

**COMPREHENSIVE MONTHLY REPORT**

**March 2011**

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

April 21, 2011

**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.**

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**PMOC Lead:** [REDACTED]

**Length of Time PMOC Assigned to Project:** 10.5 years

**Length of Time PMOC Lead Assigned to Project:** 3.0 years

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## EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *April 7, 2011* to conduct a monthly progress meeting for work performed in *March 2011*. *The PMOC also attended the WMATA/Kawasaki Progress Review Meeting relative to the 7K Railcar Procurement on April 14, 2011.* The full time on-site PMOC attended various project meetings and site tours throughout this reporting period. Additional information for this report was obtained from MWAA during the first week of *April 2011*. Future PMOC monthly progress meetings are planned to occur during the first week of each month.

### **1. Project Description**

MWAA, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), proposes to implement a 23.1-mile rapid transit system in the Dulles Corridor of Northern Virginia. The proposed corridor follows the alignment of the Dulles International Airport Access Highway (DIAAH) and the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. The Project (Initial Operating Segment) undertakes the construction of the initial 11.7-miles of the rail project from the existing Metrorail Orange Line just east of the West Falls Church (WFC) Station to a station to be constructed at Wiehle Avenue with a total project cost of \$3.142 billion. Included in the Project are five new stations (Tysons East, Tysons Central 123, Tysons Central 7, Tysons West and Wiehle Avenue), improvements to the existing yard at WFC, and tail tracks beyond the Wiehle Avenue station. Sixty-four additional 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. The Federal New Starts share is \$900 million for the Initial Operating Segment (extension to Wiehle Avenue). Through Federal fiscal year (FY) 2010, Congress has appropriated \$364 million in Section 5309 New Starts funds and \$77.3 million in American Reinvestment and Recovery Act (ARRA) Capital Investment funds. The FTA awarded \$21,281,890 in STP funds for VA-95-X056 on September 2, 2010 and \$85,000,000 in New Starts Funds for VA-03-113 on September 23, 2010. On December 27, 2010, the FTA announced that it was advancing an additional \$19,799,000 in New Starts funding for the Project.

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

The PMOC met with MWAA on *April 7, 2011* to conduct a monthly progress review meeting. The status information is as of *March 25, 2011*, unless otherwise noted.

- **Real estate acquisition** continues to keep ahead of construction requirements, often resorting to rights-of-entry (ROE) to gain access to required parcels.
- **Rail car Procurement** moved forward with the July 27, 2010 contract award by WMATA to Kawasaki. The manufacturer's original proposed schedule showed the 64<sup>th</sup> car would be delivered by September 12, 2014 based on a July 12, 2010 notice to proceed (NTP). WMATA provided Notice-To-Proceed (NTP) on August 16, 2010. The contractual requirements indicate that the 64<sup>th</sup> rail car will be conditionally accepted on January 15, 2015

as an early completion date, which does not comply with the FFGA date of December 1, 2014. As a mitigation measure, WMATA committed by letter dated December 3, 2010 to provide necessary vehicles from the existing fleet to support the Project's Revenue Operations Date. The MWAA-WMATA "Cooperative Agreement" identifies WMATA as the responsible party to implement and manage the railcar procurement contract. The Agreement recognizes that delivery times are critical to the Project but does not extend any schedule control to the Airports Authority. WMATA and Kawasaki have agreed to the baseline schedule indicating that the 64<sup>th</sup> railcar will be accepted on January 15, 2015. MWAA continues to monitor the 7000 series railcar procurement contract closely and participates in monthly stakeholder meetings. The Conceptual Design Review phase was completed on January 31, 2011 and the program is in the Preliminary Design Review phase. *The March 11, 2011 Japan earthquake may impact Kawasaki's ability to meet the agreed schedule. Kawasaki is still investigating their suppliers' ability to meet production needs. On March 15, 2011, Kawasaki formally notified WMATA of potential delays, which they believe would be considered excusable under the terms of the contract. The major impact appears to be relative to Toshiba, which is located in a zone that is only receiving power for half a day. This loss of production is exacerbated by the fact that Toshiba must recalibrate their equipment after each outage, which further reduces productive time. Toshiba is attempting to relocate key personnel to Houston, Texas. The software delays may have a trickle down effect on other manufacturers that are reliant on the Toshiba software. Kawasaki and Toshiba are to present a recovery plan to WMATA during the week of April 18, 2011. At this time, the only other major supplier that appears to be impacted is Fuji Industries. Because the earthquake/tsunami prevented WMATA from traveling to Japan to work on the PDRs, the current expectation is that they will not be completed until the end of June 2011. Previously it had been expected that the PDR process would be completed on May 3, 2011.*

- **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 designs for all station structures have been completed and submitted for permitting by VDOT and DGS. Anticipated overall design completion of the five stations through "Issued for Construction" (IFC) drawings has now slipped to *the second* quarter of 2011 for the Tysons East, Tysons Central 123 and Tysons West Stations and *the third* quarter of 2011 for the Tysons Central 7, and Wiehle Avenue Stations. The associated pavilions and pedestrian bridge alignments are subject to coordination with adjacent developers who have requested design changes to accommodate their development plans. The PMOC anticipates that MWAA will execute agreements with the developers to reimburse the Project for these additional costs. Overall project design remained at 95% complete as of the end of *March 2011*. However, design comment review resolution continued to progress during this period. The delay in project design does not appear to have adversely impacted the schedule's critical path at this point in time since DTP is submitting permit packages in the order dictated by construction sequencing.

On September 13, 2010, Mr. Nowakowski of the Airports Authority and Mr. Kubicek of WMATA met to discuss the status of WMATA's reviews of ATC design documents. During this meeting, WMATA agreed to re-engage in the ATC design review process provided that MWAA would direct DTP to hire an independent third party consultant to review Alstom's

safety analysis of the Generation 4 track circuit modules proposed for use on the Dulles Extension. MWAA agreed and provided a scope for this independent review and analysis, which WMATA has approved. Impact on the project schedule is not yet known. However, MWAA reported that DTP/Alstom had previously been directed to continue with the ATC design effort despite WMATA's failure to review and comment on the design submittals. Therefore, there should be no impact on the schedule as long as this independent analysis does not lead to a redesign effort. WMATA re-engaged in the ATC submittal review process in mid October 2010 and the review catch-up process continued through February, has caught up, and is on schedule. MWAA received an acceptable proposal from the Battelle Memorial Institute on January 5, 2011. MWAA issued NTP to Battelle on January 10, 2011 to begin the "Safety Analysis Review and Assessment." Battelle has proposed a six (6) month period of performance. Battelle *planned* to interview WMATA, DTP and Alstom personnel to confirm that the goals of each entity will be addressed by the review. *However, Alstom has declined the requested interview. The PMOC does not expect this declined request to have an adverse impact on the safety review progress or results. An "ATC Safety Review Meeting" between Battelle, WMATA, DTP, Alstom and MWAA was conducted on March 9, 2011. Battelle has now begun their safety review. Battelle expects to publish their final work plan and schedule by the end of April 2011. The safety review is to take six months to complete.*

- **Construction progress** is broken into two components: utility relocation (UR), which is 99% complete and design-build (DB) construction, which is approximately 35% complete. Significant accomplishments for *March* included *completion of* the installation of the deck and parapet walls of the O-1 Guideway, segmental box girder installation on the Tyson East Guideway including balanced cantilever segmental erection with Truss #3, significant pier construction progress on the Tysons West Guideway, major foundation work on all five stations, mezzanine steel erection at the Tysons East and Wiehle Avenue Stations and OB NATM tunnel waterproofing, invert pouring *and concrete liner pouring*.

At the Tysons West Station, a survey error caused the column dowels to be 4'-0" offline for Piers 25, 26 and 27 IB. Extensive repairs will be needed due to the column dowels misalignment. A Deficiency Report (DR-396) *has been approved by MWAA and DGS and the corrective work will proceed during the month of March.* DTP convened an "Incident Review Board" that conducted a "Root Cause Meeting" with MWAA/QA on Thursday, February 10, 2011. DTP has put new measures in place to eliminate the potential for repeat of such costly survey errors.

Launching Truss LG2 was shut down due to structural damage that occurred on the morning of February 12, 2011. An analysis revealed that one section element of the truss had been assembled in the reverse position. The error did not manifest itself until the longest launching sequence thus far (133 feet) was attempted. Launch Trusses #LG1 and #LG3 were inspected and found to be in good order. New parts were manufactured and arrived from Italy on March 9, 2011. *Load testing was completed on April 2, 2011 after the seven weeks of repair and LG2 was returned to service on April 4, 2011.*

The Route 7 road shift westbound at Route 123 for the final stage (Stage 2B) of the West Cut and Cover was implemented on April 3, 2011. The final shift of the Route 7 westbound between Tyco Road and the Toll Road will be implemented in mid May.

The O-1 Guideway is approximately 89% complete. The Tysons East Guideway is approximately 83%. The NATM Tunnel is approximately 64% complete with the waterproofing and final liner and invert work *progressing*. The Tysons West Guideway is approximately 30% complete.

The pre-cast yard has cast 2,051 of 2,600 concrete box girder segments and station girders to date.

The Tysons East Station is approximately 23% complete and the Tysons Central 123 Station is approximately 21% complete. The Tysons Central 7 Station is approximately 8% complete and the Tysons West Station is approximately 13% complete. The Wiehle Avenue Station is approximately 27% complete.

- **The Schedule** showed a -16 day loss with the most current analyzed update schedule (data date of *February 25, 2011*) showing a total -9 calendar days variance from *the January 25, 2010 update*. This results in a projected ROD of *December 20, 2013*. The FFGA ROD is December 1, 2014.

MWAA and DTP continued to meet regularly to review and discuss DTP's recovery schedule that included a *preliminary* acceleration cost of \$23.7 million. MWAA continued to negotiate with the goal of reaching a mutually agreed upon recovery plan. This effort resulted in the issuance of two "Directive Letters" to DTP to conduct a constructive acceleration effective December 15, 2010 on a time and material basis not to exceed \$7 million. DTP submitted a zero loss recovery schedule on January 12, 2011. The schedule proposes a mitigation period of fourteen months, extending from January 2011 through February 2012. A detailed review and additional discussions led to MWAA's conditional acceptance of the Recovery Schedule via letter dated February 7, 2011. Both have agreed to work toward a lump sum Change Order based upon the agreed Recovery Schedule scope. The Airports Authority has completed their independent estimate and *is now evaluating DTP's revised cost proposal for \$11.5 million submitted on March 2, 2011*.

The PMOC considers the issuance of these directive letters and the agreement to a recovery schedule scope to be good first steps toward recovery of the Contract Completion Date. However, confidence that schedule recovery will begin and be sustained remains tentative until the recovery schedule costs have been agreed upon. The Project will need to maintain this forward momentum in order to achieve the recovery schedule and to overcome any unforeseen delays that may yet be faced in the months to come. The 16-day loss already reflected on the new recovery schedule in *just two* months is cause for concern and emphasizes the need to maintain momentum. *MWAA analyzed the schedule and found merit with only 7 calendar days of excusable weather delay. The March schedule update reflects an 8-day improvement to the ROD. However, MWAA has not yet analyzed this update.*

The Project needs to increase its efforts to resolve differences relative to the West Falls Church Yard (WFCY) schedule. Both parties need to minimize the risk of irretrievable schedule creep leading to costly schedule compression, or at least minimize constructive acceleration costs. This need becomes increasingly critical as the WFCY yard completion date continues to fall further behind to *March 25, 2014* as reflected in DTP's *February 25, 2011* schedule update. *MWAA is proposing to become more engaged in the management of the WFCY work to have it completed by the ROD.*

- **Budget** status as of *February 25, 2011* indicates that *\$1,160,179,404 (37%)* has been expended of the *\$3,142,471,634* budget total. *MWAA reports \$180,842,692* of the available contingency for the first five contingency milestones has been utilized with a remaining balance of *\$19,157,308* available through completion of the utility relocation work and the Aerial and Station Foundations. The contingency utilization reflects expended and obligated costs. *The PMOC is concerned that remaining allowance items cost will utilize most of the remaining contingency. A little over forty percent of the federal allowances remain to be bid and awarded. The PMOC is in the process of reviewing MWAA's updated risk assessment dated April 15, 2011.*

MWAA's estimate of the earned value for the Project through *February 2011* is *48.42%*.

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

The Full Time Equivalent (FTE) estimated total for *March* is *1,668*, which is *an increase* of *53* from the *February* actual of *1,615* 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.

Piers Re-Use Testing Reports and Program Status: The DTP Inspection and Test Program Final Report for the existing pile foundations in the K-Line Tie-in area has been completed by DTP and reviewed and accepted by the Project Team. The CTI report of the monitoring of the DTP inspection and test program has also been completed. In addition, MWAA/QA conducted an audit of the associated pier design and the test findings to verify incorporation of the existing pier inspection and test program results into the final pier designs. Both final reports and the accepted audit report were submitted to the FTA, PMOC and WMATA for review on October 19, 2010. The PMOC found the report to be full and comprehensive and that the test program accomplished its mission. The PMOC is in agreement with the report's conclusion that the existing piers are suitable for re-use. Follow-up continuity testing for piles and rebar for three pier foundations (along with their newly constructed piers 5-IB, 7-IB and 2-OB) that were expanded following the existing foundation test program revealed cabling flaws with the new construction on the existing foundations. Corrective action was on-going in *March* on Pier 5B-OB. Three interim reports covering the acceptable continuity testing on ten of eleven piers were transmitted to the FTA by letters dated November 24, 2010, December 17, 2010 and January 24, 2011. *The Airports Authority President and Chief Executive Officer sent a wrap-up letter to the FTA Administrator on April 8, 2011. The letter reported that the Airports Authority had complied with the FTA's direction and had accepted the DTP Inspection and Test Program Final Report for Existing Pile Foundations. It also outlined follow-up testing that will be performed and noted that it had directed DTP to follow-up with the anti-corrosion measures recommended*

*by UTRS. The letter also reported that a plan and schedule for conducting these remaining tasks will be forwarded to the FTA upon receipt and approval by the Airports Authority. Subsequent to construction, all piers must be tested for stray currents and track to earth resistance to determine if any corrective measures are required. Upon receipt of the schedule for the follow-up measures, the PMOC will issue a spot report with regard to the overall Inspection and Test Program.*

MWAA submitted its draft PMP, Version No. 7, to the PMOC on September 3, 2010. The PMOC's review report was submitted to the FTA on November 4, 2010, and the review resulted in six recommendations for revisions to the PMP. MWAA incorporated the recommendations and resubmitted the PMP on January 25, 2011. On February 11, 2011, the PMOC recommended that the FTA approve the MWAA PMP Version 7.0 Final dated January 2011. The FTA accepted the PMP Version 7.0 Final dated January 2011 on February 14, 2011.

Through February 2011, \$305,294,501 of the \$437,278,511 Federal Allowance Items Budget had been awarded to subcontractors and suppliers. A \$44,748,673 overrun now exists for the 22 of 35 sub-contract packages awarded thus far for federally-funded allowance items. **The Airports Authority has forecast a \$40+ million increase in costs due to Station finishes and mechanical, electrical and plumbing work in the next few months.** MWAA is in the process of reviewing and analyzing the reasons for the increased costs. *They submitted a partial analysis to FTA and the PMOC at the April 7 meeting. Based on our review, the PMOC concludes that MWAA needs to review what items may be betterments and can be billed to the responsible parties. In addition, mitigation measures need to be implemented to keep the scope creep and increased costs under control.*



# MAIN REPORT

## 1. Grantee's Capabilities and Approach

### a. Technical Capacity and Capability

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

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

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.

Discussions between MWAA and DTP were concluded at the executive level with regard to a recovery schedule. This effort resulted in the issuance of two "Directive Letters" to DTP to conduct a constructive acceleration effective December 15, 2010 on a time and materials basis not to exceed \$7 million. DTP submitted a zero loss recovery schedule on January 12, 2011 that included a preliminary acceleration cost of \$23.7 million. The schedule proposes a mitigation period of fourteen months, extending from January 2011 through February 2012. A detailed review and additional discussions led to MWAA's conditional acceptance of the Recovery Schedule via letter dated February 7, 2011. Both parties have agreed to work toward a lump sum Change Order based upon the agreed Recovery Schedule scope. The Airports Authority has completed their independent estimate and *is now evaluating DTP's revised cost proposal for \$11.5 million submitted on March 2, 2011.* The FFGA ROD is December 1, 2014.

The updated project schedule, with a data date of *February 25, 2011*, showed *-16* calendar days variance from the conditionally approved zero loss recovery baseline schedule with a data date of December 25, 2010. This results in a projected ROD of *December 20, 2013.* *MWAA analyzed the schedule and found merit with only 7 calendar days of excusable weather delay. The March*

*schedule update reflects an 8-day improvement to the ROD. However, MWAA has not yet analyzed this update.*

It is the PMOC's observation that MWAA continues to carefully scrutinize the schedule update submissions and meets with DTP within two weeks of the schedule submission to discuss their observations and to discuss mitigation strategies.

MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *February 25, 2011*, MWAA has utilized \$180,842,692 of the Phase 1 through 5 allotted contingency of \$200,000,000. The contingency utilization reflects expended and obligated costs. MWAA is in the process of updating the project Risk and Contingency Management Plan. A draft Risk Analysis Report has been prepared by their consultant and forwarded to the FTA and PMOC on January 31, 2011. The PMOC requested that the Report be revised. *MWAA discussed the draft Risk Analysis, a primary component of the RCMP, with the PMOC on March 2, 2011, and determined that further refinements were needed.* The PMOC has provided guidance to arrive at an acceptable reformatting. *It is anticipated that once agreed upon, the Top Ten Risks as identified from the Risk Analysis would replace those previously reported. MWAA now expects to submit the final Risk Analysis to the FTA and PMOC in late April 2011. MWAA will complete the RCMP upon incorporation of PMOC review comments, if any.* MWAA continues to monitor the risk status and reports this information on a monthly basis.

The Quality Assurance (QA)/Safety group maintains an active schedule of audits and surveillances and accident data. Through *March 2011*, of the cumulative total of 5,603,765 hours worked, there has been one lost time accident. Revision 4 of the SCIL was issued by DTP on November 24, 2010. Comments were given to DTP on January 7, 2011. *MWAA received the DTP response to the comments, along with the Revision 5 of the SCIL, on March 31, 2011 and is currently under review.*

DTP submitted revisions to the System Safety/Security Management Plan and DTP Procedures PPQ 01.06.02, Development and Maintenance of the Safety/Security Certifiable Items List and PPQ 01.06.03, Design Conformance Certification on August 16, 2010. WMATA provided comments and a meeting between MWAA, DTP and WMATA held on November 3, 2010 to resolve necessary changes to the document. The revised plan and procedures were resubmitted on November 23, 2010. MWAA accepted these documents on December 6, 2010.

### **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 Mitigation Report to the FTA for the 4th quarter 2010 on February 1, 2011.

FTA and the PMOC continue to review the May 19, 2010 submittal on proposed changes to Record of Decision mitigation measures at the Wiehle Avenue Station, primarily due to the joint development project proposed for that location. FTA submitted additional questions in September. Responses were provided to the FTA in January and a face-to-face meeting was held

on January 24, 2011. Following that meeting, there was one follow-up item, which was provided to the FTA on February 23, 2011. Electronic copies of the previous (January) responses were then provided in March at the FTA's request.

## **2. Project Scope**

### **a. Design Status**

Work continues on the completion of station designs with permit approvals. WMATA review and approval of ATC submittals continued through February and is now caught up. The problems with regard to stations permit approvals are due to a combination of poor quality control of the documents, submittal of incomplete packages, and code interpretation by the designer that differs from that of the AHJ on several specific issues. MWAA continues to stress to DTP the need for better quality control of their permit submittals.

Efforts are also continuing by WMATA to improve their design review cycle times. Overall, design for all five stations is complete. However, preparation of the "Issued for Permit" (IFP) and subsequent "Issued for Construction" (IFC) drawings is proving to be a protracted process. Anticipated issuance dates for IFC design packages continue to change from month to month. As of *March 25, 2011*, the completion dates for all five station design packages with issuance of *IFC* drawings have been delayed to as late as *May 2011*. The associated station pavilion and pedestrian bridge designs are delayed to as late as *July 2011*. Issuance of completed IFC design packages has not impacted the project's critical path, due in part to DGS continuing to assist with the permitting of partial packages. However, various design packages continue to accumulate negative float on the Project schedule.

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

Through February 2011, \$305,294,501 of the \$437,278,511 Federal Allowance Items Budget had been awarded to subcontractors and suppliers. A \$44,748,673 overrun now exists for the 22 of 35 sub-contract packages awarded thus far for federally-funded allowance items. The Airports Authority has forecast a \$40+ million increase in the costs due to Station finishes and mechanical, electrical and plumbing work in the next few months.

Utility relocation is 99% complete and DB construction is approximately 35% complete. All utility relocation efforts relating to the remaining Route 7 road shifts in the Tysons West Station area have been completed with the exception of a Verizon duct bank conflict with the drainage installation and the final Route 7 westbound road shift to the Toll Road. The ductbank is currently being lowered. Facchina completed all temporary Route 7 eastbound road shift to the Toll Road *in February 2011*. *The Route 7 westbound shift at Route 123 for the final stage of the West Cut & Cover was implemented on April 3, 2011*. The final westbound road shift to the Toll Road is anticipated to be completed *in mid-May* following the lowering of the Verizon ductbank.

The following are the major accomplishments of the DB contractor during *2011*:

- **Operations Areas OP-1, OP-2 and OP-3 (I-66/DCR/Laydown Area 1)** – Continued with retaining walls at the K-Line tie-in area. Continued approach walls at abutment A-IB, B-IB and B-OB. Completed forming and pouring track way decks. Poured track way decking at spans 1A-OB, 1-OB, 2-OB, 3-OB, 1-IB, 2-IB and 3-IB for a total of forty completed to date. Continue storm drain and installation between the-O-1 Guideway abutments and Idylwood Road. Continued constructing retaining walls in the median of the DCR west of abutments A and B for the WFCY lead track. Continued placing sub ballast between the retaining walls on the DCR between Pimmit Run and Chain Bridge Road. Continued the jack and bore ductbanks to TPSS#1 and TPSS #2 And TBS #2. Continued with the roof and wall pours at the first phase of the WFCY Cut and Cover tunnel. Remobilized the flash-butt welding operations to the DCR median between Margarity Road and Pimmit Run and commenced welding running rail.
- **Operations Area OP-4/5A (Tysons East Guideway/Station/I-495 Crossing)** – Poured pier cap at piers 41-OB and 41-IB for a total of seventy-eight completed to date. Continued segmental box girder guideway erection with Truss #1 completing spans 17-IB, 18-IB, 18-OB, 19-OB, 19-IB, 20-IB, 20-OB, 21-OB, 21-IB, 22-IB, 22-OB, 23-OB and 23-IB for a total of forty-six completed to date. Continued setting station segment girders at the Tysons East Station using the ground based crane, completing spans 32-IB, 33-OB, 33-IB, 34-OB and 34-IB for a total of six completed to date. Continued balanced cantilever segmental girder erection with Truss #3 on spans 50-OB, 51-OB and 52-OB with a total of three completed to date.
- **Operations Area OP-5 (Tysons Central 123 Station)** – Mobilized ground based crane to erect segments while Truss #2 was being repaired. Completed segments at spans 65-OB, 65-IB, 66-OB, 67-OB and 67-IB with a total of five completed to date. LG2 is shut down due to structural damage that occurred in the second week of February. New parts have been manufactured and will take until the end of March to replace. The LG2 crews have been shifted to help with LG1 and that work has been accelerated. DTP is planning the assembly of the short segmental spans on the ground and lifting them into place with a crane. CTI will adjust its inspection coverage accordingly. Completed platform crossbeams at pier 67 for a total of eight completed to date. Continued forming and rebar placement for structural foundation walls and interior columns.
- **Operations Area OP-6 (Laydown Area #6/NATM Tunnel/East Cut & Cover and Ventilation Structure)** – Poured the first section of base slab for the East Ventilation Structure. Started waterproofing for IB invert. Continued with concrete placement of the OB invert slab. Continued waterproofing membrane installation for the arch section of the OB tunnel. Poured nine sections of the OB tunnel liner.
- **Operations Area OP-6 (West Cut and Cover Tunnel)** – Completed wall and roof sections on stage 1C and backfilled. Preparing for road shift to start Stage 2A in the beginning of April. Continued base slab and wall construction at the West Ventilation Structure.
- **Operations Area OP-7 (Tysons Central 7 Station)** – Completed SOE and excavation. Completed driving H-piles for the station foundation. Continued foundation slab rebar

installation. Continued pouring foundation walls for TPSS #5. Continued guideway Abutment "A" wall forming and rebar installation.

- **Operations Area OP-8 (Tysons West Station/Guideway)** – Storm drain installation, curb and gutter and grading work continues between Tyco and the Toll Road. Water main installation along WB Route 7 continues between Spring Hill Road and Tyco Road. Completed caissons at IB/OB piers 21 and 32 for a total of forty-nine completed to date. Completed pile caps at 22-IB/OB, 24-OB, and 30-OB for a total of twenty-nine completed to date. Completed columns at IB/OB piers 6, 12, 13, 15, 23-OB, 23-IB, 24-OB, 24-IB, 26-OB and 27-OB for a total of thirty-three completed to date. Set precast mezzanine beams at piers 23, 24 and 29 for a total of four completed to date. Initial repair work to correct a survey error at Tysons West Station on column dowels at Piers 25, 26 and 27 IB began.
- **Operations Area OP-9 (DIAAH)** – Continue with Difficult Run Bridge pile cap at abutment A and completed H-piles at abutment B. Continued with retaining walls on the OB and IB sides between Hunter Mill Road and east of Beulah Road. Storm drain construction east of Beulah Road continues in the median. Track subcontractor completed the first phase of running rail welding east of Wiehle Avenue and has remobilized operations to the DCR median. Grading work at Pond 6 is complete. Excavation at Pond 5 continues. Installation of security track way fencing on retaining walls started in the DIAAH median east of Wiehle Avenue.
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)** – Setting of mezzanine structural steel is completed and metal decking continues. Continued with barrier walls between the track way and the DIAAH. Continued installation of power conduits in the platform utility chase.
- **Laydown Area #10 (Pre-cast Yard)** - Continued casting of segmental box girders; completed 2,051 of 2,600 concrete box girder segments and station girders to date.

### **c. Third Party Coordination & Agreement Status**

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

### **d. Real Estate**

Real Estate Acquisition continues to keep ahead of construction requirements, often resorting to ROE to gain access to required parcels. Through March 2011, 73 of the 102 parcels required for the Project have been acquired. The table below summarizes acquisition activities for the Project through March 2011.

**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	21	19	(2)
Route 7	51	5	2	(3)	47	42	(5)
DIAAH	27	0	4	4	13	11	(2)
<b>TOTAL</b>	<b>102</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>82</b>	<b>73</b>	<b>(9)</b>

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

Condemnation Status

*Thirty-one* parcel packages have been obtained with the filing of *twenty-seven* Certificates of Take. In *March*, *three new cases* were assigned, *one case* was with regard to the entering of the Final Order (Parcel 021, Marshalls) and *two other cases* are close to having the Final Order entered for Agreements After Certificate (Parcel 035, Embassy Suites and Parcel 30, Best Buy/Whisper Capital, LLC). The Virginia Supreme Court did not make a decision in *March* on rehearing the case that went to trial in *June 2010* (Parcel 23, Pike 7) for which an appeal was previously denied in *January 2011*. Two cases currently scheduled for trial as of *March 31, 2011* are:

- Parcel 32, CDC, LP (8500, Clemente) – April 4, 2011
- Parcel 36, Container Store – May 16, 2011

**e. 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 *February 2011* includes the following:

- **Along Route 7 (123 Overpass to Marshall’s)** – All work completed.
- **Along Route 7 (Marshall’s to Gosnell/Westpark)** – All work completed.
- **Along Route 7 (Gosnell/Westpark to Spring Hill Road)** – No remaining conflicts.
- **Along Route 7 (Spring Hill Road to Tyco/Westwood)** – AboveNet continues splicing and cutover work on the north side of Route 7.
- **Along Route 7 (Tyco/Westwood to Route 267/Toll Road)** – AboveNet completed clearing ducts for cable installations and continues to schedule splicing with customers

*on the north side of Route 7 at Koon's Toyota. Verizon continues with lowering conduits on the north side of Route 7 near Koon's Toyota due to storm drain conflicts and is expected to be completed by the first week of April.*

- **Along Route 123 (Route 7 to the Route 267 Connector Road)** AboveNet continues relocation work at Route 123 and Scotts Crossing.
- **The DIAAH/Dulles Toll Road/Dulles Connector Road (Route 7 to Route 267 – DIAAH West)** – DTP/Lane continues the installation of the traction power ductbank crossings at the eastbound DIAAH for the bridge crossing at the W&OD Trail and Hunter Mill Road. Washington Gas continues work at the TPSS #10 site.
- **Route 123 to K-Line – DCR East** – Continue installation of traction power ductbank tie-in work to manholes in the DCR median at DCR/Chain Bridge Road. Continue installation of ductbanks and manholes to bridge crossings at Magarity Road and Pimmit Run. Splicing and cutover of utility company relocated fiber cables continues at the K-Line. Removal of abandoned third party utility cables continues.

#### **f. 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 Board approved the award of a contract and a sharing of development costs with MWAA at its May 27, 2010 meeting. The MWAA Board agreed at its June 2, 2010 meeting to share the development costs associated with the railcar procurement equally with WMATA.

Rail car procurement moved forward with the July 27, 2010 contract award by WMATA to Kawasaki. The manufacturer's proposed schedule showed the 64<sup>th</sup> car would be delivered by September 12, 2014 based on a July 12, 2010 notice to proceed (NTP). WMATA issued Notice-To-Proceed (NTP) on August 16, 2010. The contractual requirements indicate that the 64<sup>th</sup> rail car will be conditionally accepted on January 15, 2015 as an early completion date, which does not comply with the FFGA date of December 1, 2014. The contractual milestones for this procurement are:

<b>Activity</b>	<b>Planned Date</b>	<b>Actual Date</b>
Notice to Proceed		August 16, 2011
Preliminary Design Review Submission	March 31, 2011	
Final Design Review Submission	October 31, 2011	
Delivery of first 4 pilot cars	September 16, 2013	
Conditional acceptance of 4 pilot cars	March 16, 2014	
Conditional acceptance of 64 <sup>th</sup> car	January 15, 2015	

WMATA, MWAA, and the PMOC held a kick-off progress status meeting on October 28, 2010 to begin monitoring this procurement. The PMOC also attended the Monthly Progress Review meetings held between WMATA and Kawasaki on February 10, 2011, March 3, 2011 and April 14, 2011.

These progress status meetings are a concerted effort by the PMOC to ensure either that the new railcar procurement schedule is improved or that arrangements are made in advance to support the Project's Operational Readiness Date with existing fleet cars. On December 3, 2010, WMATA confirmed in a letter to MWAA "sufficient resources, including railcars, will be available to support dynamic testing and initial revenue service in accordance with the Project's current schedule". WMATA went on to say that cars from the existing fleet will be made available for dynamic testing. If there is 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. The PMOC will continue to monitor both the progress of the procurement and WMATA's support of the project.

The Conceptual Design Review phase was completed on January 31, 2011 and the program is in the Preliminary Design Review phase. This is slightly behind WMATA's original schedule, however WMATA has noted that the submittals are more detailed than expected, being closer to what is expected for Preliminary Design Review (PDR). As a result, some level of PDR work has already taken place and the design development is proceeding at the expected rate. At the March 3, 2011 WMATA/Kawasaki Progress Meeting it was reported that Kawasaki anticipated completing PDR submittals on May 3, 2011 which is two days behind the accepted schedule completion date for PDRs. However, the latest Kawasaki schedule update reflects an 80 CD delay. It appears to MWAA, FTA and the PMOC that WMATA and Kawasaki need to give more attention to the Dulles Metro Rail Project schedule needs. MWAA's CEO plans to call WMATA's GM to discuss those needs. *In addition, Kawasaki is still investigating possible supplier impacts to the schedule resulting from the March 11, 2011 earthquake/tsunami in northern Japan.*

*On March 15, 2011, Kawasaki formally notified WMATA of potential delays that they believe would be considered excusable under the terms of the contract. The major impact appears to be relative to Toshiba, which is located in a zone that is only receiving power for half a day. This loss of production is exacerbated by the fact that Toshiba must recalibrate their equipment after each outage, which further reduces productive time. Toshiba is attempting to relocate key personnel to Houston, Texas. The software delays may have a trickle down effect on other manufacturers that are reliant on the Toshiba software. Kawasaki and Toshiba are to present a recovery plan to WMATA during the week of April 18, 2011. At this time, the only other major supplier that appears to be impacted is Fuji Industries. Because the earthquake/tsunami prevented WMATA from traveling to Japan to work on the PDRs, the current expectation is that they will not be completed until the end of June 2011. Previously it had been expected that the PDR process would be completed on May 3, 2011.*



## **g. Safety and Quality Status**

The Airports Authority participated in *four* safety walk downs with DTP during the month of *March*. All were related to Design-Build work. As of *March 31, 2011*, DTP had logged 5.604 million project man-hours with 192 first aid cases and one lost time case. There have been a total of 336 incident investigation reports, 79 utility hits and 15 vehicular accidents.

Revision 4 to the SCIL was submitted on November 24, 2010. Comments on Revision 4 were transmitted to DTP on January 7, 2011. *The DTP response to the comments along with Revision 5 of the SCIL was received by MWAA on March 31, 2011 and is currently under review.*

DTP and the Airports Authority continue to meet every two weeks to review the status of issued for construction designs (including subcontractor designs) and to determine the status of sign-offs of the Design Conformance Checklist (DCC) and Construction/Procurement/Installation Conformance Checklist (CCC) items related to all issued for construction designs.

A DCC was submitted for MWAA's review on September 2, 2010 with seventy items signed off. Its review was completed with forty-nine items accepted. The acceptance of another eleven items was deferred pending issuance of "Issued for Construction" associated design drawings and ten items were not accepted. DTP submitted a DCC for MWAA's review on December 2, 2010 with forty-eight items signed off. Its review was completed with thirty-eight items accepted. DTP submitted another DCC on March 2, 2011. *Of the eight items submitted that had been signed off on this update, six were accepted, one accepted as noted and one item was not accepted. The next submittal will occur on June 2, 2011; however, sign-offs must be associated with "Issued for Construction Drawings" which are expected to be issued in the second quarter of 2011 when large numbers of (DCC) sign-offs are expected to be submitted.*

A Construction/Procurement/Installation Conformance Checklist (CCC) was received on October 4, 2010 with six items signed off. MWAA transmitted final comments on this checklist to DTP on January 3, 2011. MWAA and DTP resolved disagreements related to the acceptability of the six items on February 25, 2011. Additional submittals of sign-off items have been deferred until sufficient items have been signed off on the checklist to warrant a review. WMATA is also currently conducting a 100% review of the submitted DCC and CCC items.

Regular weekly visits to work sites by safety representatives from DTP, the Airports Authority and WMATA continue. The Tri-State Oversight (TOC) and the FTA's on-site PMO representative continue to meet monthly with the Safety/Security Certification Working Group (SCWG) and continue ongoing involvement in the certification process. A SCWG meeting was held on *March 15, 2011*.

Revision 5 of the DTP System Safety/Security Certification Management Plan was transmitted to the FTA on December 8, 2010. The Airports Authority Safety and Security Management Plan, Revision 8 was submitted to the FTA on February 17, 2011.

During *March* 2011, MWAA performed the following QA audits/surveillances:

- *DTP Sub/Supplier Submittal Process & Nonconformance Control Systems: A Surveillance was conducted on March 2, 2011. There was one issue with a response due in early April.*
- *DTP Environmental: An audit was conducted on March 9, 2011. There were two issues and four recommendations. A response is due in early April.*
- *Fence Installation: A Surveillance of subject activity was conducted on March 15, 2011. One issue was corrected. The Surveillance is closed.*
- *DTP Construction and QC: An audit was conducted on March 16, 2011. There were four minor issues note requiring response. The audit is closed.*

**The MWAA QA Audit and Surveillance Schedule through June 2011**

<b>Tentative Date</b>	<b>Audit (A) Surveillance (S)</b>	<b>Organization/Activity</b>	<b>Joint Audit/Surv.</b>	<b>Lead</b>
4/13-14/11	A	CTI Consultants (Special Inspection)	N	MWAA
4/19/11	A	<i>Facchina Test and Inspection Records</i>	N	MWAA
4/27-28/11	A	DTP QA, Document Control, and Training	N	MWAA
5/4-5/11	A	DTP System Safety and Security	N	MWAA
5/11-12/11	A	Turner Construction (Shell Enclosure Trades)	Y	DTP
5/24-25/11	A	DTP Engineering	N	MWAA
6/8-9/11	A	Delta Railroad (Rail)	Y	DTP
6/15-16/11	A	DTP Subcontractor Safety Program	N	MWAA

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

The FTA accepted MWAA’s Project Management Plan (PMP), Version 6.0 dated September 26, 2008. The PMOC did a review of MWAA’s compliance with the PMP and issued a Spot Report on December 8, 2009. MWAA updated its PMP based on the PMOC’s observations and the recent MWAA reorganization to an integrated MWAA and PMSS organization. MWAA submitted its draft PMP update of Version 7.0 on September 3, 2010. This plan was reviewed by the PMOC and six recommendations were made for inclusion in the PMP. FTA forwarded the PMOC’s comments to MWAA for them to address in Version 7.0 Final. Dialogue continued

between MWAA and the PMOC with regard to MWAA's proposed revisions relative to the six recommendations and the revised PMP was submitted to the FTA on January 25, 2011. On February 11, 2011, the PMOC recommended that the FTA approve PMP Version 7.0 Final dated January 2011. The FTA accepted the PMP Version 7.0 Final on February 14, 2011.

- The FTA accepted MWAA's Quality Program Plan (QPP), Revision 6, dated June 25, 2008 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 has revised Procedure PM-3.01 (Monitoring the Design-Build Contractor Property Acquisition Services) and has requested DTP to revise their Procedure PIQ-5.1.
- MWAA's Risk Management Plan (RMP) dated October 2008 was reviewed and accepted by the FTA. The PMOC requested MWAA to begin the process to update the RMP by the end of the summer 2010 with a meeting to discuss the update to be scheduled after MWAA completes their risk plan update. A consultant submitted a draft of the Risk Analysis, a primary component of the RMP, to MWAA in December 2010. MWAA and the PMOC discussed the draft on January 26, 2011 and determined that some refinements were needed. MWAA submitted a hard copy draft Risk Assessment (Analysis) Report on January 31, 2011 and an electronic copy for review on February 24, 2011. The FTA and PMOC requested that the Report be revised. The PMOC *provided* guidance to arrive at an acceptable reformatting. *It is anticipated that once agreed upon, the Top Ten Risks as identified from the Risk Assessment would replace those previously reported. MWAA now expects to submit the final Risk Assessment to the FTA and PMOC in late April 2011. Upon incorporation of PMOC review comments, if any, MWAA will complete the RCMP.* MWAA continues to monitor the risk status and reports this information on a monthly basis.
- Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA Rail Fleet Management Plan (RFMP) is the applicable document. The FTA accepted the WMATA RFMP on September 25, 2007. However, WMATA updated the RFMP to reflect the 7000 Series Rail Car procurement and submitted a draft copy dated February 26, 2010 to the FTA for review and comment. The PMOC issued its Spot Report on its review of the draft RFMP on March 11, 2010, finding the plan to be deficient in many areas. The FTA 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 submitted the revised draft RFMP on September 17, 2010 and a draft Spot Report summarizing the PMOC's review findings was issued to the FTA on November 8, 2010. The PMOC held a meeting with WMATA on November 15, 2010 to review the findings. A follow-up

meeting will need to be scheduled in the near future after WMATA submits the revised RFMP. The PMOC reviewed the RFMP dated January 31, 2011 and recommended that the FTA not accept the document. On March 1, 2011, the FTA Regional Administrator requested that WMATA revise and resubmit the RFMP.

- 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. *SSMP, Revision 8 was provided to the PMOC on February 28, 2011 and is under review. A meeting has been re-scheduled for April 29, 2011 between the PMOC, MWAA, WMATA, DTP and TOC to review the SSMP, Safety Certification Program and other issues.*
- FTA requested an update to the Appendices in the Permitting Plan on June 17, 2010. MWAA provided that information on December 21, 2010.

#### **4. Project Schedule**

The most recent MWAA analyzed project schedule update has a data date of *February 25, 2010*. The primary critical path identified by DTP reflects a *-16* calendar day variance from *January 25, 2010 schedule update*. The loss of *sixteen* days in *two* month, after agreement was reached with DTP on a schedule to recover the previous *-113* day schedule loss agreed to in the recovery schedule, is troublesome and needs to be resolved. This results in a projected ROD of *December 20, 2013*. *MWAA reviewed the schedule and agreed to seven calendar days of excusable weather delays. Some progress has been made in that DTP's March 25 schedule update gave back eight of the sixteen days. MWAA has yet to analyze that schedule.* The FFGA ROD is December 1, 2014.

On February 12, 2011, Launching Gantry No. 2 (LG2) suffered structural damage during the launching operation to the next pier. A preliminary analysis has shown that one section element of the truss was assembled in the reverse position. New parts were manufactured and delivered to the project on March 9, 2011. To help mitigate delays, the Contractor sent the LG2 crew to the LG1 operations to operate a second shift. In addition, the contractor mobilized a crane and assembled segments on the ground for ground crane lifting for some of the shorter spans. *Load testing after seven weeks of repair took place on Saturday, April 2 and the gantry crane was back in operation on April 4.* Overall schedule impacts are not yet known.

With regard to the new 7000 series railcar delivery, Kawasaki's schedule with WMATA does not call for "conditional acceptance" of the 64<sup>th</sup> DCMP rail car until January 15, 2015. On December 3, 2010, WMATA sent a letter to MWAA confirming WMATA will provide sufficient cars to support dynamic testing and initial revenue service for the Dulles Project. WMATA will use cars from the existing fleet for dynamic testing. If there is a gap between the delivery of the 7000 Series cars and revenue service date, WMATA will make sufficient cars available from within the existing WMATA fleet to support initial revenue service. However, this contingency plan does not meet the FFGA scope of work requirement that the 64<sup>th</sup> car be

accepted by December 1, 2014. In a letter to WMATA dated February 2, 2011 MWAA requested “that WMATA expedite their efforts to complete Conditional Acceptance of the 64 railcars for the Project and return to the original Conditional Acceptance date of the third quarter of 2014.” WMATA has not yet responded to the letter. However, the January 15, 2015 conditional acceptance date was confirmed at the March 3, 2011 “7K Progress Meeting.” The Airports Authority CEO plans to address the matter directly with WMATA’s General Manager. *Also, MWAA plans to address the matter further during the April 14, 2011 Kawasaki Schedule Meeting.*

The WFC Yard upgrade work schedule continues to drop further behind, with a completion of the full facility now expected in March 25, 2014 according to the *February 25* schedule update. The WFC Yard schedule needs to be incorporated into the overall project schedule. DTP stated in its May 2010 schedule narrative that this 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 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”. MWAA reported that during the December monthly meeting it had issued a “Directive Letter” to DTP to continue the design and phase planning effort. During the *March* monthly meeting, MWAA reported that the schedule and costs presented by DTP are still being reviewed and that they are confident that the schedule can be adjusted to support the Project’s Operational Readiness Date. *MWAA reported that they have proposed managing the work and the interface activities with WMATA. DTP was in favor of the proposal and the details are being worked out.*

DTP has made numerous presentations of its West Falls Church Yard K-Line Tie-In Phase Plan to MWAA and WMATA. The last presentation was on November 16, 2010. A very detailed and informative presentation helped to involve more key WMATA personnel who will be needed to support the tie-in and integration process. The plan outlined the necessary track outage schedule for 2011 and detailed the activities for the special trackwork installation (#10 double crossover and the two #15 turnouts) along with the automatic train control installation. DTP provided a good overview of its plan and a tentative track outage schedule was officially submitted to MWAA in October 2010. DTP awarded a subcontract to Lane Construction Company in December 2010 for early Civil Sitework and work began in mid-January 2011. Clearing and grubbing operations were shut down on February 14, 2011 for site safety issues that were being addressed. That work resumed on March 1, 2011 and the work is nearing completion. *In addition, MWAA awarded the WFCY early utility work to Lane Construction and that work will begin in April.*

The WFCY Civil/Sitework final design was completed and issued for permit in October 2010. The S&I Building final design has been submitted and is under review and is expected to go to permitting in April 2011. The Sound Cover Box final design is progressing and is expected to go to permitting in late April 2011. DTP has obtained the federal permit for the necessary stream restoration. DTP also submitted its 30% Tie-in Plan to MWAA in October 2010 to include its proposed track outage plan. Discussion with MWAA and WMATA are ongoing.

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 work shifts, particularly with regard catch-up work related 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). The critical path, weather delays and schedule logic issues through December 25, 2010 have been resolved with the approval of a zero loss recovery schedule with a data date of December 25, 2010. However, some of the same issues have already begun to yield delays as reported in the *January 25, 2011 and February 25* schedule updates. Also, MWAA and DTP continue to voice concern with WMATA's, VDOT's and DGS' abilities to provide timely design review comments and to issue timely permits. Improvement with VDOT's turnaround time continues to be observed. WMATA ATC design submittal reviews were caught up in late February 2011. DGS continues to lag with its reviews and building permit issuance. MWAA has repeatedly requested WMATA to improve its support to the Project and DTP has repeatedly requested MWAA and DGS to improve its support of the Project. In addition, MWAA, WMATA and DGS continue to voice concern about the quality of the DTP design packages without substantial improvement by DTP. It is the PMOC's opinion that improvement is being made but more could and should be done by MWAA, DTP, WMATA and DGS to overcome these potentially costly delays. In October 2010, WMATA dedicated an ATC Engineer and a Communications Engineer to the DCMP Phase 1 and an Assistant Project Manager to handle DCMP Phase 2 issues. The additional staff has become an asset to the Project and significant progress with the backlog of WMATA submittal reviews has been made.

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

- Time required to resolve issues and to repair damage with Launching Girder #2 bottom cord sections.
- Potential conflict with Launching Girder #3 erecting segmental box girders over I-495 and the on-going Hot Lanes work in the area.
- Re-casting of damaged or otherwise unacceptable segments.
- Time required correcting misaligned dowels at Tysons West Station Piers 25, 26 and 27.
- WFCY design, construction and commissioning.
- Inability of DTP to achieve design finalizations.
- A potential systemwide upgrade program by WMATA could have numerous technical scope changes impacting Traction Power, Automatic Train Control and Communications.
- *The quality of the first 180 LF of the OB NATM Tunnel Arch concrete is not in compliance with Contract Specifications.*

## **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 WFC yard, critical path, logic and delay issues in order to minimize the risk of irretrievable schedule creep leading to costly schedule compression or constructive acceleration. DTP's early roadwork subcontractor, Facchina, Inc. continues to pursue the remaining Route 7 road shifts expected to be completed in *mid-May* 2011. The schedule update with a data date of *February 25, 2011* was again not agreed to by MWAA. Although MWAA and DTP have agreed to a zero loss time recovery schedule with a data date of December 25, 2010, new disagreements have already arisen with the January 25, 2011 and February 25 schedule updates.

*In February 2011, the primary critical path identified by DTP reflects a -16 calendar day variance in the achievement of the SSCD from that established by the Recovery Schedule. The February Critical Path, as described by DTP, is the same as that in January 2011. It originates with LG #1 segmental erection at Span 16 in the Tysons East Guideway. This sequence of activities continues through segmental erection along the Tysons East Station and the Tysons West Guideway followed by trackwork, systems installations and then commissioning. In February 2011, DTP claimed to have incurred 11 weather days that affected work on the primary critical path translating into a -9 calendar day delay to the SSCD. The Project team's review of this claim demonstrated that 3 of the 11 days were not deemed weather days because documented field records clarified that DTP achieved more than 50% of planned production on the specific dates under consideration. Of the remaining eight days, resulting in the nine calendar day impact to SSCD, six days were assessed as weather days by the Project team of which one day was credited to DTP by contractually allowing one weather day in February and incorporating it into the schedule calendars. The Project team therefore considers five work days as excusable weather days translating into a time extension of seven calendar days to SSCD to be granted to DTP for the month of February 2011. For this and other reasons, the critical path(s) as presented by DTP has resulted in the Project team's disagreement with the schedule as submitted. In addition, the Project team continues to disagree with DTP's scheduling of the WFC Yard (WFCY). As submitted, it now reflects a completion date of March 12, 2014, a variance of -57 calendar days from DTP's proposed plans and still does not accurately reflect the scope of Final Design Submittal for the Service and Inspection (S&I) Annex Building. In June 2010, DTP resubmitted RFC-065 for the WFCY that included a schedule showing completion of the full facility in January 2014. The Project team's position has been that DTP's completion date is incorrect in light of the questionable portrayal of WFCY scope. A schedule developed by the project team indicates that completion of the WFCY is approximately feasible by the original SSCD of July 31, 2013. In addition, a large portion of the WFCY construction is being accomplished as Allowance items which presents the opportunity to make Recovery Schedule scheduled completion a requirement for prospective bidders. The allowance items C-3 for the WFCY sound box and C-12 for the WFCY S&I Building are scheduled for advertisement on April 13, 2011. The PMOC agrees with this assessment.*

MWAA completed negotiations with the goal of reaching a mutually agreed recovery plan. This effort resulted in the issuance of two "Directive Letters" to DTP to conduct a constructive acceleration effective December 15, 2010 on a time and material basis not to exceed seven million dollars. DTP submitted a zero loss recovery schedule on January 12, 2011. The schedule

proposes a mitigation period of fourteen months, extending from January 2011 through February 2012. A detailed review and additional discussions led to MWAA's conditional acceptance of the Recovery Schedule via letter dated February 7, 2011. Both have agreed to work toward a lump sum Change Order based upon the agreed Recovery Schedule scope. The Airports Authority has completed an independent cost estimate and plans to enter cost negotiations in the near future. *MWAA is currently reviewing a revised acceleration proposal from DTP.*

The PMOC considers the issuance of these directive letters and agreement on the recovery schedule scope to be a good first step toward recovery of the Contract Completion Date. However, the Project will need to reach a timely agreement on the acceleration costs and maintain this forward momentum in order to recover the -113 day mainline construction loss accrued through December 25, 2010. MWAA has completed their estimate of the acceleration cost and will start negotiations with the contractor on the cost of the recovery schedule. The additional -16 days cited by DTP in their *February 25, 2011* schedule update that is based on the recovery schedule, while not agreed to by MWAA, is not a good sign that the contractor is committed to recovering lost time. In addition, the Project needs to increase its efforts to resolve disagreements relative to the West Falls Church Yard (WFCY) schedule in order to minimize the risk of irretrievable schedule creep leading to costly schedule compression or at least to minimize constructive acceleration costs. This need becomes increasingly critical as the WFCY yard completion date continues to fall further behind to *March 25, 2014* as reflected in DTP's *February 25, 2011* schedule update. *Some progress has apparently been made since the yet unanalyzed DTP March 25, 2011 schedule update reflected an 8-day gain for the mainline construction and four days for the WFCY construction.*

It is the PMOC's opinion that the *majority of the* design related permit issues will be resolved within the *second quarter of 2011*. However, confidence that schedule recovery will begin and be sustained remains tentative until MWAA and DTP agree upon the mainline recovery schedule costs and the WFC Yard recovery schedule and costs.

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

MILESTONE	June 2008 Baseline Schedule	December 2010 RECOVERY SCHEDULE	January 2011	February 2011
Receipt of FFGA	03/03/09 <sup>1</sup>	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	06/14/11	7/15/11
Utility Relocation Complete	03/05/10	09/13/11	10/07/11	11/8/11
Aerial and Station Foundations Complete	3/4/11	09/01/11	09/28/11	8/15/11
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 Tie-In	12/23/11	03/28/12	03/29/12	3/29/12
Guideway Complete	2/12/12	09/13/12	07/06/12	7/17/12
Train Control Complete	10/26/12	10/29/12	10/31/12	11/9/12
Substantial Completion	07/31/13	07/31/13	08/06/13	8/16/13
Revenue Operations - Target	11/27/13	01/20/14	01/23/14	12/24/13
FFGA Revenue Operations	12/01/14	12/01/14	12/01/14	12/01/14

<sup>A</sup> Actual Date



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

The important milestones scheduled for the next 90 days include:

- Completion of stations design with issuance of IFC Drawings.
- Completion of utility relocation.
- Property acquisitions for the Tysons West Aerial Guideway (OP-8).

## 5. Project Cost

The SCC Budget and Expenditures summary for the period ending *February 25, 2011* is as follows. Overall, approximately 36.9 % of the budget has been expended through *February 25, 2011*.

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	\$ 649,438,815	\$ 291,488,390	\$ 649,438,815
20	Stations	\$ 317,023,979	\$ 325,089,743	\$ 49,075,086	\$ 325,089,743
30	West Falls Church Yard	\$ 51,789,539	\$ 49,943,380	\$ 2,617,437	\$ 49,871,749
40	Site Work & Utility Relocation	\$ 232,936,987	\$ 236,038,100	\$ 159,205,075	\$ 257,646,392
50	Systems	\$ 278,157,645	\$ 281,788,809	\$ 44,473,875	\$ 279,050,278
60	Right of Way Acquisition	\$ 45,953,303	\$ 67,631,026	\$ 51,321,042	\$ 67,795,262
70	Vehicles	\$ 211,629,775	\$ 211,629,775	\$ 20,825,600	\$ 210,926,012
80	Professional Service	\$ 698,471,472	\$ 720,098,015	\$ 511,372,820	\$ 767,560,139
90	Contingency Mgmt. Reserve	\$ 130,000,075	\$ 90,829,400	\$ -	\$ 25,108,674
100	Finance Charge	\$ 509,984,571	\$ 509,984,571	\$ 29,800,079	\$ 509,984,571
<b>TOTAL (Federal portion)</b>		<b>\$ 3,142,471,634</b>	<b>\$ 3,142,471,634</b>	<b>\$ 1,160,179,403</b>	<b>\$ 3,142,471,634</b>

Current budget equals FFGA amount plus approved Change Orders CO-001-063, 065,067 & 069, Directive Letters 001-021 and 025-026, and UR-CO-001-033. Estimate at Completion (EAC) for Contingency reflects the amount approved for utilization per PM-5.07.

### a. Explanation of Variances

The major variances in the project budget are associated in four categories as noted below:

1. SCC10 – Guideway and Track Elements has been reduced approximately \$17 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 SCC-80 for the professional services portion of the subcontract budget. This was offset by scope additions and other budget transfers, the most notable being the adjustment for the revised federal/non-federal split, the addition of the directive letter for crossing the Beltway during construction of the HOT Lanes Project by VDOT and the addition of sales tax to permanent materials.
2. SCC20 – Stations has increased by \$5.87 million due to a combination of add and subtract change orders, the most notable additions being the transfer from the tunnel

- subcontract and the recent award of the station MEP package which was over budget.
3. SCC40 – Site work and Utility Relocation has been increased by approximately \$22.39 million as a result of a combination of change events (change orders, directive letters and scope transfers) and forecasted overruns. The forecast adjustments are predominantly due to cost overruns in utility relocations.
  4. SCC60 – Right of Way Acquisition experienced nearly \$21.84 million increase in the right-of-way (ROW) acquisition that was primarily due to the adjustment of project cost for the revised federal/non-federal split of \$21.68 million.
  5. SCC80 – Professional Services increased approximately \$65.24 million due to a combination of change events (\$17.8 million) and forecast adjustments (\$47.44 million). The change events are numerous with the most significant being the transfer from the tunnel subcontract and the addition of design for the HOT Lanes and WFCY. The forecast adjustment is predominantly a forecasted cost overrun of soft costs including MWAA, PMSS and VDOT. In addition, WMATA budget transfers are treated as forecast adjustments.
  6. *SCC90 – Contingency Management Reserve estimate at completion of \$25,108,674 is available for future use. Of the original \$130,000,075 in unallocated contingency, the Project has utilized \$104,891,401 to fund scope changes and forecasts. The difference between the baseline budget and current budget for this item is \$39,170,675 which is the unallocated contingency utilized to fund scope changes through change orders, task orders, procurement requests and price adjustment for allowance item overruns. The \$65,720,725 which is the difference between the current budget and estimate at completion for SCC90 is the unallocated contingency utilized for funding the forecast increases only.*

## b. Monthly Cost Report, February 2011

DESCRIPTION	FFGA AMOUNT (Original)	EXPENDITURE TO DATE <sup>1</sup>	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION
<b>FEDERAL (FFGA SCOPE)</b>				
<b>Design-Build</b>				
Firm Fixed Price	\$ 1,112,052,172	\$ 676,781,004	\$ 801,311,789	\$ 1,478,092,793
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 64,745,416	\$ 4,658,693	\$ 69,404,109
Firm Fixed Price Subtotal	\$ 1,177,161,580	\$ 741,526,420	\$ 805,970,482	\$ 1,547,496,902
Subcontract Allowance	\$ 430,199,817		\$ 190,115,612	\$ 190,115,612
Design-Build Contract Prices	\$ 1,607,361,397	\$ 741,526,420	\$ 996,086,094	\$ 1,737,612,514
Indexed Commodity Escalation	\$ 77,469,926	\$ -	\$ 57,907,009	\$ 57,907,009
Design-Build Contract Total	\$ 1,684,831,324	\$ 741,526,420	\$ 1,053,993,103	\$ 1,795,519,523
<b>Utility Relocation</b>				
Utility Work	\$ 84,312,807	\$ 89,683,096	\$ 15,352,112	\$ 105,035,208
Terf Tax		\$ -	\$ 0	\$ 0
Project Management and Final Design	\$ 8,423,426	\$ 17,001,048	\$ 1,395,363	\$ 18,396,411
Utility Relocation Total	\$ 92,736,233	\$ 106,684,144	\$ 16,747,475	\$ 123,431,619
<b>Right of Way</b>				
Right Of Way Total	\$ 42,443,132	\$ 51,321,042	\$ 17,099,220	\$ 68,420,262
<b>WMATA Agreement</b>				
Vehicles	\$ 195,138,329	\$ 20,825,600	\$ 173,608,966	\$ 194,434,567
Construction and Procurement	\$ 31,484,799	\$ 1,794,832	\$ 26,833,038	\$ 28,627,870
WMATA Force Account Startup	\$ 13,777,100	\$ 1,265,653	\$ 12,139,368	\$ 13,405,021
Project Management and Final Design	\$ 31,235,400	\$ 12,779,930	\$ 22,388,241	\$ 35,168,171
WMATA Agreement Total	\$ 271,635,628	\$ 36,666,016	\$ 234,969,613	\$ 271,635,628
<b>Preliminary Engineering<sup>2,3</sup></b>				
Preliminary Engineering Total	\$ 100,968,646	\$ 100,730,999	\$ -	\$ 100,730,999
<b>Airports Authority Services</b>				
General Conditions <sup>4</sup>	\$ 28,879,153	\$ 5,428,884	\$ 22,275,399	\$ 27,704,283
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 18,762,653	\$ 27,268,540	\$ 46,031,193
Project Management Support	\$ 90,004,649	\$ 69,259,166	\$ 48,147,447	\$ 117,406,613
Airports Authority Services Total	\$ 142,109,519	\$ 93,450,703	\$ 97,691,386	\$ 191,142,089
<b>Contingency<sup>5</sup></b>				
Contingency Total	\$ 297,762,579	\$ -	\$ 81,606,943	\$ 81,606,943
<b>Finance Costs</b>				
Finance Costs Total	\$ 509,984,571	\$ 29,800,079	\$ 480,184,492	\$ 509,984,571
Total Federal (FFGA Scope)	\$ 3,142,471,634	\$ 1,160,179,404	\$ 1,982,292,231	\$ 3,142,471,634
<b>INTERRELATED HIGHWAY IMPROVEMENTS</b>				
<b>Design-Build</b>				
Firm Fixed Price - Engineering	\$ 5,929,082	\$ 4,343,642	\$ 23,475,203	\$ 27,818,845
Firm Fixed Price Insurance and Bonds	\$ 2,889,450	\$ 941,674	\$ 148,408	\$ 1,090,082
Firm Fixed Price Subtotal	\$ 8,818,532	\$ 5,285,315	\$ 23,623,611	\$ 28,908,926
Subcontract Allowance	\$ 18,854,682	\$ -	\$ 18,854,682	\$ 18,854,682
Design-Build Contract Total	\$ 27,673,214	\$ 5,285,315	\$ 42,478,293	\$ 47,763,608
<b>Utility Relocation</b>				
Utility Work	\$ 31,552,369	\$ 36,089,796	\$ 5,576,248	\$ 41,666,044
Terf Tax		\$ -		
Project Management and Final Design	\$ 4,727,549	\$ 7,537,200	\$ 802,911	\$ 8,340,111
Utility Relocation Total	\$ 36,279,918	\$ 43,626,996	\$ 6,379,159	\$ 50,006,155
<b>Right of Way</b>				
Right Of Way Total	\$ 44,772,663	\$ 17,238,400	\$ 2,661,478	\$ 19,899,878
<b>Airports Authority Services</b>				
General Conditions <sup>4</sup>		\$ 1,306,585	\$ 356,444	\$ 1,663,029
Airports Authority Services Total	\$ -	\$ 1,306,585	\$ 356,444	\$ 1,663,029
<b>Contingency<sup>5</sup></b>				
Contingency Total	\$ 14,482,435	\$ -	\$ 3,875,558	\$ 3,875,558
Total Interrelated Highway Improvements	\$ 123,208,229	\$ 67,457,297	\$ 55,750,932	\$ 123,208,228
<b>TOTAL PROJECT COST</b>	\$ 3,265,679,863	\$ 1,227,636,700	\$ 2,038,043,162	\$ 3,265,679,863

1 Reflects Paid costs through February 25 2011

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 reflects the amount approved for utilization per PM-5.07.

### c. Project Funding Sources: February 2011

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	100.00%	\$ -
Final Design Grant	VA-03-0113-00		\$ 159,001,838	\$ 159,001,838	100.00%	\$ -
ARRA Construction Grant	VA-36-0001-00		\$ 77,260,000	\$ 77,260,000	100.00%	\$ -
FFGA Construction Grant	VA-03-0113-02		\$ 28,809,000	\$ 28,809,000	100.00%	\$ -
FFGA Construction Grant	VA-03-0113-03		\$ 85,000,000	\$ 22,796,923	26.82%	\$ 62,203,077
FFGA Construction Grant (amendment for FTA review)	VA-03-0113-04		\$ 19,799,000	\$ -	0.00%	\$ 19,799,000
FFGA Balance	Planned		\$ 475,717,636	\$ -	0.00%	\$ 475,717,636
<b>Subtotal - New Starts</b>		<b>28.64%</b>	<b>\$ 900,000,000</b>	<b>\$ 342,280,287</b>	<b>38.03%</b>	<b>\$ 557,719,713</b>
<b>Other Federal Funds</b>						
Sec 5307 Surface Transportation Program						
Construction Grant	VA-95-X056-01		\$ 47,218,109	\$ 47,218,109	100.00%	\$ -
Construction Grant	VA-95-X056-02		\$ 21,281,890	\$ -	0.00%	\$ 21,281,890
STP Balance	Planned		\$ 6,500,001	\$ -	0.00%	\$ 6,500,001
<b>STP/Sec. 5307</b>		<b>2.39%</b>	<b>\$ 75,000,000</b>	<b>\$ 47,218,109</b>	<b>62.96%</b>	<b>\$ 27,781,891</b>
<b>Local Funds</b>						
VTA 2000			\$ 51,700,000	\$ 51,700,000	100.00%	\$ -
Commonwealth Transportation Bonds <sup>2</sup>			\$ 125,000,000	\$ 113,433,213	90.75%	\$ 11,566,787
Fairfax County Funds <sup>3</sup>			\$ 523,750,000	\$ 94,000,000	17.95%	\$ 429,750,000
Dulles Toll Road Revenues <sup>2,4</sup>			\$1,467,021,634	\$ 511,547,794	34.87%	\$ 955,473,840
<b>Subtotal - Local Funds</b>		<b>68.97%</b>	<b>\$2,167,471,634</b>	<b>\$ 770,681,007</b>	<b>35.56%</b>	<b>\$ 1,396,790,627</b>
<b>Total Project Budget</b>		<b>100.0%</b>	<b>\$3,142,471,634</b>	<b>\$ 1,160,179,403</b>	<b>36.92%</b>	<b>\$ 1,982,292,231</b>
<b>Interrelated Highway Activities</b>			\$ 123,208,229	\$ 67,457,297	54.75%	\$ 55,750,932
<b>DTR Revenues/Commonwealth Funds<sup>3</sup></b>			<b>\$ 123,208,229</b>	<b>\$ 67,457,297</b>	<b>54.75%</b>	<b>\$ 55,750,932</b>
<b>TOTAL</b>			<b>\$3,265,679,863</b>	<b>\$ 1,227,636,700</b>	<b>37.59%</b>	<b>\$ 2,038,043,163</b>

1 Reflects costs through February 2011.

2 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.

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

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

## 6. 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 costs 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 February 25, 2011, MWAA reports that it has utilized \$180,842,692 of the available authorized federal contingency of \$200,000,000 for Contingency Phases 1 through 5. The contingency utilization reflects expended and obligated costs. 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 second quarter of 2011. Phase 3 would complete the Utility Relocation Program now anticipated to be fully complete in the third quarter of 2011. MWAA reports that it has \$35,312,946 obligated from Phase 6 through 10 monies. Of the total project contingency of \$297,762,579, the project has \$81,606,941 available.

MWAA has been following their Risk Management Plan dated October 2008. The PMOC requested that MWAA update the Risk Management Plan. The Project Team has engaged the Risk Consultant used to prepare the original Risk Analysis to prepare the update to the Risk and Contingency Management Plan (RCMP). The consultant submitted a draft of the Risk Assessment (Analysis), a primary component of the RMP, to MWAA in December 2010. MWAA and the PMOC discussed the draft on January 26, 2011 and determined that some refinements were needed. MWAA submitted a hard copy draft report on January 31, 2011 and an electronic copy for review on February 24, 2011. The FTA and PMOC requested that the Report be revised. The PMOC *provided* guidance to arrive at an acceptable reformatting. *It is anticipated that once agreed upon, the Top Ten Risks as identified from the Risk Analysis would replace those previously reported. MWAA now expects to submit the final Risk Analysis to the FTA and PMOC in late April 2011. MWAA will complete the RCMP upon incorporation of PMOC review comments, if any.*

With regard to Schedule Contingency, the Project has agreed to a zero loss recovery schedule with a data date of December 25, 2010. This conditionally approved recovery schedule has a mitigation period of fourteen months, extending from January 2011 through February 2012 to recover 113 calendar days of the total of 510 calendar days. Schedule contingency is 494 calendar days, based upon the *February 25* schedule update.

The following are the Project’s current top 10 cost and schedule risks, along with their 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	Increased. Twenty-two of thirty-five sub-contract packages have been awarded to date. The variance of the awarded cost versus allowance budget is \$44.78 million. A sharp increase is expected in the coming quarter.

Risk No.	Risk Description	SCC Reference	Risk Category		Status (Change from Previous Month)
			Cost	Sched	
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	Closed. The contractor self-performed this work. Mining construction was completed with 1,670-feet of excavation complete on the outbound tunnel and 1,686-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>Schedule risk closed. Cost risk remains.</i> (Replaced risk C-14.) Utility contractors have completed all critical relocation work in October 2010. However, the cost and schedule impacts are not yet known and forecast completion dates remain behind schedule as the roadwork contractor works toward regaining schedule losses.

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	Cost risk closed. Schedule risk remains. Bids were received on June 19, 2009. The WMATA Board approved an award recommendation to Kawasaki on May 27, 2010. The WMATA Board awarded the contract to Kawasaki on July 27, 2010. NTP was issued on August 16, 2010. <i>However, the conditional acceptance of the 64<sup>th</sup> car for the Project, as contained in the bid, is not scheduled until January 15, 2015, which does not support Project needs.</i> PMOC requested MWAA to include a schedule risk since the schedule does not currently meet the FFGA date.
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 risk with WMATA directing systems design upgrades for ATC, Traction Power and Communications systems.
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.

Risk No.	Risk Description	SCC Reference	Risk Category Cost Sched		Status (Change from Previous Month)
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.



## 7. Action Items

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

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
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	DTP and CTI Final Reports and MWAA's audit of the findings and pier designs were submitted to the FTA, PMOC and WMATA on October 19, 2010 for review. The PMOC recommended that continuity testing data be submitted for all eleven newly constructed piers on existing pier foundations. Corrective action was on-going in <i>March</i> on Pier 5B-OB. Three interim reports covering the acceptable continuity testing on ten of eleven piers were transmitted to the FTA by letters dated November 24, 2010, December 17, 2010 and January 24, 2011. <i>The Airports Authority President and Chief Executive Officer sent a wrap-up letter to the FTA Administrator on April 8, 2011. The letter reported that the Airports Authority had complied with the FTA's direction and had accepted the DTP Inspection and Test Program Final Report for Existing Pile Foundations. It also outlined follow-up testing that will be performed and noted that it had directed DTP to follow-up with the anti-corrosion measures recommended by UTRS. The letter also reported that a plan and schedule for conducting these remaining tasks will be forwarded to the FTA upon receipt and approval by the Airports Authority.</i>	R

4	2A.03	Update Risk and Contingency Management Plan (RCMP) (October 2010)	The original Risk Management Plan was prepared in October 2008 and needs to be updated to reflect the current Project Status.	N	N	N	MWAA has engaged their Risk Management Consultant who has prepared a draft revised Risk Assessment (Analysis). The analysis was submitted to the FTA and PMOC on January 31, 2011. The FTA and PMOC requested that the Report be revised. The PMOC <i>provided</i> guidance to arrive at an acceptable reformatting. <i>It is anticipated that once agreed upon, the Top Ten Risks as identified from the Risk Analysis will replace those previously reported. MWAA submitted the revised Risk Assessment dated April 15, 2011 to the FTA and PMOC on April 19, 2011. Upon incorporation of PMOC review comments, if any, the RCMP will be completed by MWAA.</i>	R
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**KEY ITEM**

Subtask 2A  
Subtask 2B

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

**LEGEND**

**PRIORITY (PR)**

1- Most Critical  
2- Critical  
3- Least Critical

**GRANTEE ACTION**

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

**PMO CONTRACTOR STATUS**

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

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

# APPENDICES

## APPENDIX A – LIST OF ACRONYMS

AAC	Agreement After Certificate
ARRA	American Reinvestment and Recovery Act
ASSHTO	American Association of State Highway and Transportation Officials
BFMP	Bus Fleet Management Plan
CAR	Corrective Action Request
CCC	Construction/Procurement/Installation Conformance Checklist
CD	Calendar Days
CPM	Critical Path Method
CTI	CTI Consultants, Inc.
CY	Calendar Year
DB	Design-Build
DCC	Design Conformance Checklist
DCN	Design Change Notice
DGS	(Virginia) Department of General Services
DIAAH	Dulles International Airport Access Highway
DR	Deficiency Report
DTP	Dulles Transit Partners, LLC
DTR	Dulles Toll Road
DVP	Dominion Virginia Power
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FY	Fiscal Year
HOT	High Occupancy Toll
IFC	Issued For Construction
IFP	Issued for Proposal
IRR	Issue Requiring Resolution
KSA	KSA, INC – Producer of Concrete Crossties
MH	Manhole
MCI	A communication company now owned by Verizon
MEP	Mechanical, Electrical and Plumbing
MOT	Maintenance of Traffic
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
ORD	Operational Readiness Date
PDA	Pile Driving Analysis
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor
PMSS	Project Management Support Services
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QPP	Quality Program Plan
RAMP	Real Estate Acquisition Management Plan

RCMP	Risk and Contingency Management Plan
RFMP	Rail Fleet Management Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROE	Right-of-Entry
ROW	Right-of-Way
SAIC	Scientific Applications International Corporation
SCC	Standard Cost Category
SCIL	Safety and Security Certifiable Items List
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
STP	Surface Transportation Program
TBD	To Be Determined
TOC	Tri-state Oversight Committee
TPSS	Traction Power Substation
UR	Utility Relocation
VDOT	Virginia Department of Transportation
W&OD	Washington and Old Dominion
WFC	West Falls Church
WFCY	West Falls Church Yard
WMATA	Washington Metropolitan Area Transit Authority
XO	Executive Officer

## APPENDIX B -- PROJECT OVERVIEW AND MAP

### Project Overview

**Date:** April 21, 2011 (reporting current through March 2011)

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

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

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

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

### Scope

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

### Ridership

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

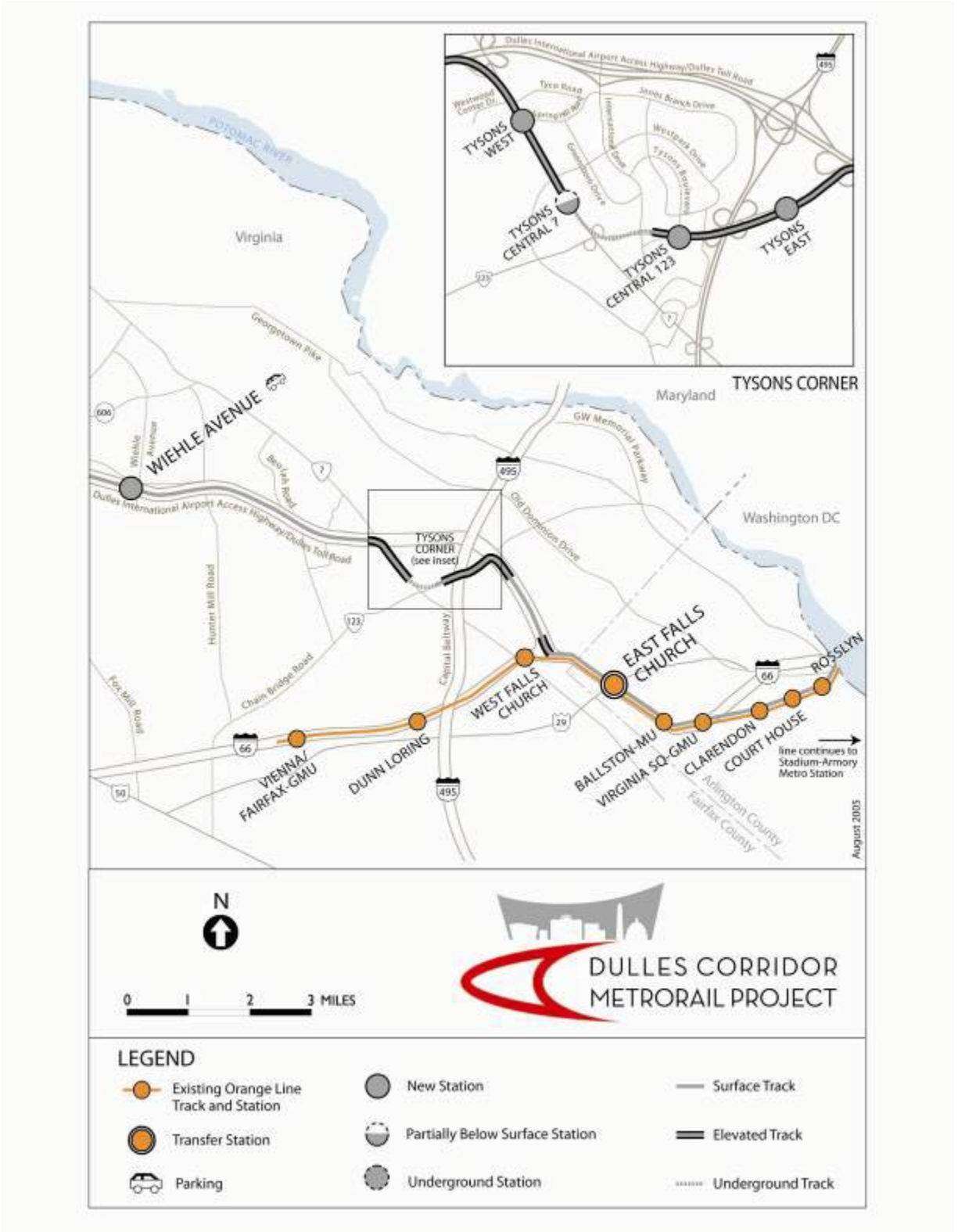
### Schedule

06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
12/20/13	Revenue Operations Date (ROD) as of February 25, 2011		
35.0%	Percent Complete Construction as of March 31, 2011.		
36.1%	Percent Complete Time based on ROD of December 1, 2014 (based on FFGA)		
48.24%	MWAA's Estimate of Project Earned Value through February 2010		

**Cost**

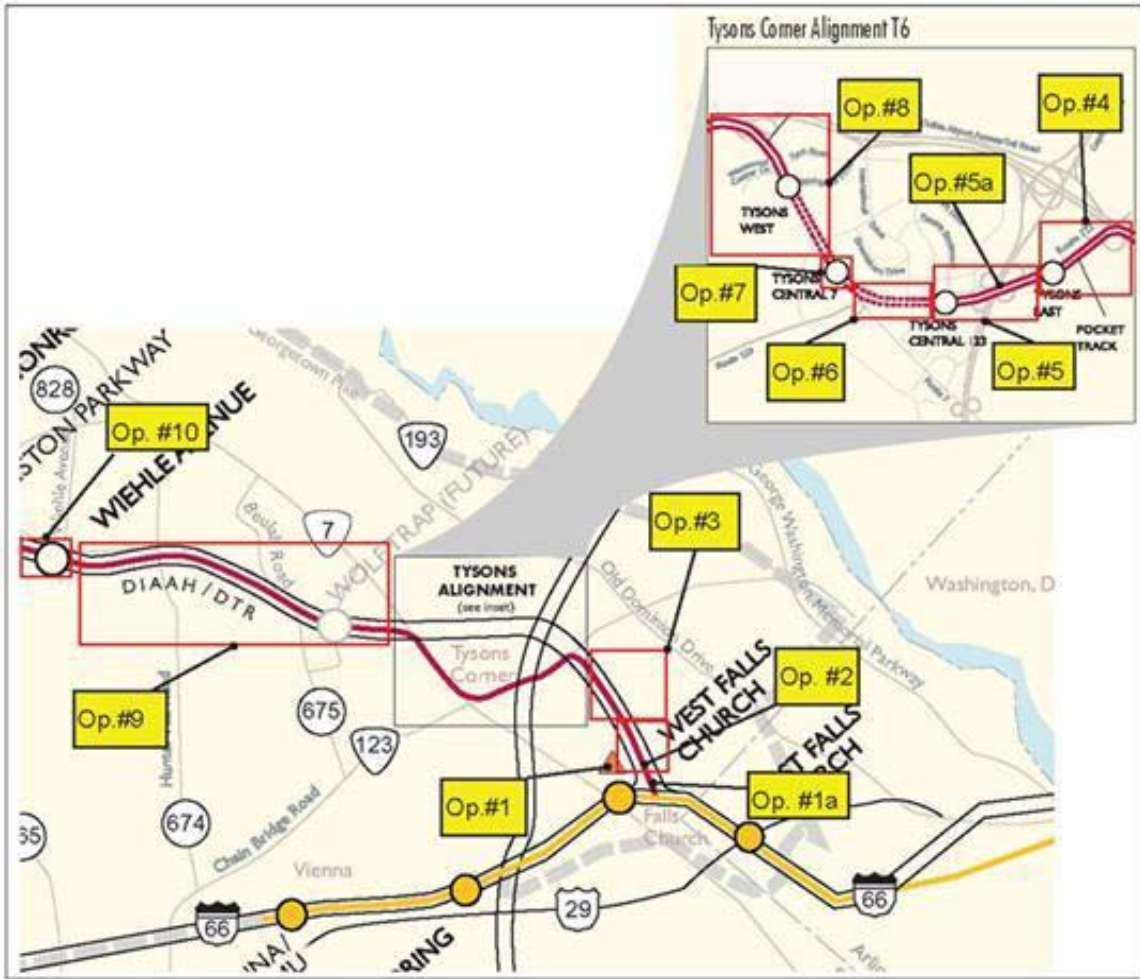
\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
<i>\$1.160</i> billion	Expenditures through <i>February 2010</i> from total project budget of \$3.142 billion
<i>36.9%</i>	Percent complete based on <i>federal</i> expenditures through <i>February 2011</i> .
<i>\$81.607</i> million	Total project contingency remaining (allocated and unallocated) through <i>February 2010</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>	<i>Version</i>	<i>Review By FTA</i>	<b>Status</b>
Safety and Security Management Plan	9/2009		Accepted
Safety and Security Certification Plan			Under development; 98% complete
System Safety Program Plan	1/20/2011		In response to FTA’s Safety and Security Oversight Audit of TOC/WMATA and TOC Triennial Review findings, WMATA submitted an updated SSPP dated January 20, 2011 which was approved by TOC on February 22, 2011 with minor comments to be addressed in the next revision.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA submitted a revised SEPP to TOC in March 2010. TOC approved the SEPP on August 2, 2010.
Construction Safety and Security Plan			Addressed in PMP, which is under revision.
<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?	N	An updated WMATA SSPP dated January 20, 2011 was approved by TOC on February 22, 2011.
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	Y	Approved on August 2, 2010
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	TOC had two representatives at the January 26, 2011 QPRM.
Has the grantee submitted its safety certification plan to the oversight agency?	N	Plan in progress. TOC participates in monthly meetings.
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	WMATA will be operator.
<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 and/or vulnerabilities?	Y	
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Design and Construction only. WMATA participates
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
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 evaluate 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 - PMOC TEAM PERFORMING THIS REVIEW**

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