase sixty-four vehicles for Phase 1 which will be procured by WMATA.

### **Ridership**

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

### **Schedule**

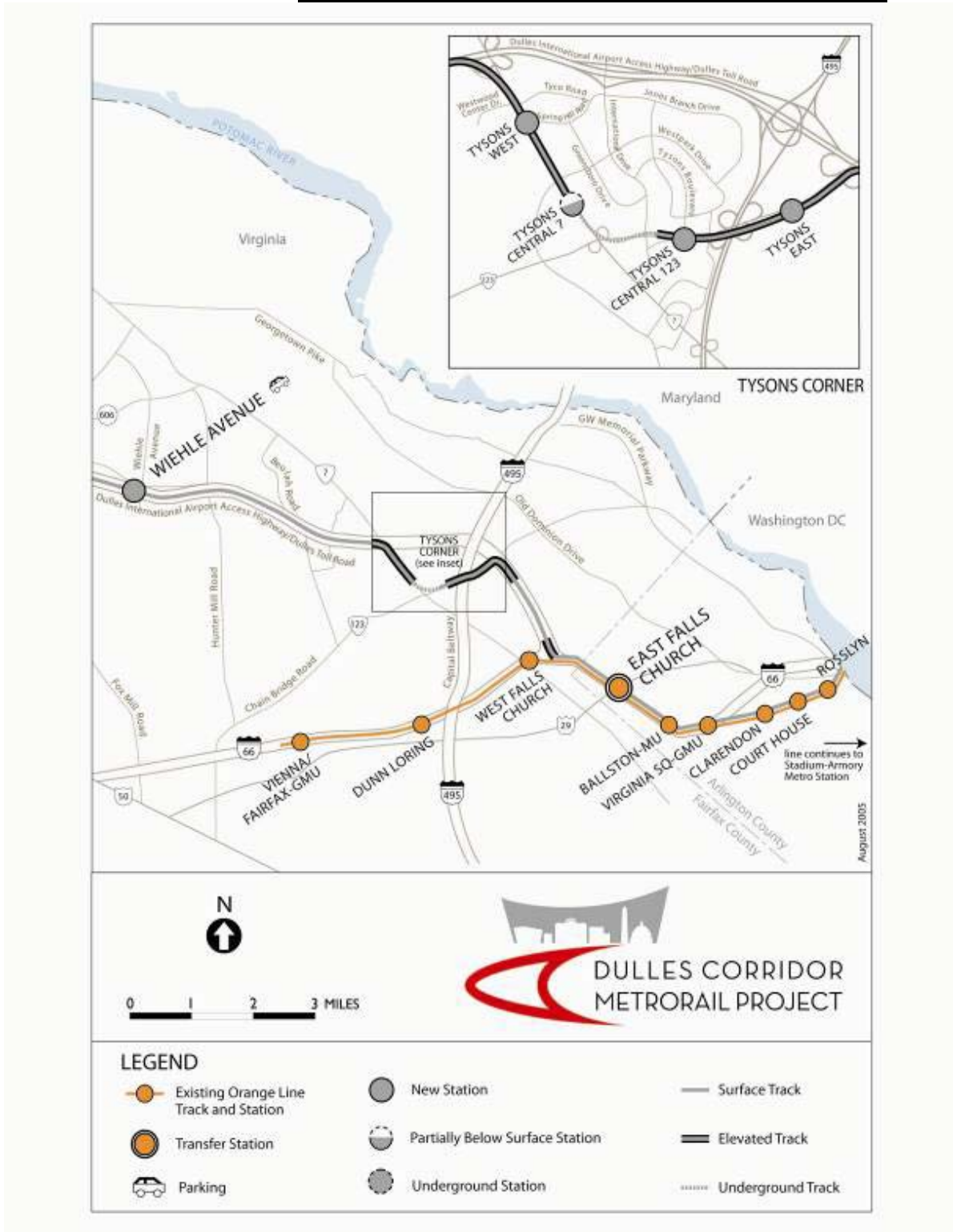
06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
03/4/14	Revenue Operations Date (ROD) <i>as of May 25, 2010</i>		
16.0%	Percent Complete Construction at date of this report		
23.1%	Percent Complete Time based on ROD of December 1, 2014 (based on FFGA)		
34.77%	MWAA's Estimate of Project Earned Value through <i>May 2010</i>		

**Cost**

\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
\$ 696.4 million	Expenditures <i>through May 2010</i> from total project budget of \$3.142 billion
22.2%	Percent complete based on <i>federal</i> expenditures <i>through May</i>
\$228 million	Total project contingency remaining (allocated and unallocated)

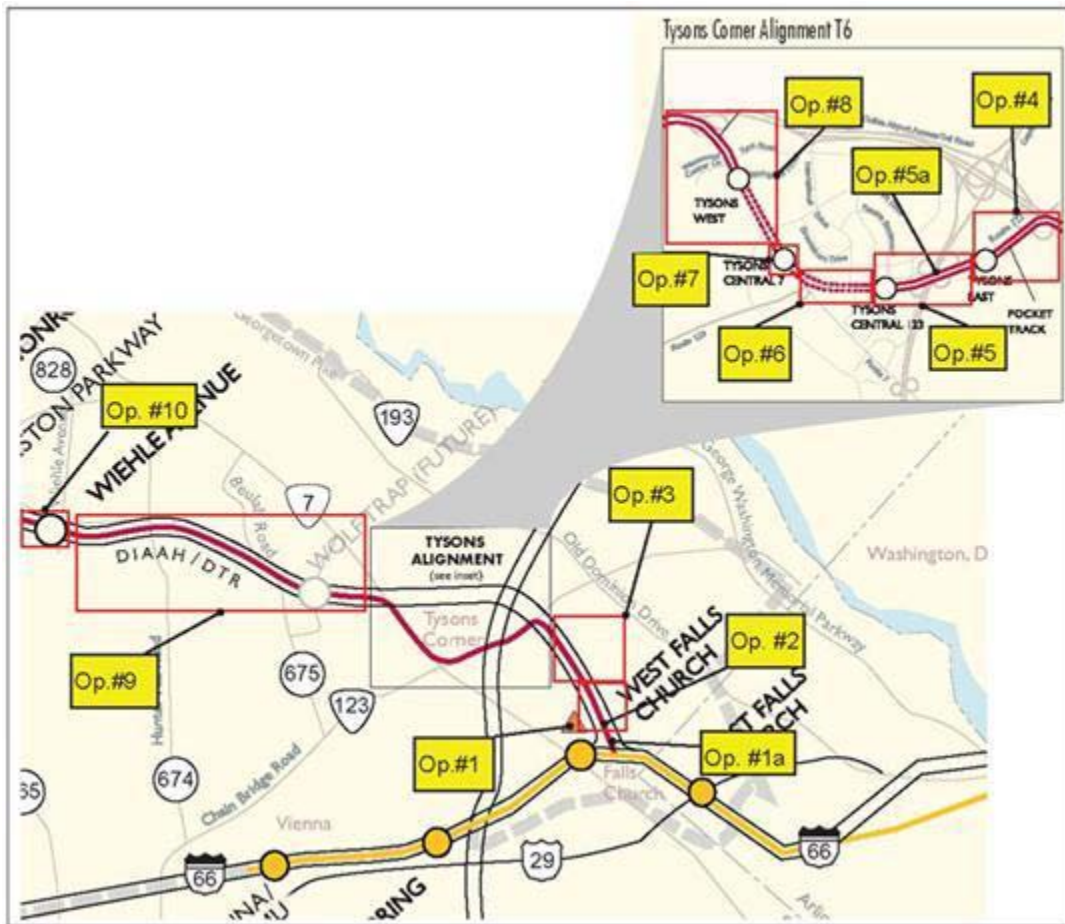
# Project Map

## APPENDIX B – METRORAIL EXTENSION TO WIEHLE AVENUE





## Operational Areas



**APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST**

<b>Project Overview</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	9/2009		Accepted
Safety and Security Certification Plan			Under development; 98% complete
System Safety Program Plan			WMATA submitted a revised SSPP to TOC in March 2010 which is under review by TOC.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA submitted a revised SEPP to TOC in March 2010. <i>TOC conditionally approved the SEPP with comments on May 20, 2010 with a request that WMATA submit a revised version by June 1, 2010.</i>
Construction Safety and Security Plan			Addressed in PMP which is under revision.
<b>Safety and Security Authority</b>	Y/N		<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?	N	WMATA's SSMP will be used. <i>Revised SSPP dated March 2010 is under review by TOC.</i>
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	Y	<i>Conditionally approved on May 20, 2010</i>
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	<i>TOC had two representatives at the June 30, 2010 QPRM.</i>
Has the grantee submitted its safety certification plan to the oversight agency?	N	Plan in progress. TOC participates in monthly meetings.
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	WMATA will be operator.
<b>SSMP Monitoring</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
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	N	WMATA
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	N	WMATA
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	N	WMATA
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	N	WMATA
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	Y	

and/or vulnerabilities?		
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Design and Construction only. WMATA participates
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
Has the grantee ensured the development of safety design criteria?	Y	
Has the grantee ensured the development of security design criteria?	Y	
Has the grantee ensured conformance with safety and security requirements in design?	Y	
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	
Has the grantee verified construction specification conformance?	Y	
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	Y	In progress, 98% complete.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	After SSCD
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	Y	
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following: • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan	Y	
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	
<b>Construction Safety</b>		
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?	N	
If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?		
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	
<b>Federal Railroad Administration</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 – ACTION ITEMS

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

<b>PR</b>	<b>ITEM</b>	<b>IDENTIFICATION</b>	<b>NATURE of PROBLEM</b>	<b>D</b>	<b>A</b>	<b>I</b>	<b>COMMENTS</b>	<b>STATUS</b>
1	2A.01	PMP Update (Nov. 2009)	MWAA’s PMP needs to be updated to reflect the new integrated organization.	Y	N	N	The integrated organizational structure has been formally implemented, and the PMP is now being updated to reflect this. MWAA received the PMOC’s comments from the PMP Compliance Review held on October 14, 2009. MWAA <i>now</i> anticipates <i>completing</i> the PMP by late <i>July</i> 2010.	R
1	2B.01	Final Testing Plan for Re-used Piers (March 2010)	MWAA approved the final testing plan proposed by DTPRev.0) for the Re-used Piers on March 30, 2010.	Y	Y	N	The final testing plan (Rev.0) was approved by MWAA on March 30, 2010 PDA tests were successfully conducted on pier 7IB on April 14, 2010. <i>Static and PDA testing of piles at the eleven pier locations were successfully completed. The final reports (by DTP, CTI and MWAA) are expected at the end of July 2010.</i>	R

**KEY ITEM**

Subtask 2A.  
Subtask 2B

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

**LEGEND**

PRIORITY (PR)

- 1- Most Critical
- 2- Critical
- 3- Least Critical

GRANTEE ACTION

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

PMO CONTRACTOR STATUS

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

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