

COMPREHENSIVE MONTHLY REPORT

July 2013

Dulles Corridor Metrorail Project Phase 2 (Wiehle Avenue Station to Route 772 Station)

Metropolitan Washington Airports Authority
Washington, DC

August 29, 2013

PMOC Contract Number: DTFT60-09-D-00016

Task Order Number: 009, **Project Number:** DC-27-5242, **Work Order No.**01

OPs Referenced: 01, 25

Hill International, Inc.

One Penn Square West

30 South 15th Street

Philadelphia, PA 19102

PMOC Lead: [REDACTED]

Length of Time PMOC Assigned to Project: 0.25years

Length of Time PMOC Lead Assigned to Project: 0.25 years

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
1. PROJECT DESCRIPTION	3
2. PMOC’S ASSESSMENT OF PROJECT STATUS.....	6
MAIN REPORT	7
1. GRANTEE’S CAPABILITIES AND APPROACH	7
a. <i>Technical Capacity and Capability</i>	7
b. <i>Project Controls</i>	7
c. <i>Compliance</i>	8
2. PROJECT SCOPE	8
a. <i>National Environmental Policy Act (NEPA)/Environmental Assessment (EA)</i>	8
b. <i>Third Party Agreements</i>	9
c. <i>Design Status</i>	9
d. <i>Bidding and Construction Status</i>	9
e. <i>Real Estate</i>	11
f. <i>Utility Coordination</i>	12
g. <i>Vehicle Procurement</i>	12
3. PROJECT MANAGEMENT PLAN AND SUB-PLANS	12
4. PROJECT SCHEDULE.....	13
a. <i>Important Activities – 90-Day Look Ahead</i>	14
5. PROJECT COST	14
6. PROJECT RISKS	16
7. ACTION ITEMS	19
APPENDICES.....	20
APPENDIX A – <i>LIST OF ACRONYMS</i>	21
APPENDIX B – <i>PROJECT MAP</i>	22
APPENDIX C – <i>PMOC TEAM PERFORMING THIS REVIEW</i>	23

EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *August 8, 2013* to conduct the monthly progress meeting for work performed in *July 2013* on Phase 2 of the Locally Preferred Alternative (LPA) for the Dulles Corridor Metrorail Project. The Phase 2 project extends from the Wiehle Avenue Station in Fairfax County through Dulles International Airport to the Route 772 Station in Loudoun County. The PMOC plans to conduct future PMOC monthly progress meetings 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), the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. MWAA is implementing the LPA in two phases as described below.

Phase 1 of 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. The procurement of sixty-four new rail cars is also included for Phase 1.

Phase 2 of the Project will provide 11.4 *route* miles of new track from the interim terminus at Wiehle Avenue Station through Washington Dulles International Airport ("Dulles Airport") to a terminus in eastern Loudoun County. Phase 2 includes six new stations (Reston Town Center, Herndon, Innovation Center, Dulles Airport, Route 606 and Route 772 Stations). Phase 2 also includes a maintenance and storage yard facility at Dulles Airport, five new parking facilities to provide a total of 8,900 parking spaces, wayside facilities (including traction power substations, tie-breaker stations, and storm water management ponds along the alignment), and sixty-four railcars. The Engineer's estimated year-of-expenditure capital cost of Phase 2 is \$3.153 billion, exclusive of finance costs. According to the current schedule, Phase 2 Revenue Service would begin in early 2019.

Project Status Summary

The FTA and PMOC met with MWAA on *August 8, 2013* to conduct the Phase 2 monthly progress review meeting. The information provided is as of *July 31, 2013*, unless otherwise noted.

- **National Environmental Policy Act (NEPA)/Environmental Assessment (EA)** – MWAA and FTA prepared an EA in April 2012 covering the preliminary engineering design refinements for Phase 2, which they released for public review on May 10, 2012. Subsequently, the FTA Regional Administrator issued a Finding of No Significant Impact (FONSI) on December 17, 2012.

- **Procurement Status** – A Project Management Support Services (PMSS) consultant, Jacobs Engineering, supports the MWAA management team to ensure technical capacity and capability. *The contract for the PMSS was signed on July 23, 2013, and first task order was issued to the PMSS to provide staffing support, and to review management plans and work plans. The PMSS provided support for Phase 2 for preliminary engineering under a separate contract that expired on July 26, 2013.*

Phase 2 is divided into several packages that will be procured separately: Package A includes the final design and construction of 11.4 miles of the rail line, stations and systems elements; The Advanced Earthwork Contract (Package S) is for the removal and relocation of the Phase 1 soils currently stockpiled at the Maintenance Facility site associated with Package B. Package B includes the final design and construction of the WMATA Maintenance Facility at the northwest corner of the Dulles Airport property; and Package C includes the design and construction of the five parking facilities at the stations in Fairfax and Loudoun counties. MWAA awarded the contract for Package A on May 14, 2013 and *issued the Notice-to-Proceed (NTP) on July 8, 2013.* MWAA issued a solicitation for the Advanced Earthwork Contract on June 27, 2013 and anticipates a contract award in August 2013 and a NTP in September 2013. MWAA will issue a solicitation for the Package B Contract in late 2013, with contract award by June 2014.

- **Disadvantaged Enterprise Business (DBE) Goal** – MWAA developed a DBE Project Goal of 25% for Phase 2 *which was reviewed by FTA.* Package A has a contract goal of 14%, the PMSS Contract has a goal of 25%, the Package S Contract has a goal of 25%; the Package B goal is not yet determined. Fairfax and Loudoun Counties plan to procure the work in Package C without the use of Federal assistance; therefore, there would be no DBE requirement.
- **Third Party Agreements** – MWAA reported that there are six Intergovernmental Agreements required for Phase 2: WMATA, the Dulles Greenway, Loudoun County, Fairfax County, Virginia Department of Transportation (VDOT), and the City of Herndon. *As of August 7, 2013, five of the six Intergovernmental Agreements have been executed. The agreement with the Dulles Greenway is pending execution.*
- **Real Estate Acquisition** – *MWAA submitted the Real Estate Acquisition Plan (RAMP) for Phase 2 on August 19, 2013. The RAMP is currently under review by the PMOC.*
- **Design Progress** – MWAA reported that preliminary design for the Phase 2 Project is complete. The Package A contractor will complete its Final Design. MWAA has not yet decided on the procurement method for Package B. At present, Fairfax and Loudoun Counties would manage the final design of the parking facilities included in Package C. *MWAA has set a deadline of December 31, 2014 for the counties to confirm that they can deliver the completed parking facilities as required.* MWAA will perform oversight of the design and construction of the parking facilities.
- **Construction Progress** – MWAA issued a NTP for the Package A Contract on July 8, 2013. The substantial completion date is July 7, 2018.
- **Budget Status** - The Phase 2 Engineer's Estimate was \$3,153,264,289, which included \$157,750,000 in unallocated contingency. This figure is in year-of-expenditure (YOE)

dollars and excludes the finance costs. The Phase 2 Project has been broken down into the following elements:

Package A – Design and Construction of the Guideway, Track, Stations and Systems

Package B – Design and Construction of the Maintenance Facility

Package S – Advanced Earthwork at Maintenance Facility

Package C – Design and Construction of Parking Facilities

Owner Costs – Preliminary Engineering, Real Estate, Rail Vehicles, WMATA Costs, Commodity Escalation, Professional Services, and Escalation

Package A firm-fixed price contract was awarded on May 14, 2013 at \$1,177,777,000, which was below the engineer's estimate. As a result, the MWAA Board adjusted the total Project Capital Cost from \$3,153,264,289 to \$2,902,000,000.

Primary funding for Phase 2 comes from MWAA (7.75%), Fairfax County (21.74%), Loudoun County (14.89%), Commonwealth of Virginia (11.13%), and the Dulles Toll Road (44.49%). MWAA, Fairfax County, and Loudoun County anticipate receiving a total of \$1.9 billion in direct loans under the United States Department of Transportation (USDOT) Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance program to assist in financing their shares. MWAA submitted their draft Standard Cost Category (SCC) Budget Workbook to the PMOC on May 28, 2013. The PMOC evaluated the Phase 2 budget, including the proposed level of contingency, and conducted a cost review workshop with MWAA on July 9, 2013. As a result of this review, it is the PMOC's opinion based on the FTA Beta Range Model, that additional contingency in the amount of \$146,211,294 is *warranted*, bringing the recommended project cost to \$3,126,450,757.

- **Risk** – MWAA submitted the Phase 2 Risk and Contingency Management Plan (RCMP) Revision 1 dated April 2013 to FTA for approval. Based on discussions held during the July 9, 2013 meeting regarding the Phase 2 budget, the proposed level of contingency, and the draft risk register, MWAA issued a revised draft RCMP for PMOC review on July 31, 2013, *which is under review*.
- **Rail Car Procurement** - On August 15, 2012, MWAA authorized WMATA to amend their contract with Kawasaki to exercise the option for an additional sixty-four 7000 Series railcars for Phase 2. WMATA's letter of August 30, 2012 to MWAA confirmed the amendment to the Kawasaki Contract for the Phase 2 railcars.
- **Personnel** – The April 2013 Draft Project Management Plan (PMP) includes a staffing plan showing the gradual transfer of the Phase 1 staff to the Phase 2 project. Currently, Patrick Nowakowski, the MWAA Executive Project Director is dedicated 50 percent to Phase 2 through February 2014; Sam Carnaggio, MWAA Project Director is dedicated 10 percent to Phase 2 through February 2014; Karl Rohrer, MWAA Deputy Project Director is dedicated 100 percent to Phase 2. *With the exception of Mr. Rohrer, the key personnel are the same as those working on Phase 1. This transition plan appears to be reasonable, although it may be impacted by any delay in the substantial completion of Phase 1.*

2. PMOC's Assessment of Project Status

As a result of the lessons learned and experience gained from the design and construction of the Phase 1 project, MWAA has developed a staffing plan necessary to effectively manage the Phase 2 project. FTA needs to monitor closely the transition of staff from the Phase 1 project to Phase 2 to ensure that there are adequate levels of dedicated and experienced staff on both projects through the completion of Phase 1 and the procurement activities and the start of final engineering of the Phase 2. Additionally, the effective working relationship between MWAA and WMATA during Phase 1 needs to continue for Phase 2.

MWAA incorporated into the Phase 2 project the design changes to enhance the new/improved system requested by WMATA during Phase 1. Hopefully, this will reduce the number of WMATA-requested design changes under Phase 2. Likewise, MWAA implemented lessons learned from the Phase 1 project to mitigate some of the potential risks in the Phase 2 project. *Most significant of the lessons learned and implemented in Phase 2 was the elimination of Allowance Items, institution of a cost loaded schedule requirement and requiring the Design-Build (DB) Contractor to be responsible for utility relocations. These were elements that led to significant cost overruns in Phase 1.* However, as the Phase 2 project progresses into bidding and construction, MWAA needs to remain proactive in identifying and mitigating potential risks.

MAIN REPORT

1. Grantee's Capabilities and Approach

a. Technical Capacity and Capability

Based on lessons learned during the Phase 1 project, Metropolitan Washington Airports Authority (MWAA) is implementing an integrated project management organization consisting of MWAA and Project Management Support Services (PMSS) staff. The Board approved the contract for the PMSS and *the contract was executed on July 23, 2013*. The first task order to the PMSS, Jacobs Engineering, *is* to provide staffing support, and to review management plans and work plans. The PMSS provided support for Phase 2 for preliminary engineering under a separate contract that *expired* on July 26, 2013.

MWAA submitted a draft Project Management Plan (PMP) for Phase 2, Version 1.1, which includes project organization and staffing chart. Because most of the Phase 1 staff will be transitioning to Phase 2, labor distribution charts for each position were also provided to determine levels of staffing by month. The PMP, including the current Phase 2 staffing levels, *were reviewed and comments provided to FTA for consideration on August 2, 2013*.

MWAA negotiated and signed the lease for the Phase 2 project office on June 22, 2013. Renovations are ongoing and MWAA *plans to* occupy the Phase 2 project office beginning in *October 2013*. Project staff will move in *two phases: October 2013* and February 2014. The Package A DB Contractor, Capital Rail Constructors (CRC), and WMATA staff will be co-located with the MWAA project staff. The design team for CRC will be located in an adjacent building. CRC has begun moving into their offices.

MWAA stated that the reason for the delay in moving into the Phase 2 project office is due to the review required to ensure that all procurements meet federal requirements, including the lease for the project office. The address for the Phase 2 project office is 198 Van Buren Street, Herndon, Virginia.

Upon completion of the project, WMATA will become the operator of this extension to their system. WMATA personnel have been active participants in the Phase 1 project, and will have a larger staff involved on the Phase 2 project.

b. Project Controls

MWAA is developing procedures with regard to monitoring and controlling project scope, quality, schedule, cost, contingency management, and safety. MWAA has implemented lessons learned from the Phase 1 project for the Phase 2 contracts. Most significant of the lessons learned and implemented in Phase 2 was the elimination of Allowance Items, institution of a cost loaded schedule requirement and requiring the Design-Build (DB) Contractor to be responsible for utility relocations. These were elements that led to significant cost overruns in Phase 1. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their draft procedures.

c. Compliance

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

- **DBE Goal** – MWAA has developed a DBE Project Goal of 25% for Phase 2, which *was reviewed* by the Region 3 Civil Rights Officer. *FTA provided concurrence that the project DBE meets the requirements set out in the Department of Transportation DBE regulations.* Package A has a contract goal of 14%, the PMSS Contract has a goal of 25%, the Package S Contract has a goal of 25%; the Package B goal is not yet determined. Fairfax and Loudoun Counties plan to procure the work in Package C without the use of Federal assistance; therefore, there is no DBE requirement.

MWAA reported that a kick-off meeting and follow-up meeting were held with CRC regarding their DBE plan for Package A and to discuss procedures for internal DBE reporting. MWAA added that a meeting will be held with FTA Civil Rights to discuss the overall Phase 2 Project goal.

- **Title VI** – FTA stated that Fairfax and Loudoun Counties will have to secure approved Title VI Plans because they will be recipients of TIFIA loan funds for the rest of the project. Loudoun County confirmed that it has not submitted a Title VI Plan to FTA for review. Fairfax County stated that a Title VI Plan was previously submitted but rejected by FTA and questioned whether that plan just needed to be revised and resubmitted. FTA stated that Fairfax County needs to address the comments and resubmit the plan for review. Both counties have contacted the Region 3 Civil Rights Officer for guidance. *During the August 8, 2013 meeting FTA reiterated that a Title VI Plan needs to be submitted by the counties to FTA. The counties will have to sign a 13c agreement with the Department of Labor. FTA will initiate the process.*

2. Project Scope

Phase 2 of the Project will provide 11.4 route miles of new track from the interim terminus at Wiehle Avenue Station through Dulles Airport to a terminus in eastern Loudoun County. Phase 2 includes six new stations (Reston Town Center, Herndon, Innovation Center, Dulles Airport, Route 606 and Route 772). Phase 2 also includes a Maintenance Facility (maintenance and storage yard facility) at Dulles Airport, five new parking facilities at three stations to provide 8,900 parking spaces, and wayside facilities, including traction power substations, tie-breaker stations, and storm water management ponds, along the alignment.

a. National Environmental Policy Act (NEPA)/Environmental Assessment (EA)

MWAA prepared an Environmental Assessment covering the preliminary engineering design refinements for Phase 2, and issued it for public review on May 10, 2012. The FTA Regional Administrator issued a Finding of No significant Impact (FONSI) on December 17, 2012, that stated there were “no significant environmental or socioeconomic impacts associated with the design refinements for Phase 2 of the Dulles Corridor Metrorail Project.” FTA cautioned that should there be any changes in the location of the parking garages by the counties, or if they need any additional property for the construction of the parking garages, MWAA must notify FTA immediately to determine if the environmental documents would need revisions.

b. Third Party Agreements

MWAA reported that there are six Intergovernmental Agreements required for Phase 2: WMATA, the Dulles Greenway, Loudoun County, Fairfax County, Virginia Department of Transportation (VDOT), and the City of Herndon. MWAA provided a summary of the status of finalizing the six Intergovernmental Agreements below.

AGREEMENT	STATUS	NOTES
WMATA – New Agreement	Negotiations Completed – Terms Agreed	<i>Complete - Approved by MWAA Board on 7/17/13 – Executed on 8/7/13.</i>
VDOT – Amendment of Phase 1 Agreement	Negotiations Completed – Terms Agreed	<i>Awaiting signature</i>
Fairfax County – Amendment of Phase 1 Agreement	Executed	<i>Complete</i>
Loudoun County	Negotiations Completed – Terms Agreed	<i>Complete - Approved by Loudoun Board on 7/3/2013. Executed on 8/7/13.</i>
Town of Herndon	Executed– Terms Agreed	<i>Complete</i>
TRIP II (Dulles Greenway)	Negotiations Completed – Terms Provisionally Agreed	<i>Approved by MWAA Board 7/17/13. TRIP II Board Approval Pending.</i>

c. Design Status

Preliminary Engineering is complete for Phase 2. Final design and construction will be performed under the DB contract for Package A. *MWAA has yet to decide upon a procurement method for Package B, so it is not known who will complete final design for the yard and shops.* Fairfax and Loudoun Counties will manage the final design of the parking garages included in Package C. MWAA has set a deadline of December 31, 2014 for the counties to confirm that they can deliver the completed parking facilities as required. MWAA will perform oversight of the design and construction of the parking facilities.

d. Bidding and Construction Status

• New Mass Transit Line (Package A)

In August 2012, MWAA issued a Request for Qualifications solicitation for the DB contract for Package A of the Phase 2 Dulles Corridor Metrorail Project. Five DB teams were shortlisted and a final Request for Proposals issued on February 6, 2013. At the opening of proposals on April 19, 2013, CRC, a joint venture consisting of Clark Construction Group, LLC and Kiewit Infrastructure South Company, had the lowest responsible and responsive bid of \$1,177,777,000. On May 14, 2013, MWAA formally awarded the Package A Contract to CRC. NTP was issued on July 8, 2013 with a contractual duration for Package A of 1825 calendar days from NTP. Thus, the Substantial Completion Date for Package A is July 7, 2018.

The DB contractor, CRC, is currently mobilizing staff and is working out of the project office. CRC is currently working on the required management and execution plans, initial design activities, preconstruction survey, and geotechnical boring preparatory work. The preliminary design submittal, which establishes the design

code, was transmitted to MWAA during the week of August 2, 2013. Preliminary work, to include geotechnical investigation and location of existing utilities, is expected to begin in August 2013.

The cost loaded Baseline Schedule is due from CRC 180 days after NTP. In the interim, a cost loaded Proposal Schedule has been provided for the first six months with a maximum payment of \$50 million, in addition to the cost of bonds, and insurance.

- **Dulles Maintenance Facility (Package B)**

Package B will include the final design of the Maintenance and Storage Yard. On June 6, 2013, MWAA submitted a cost validation study in response to a request from FTA. This study included updated plans and cost estimates for the redesign of the Dulles Maintenance Facility based on program reductions proposed by WMATA in late 2011. Some of the changes include: reduction in the yard storage track capacity from 250 railcars to an initial storage of 168, with the ability to expand to 228; reduction in the size of the Maintenance of Way and Warehouse buildings; and elimination of the Heavy Damage Building and inspection tracks and associated inspection pits in the Service and Inspection Maintenance Building. MWAA's evaluation shows that the reduced scope saves \$10 million. The PMOC is reviewing this document.

MWAA explained that they are in the process of preparing the contract documents for Package B based on the reduced scope using some of the original plan details and layouts. MWAA anticipates issuing a Request for Qualifying Information for the Package B Contract in November 2013; however, the method of procurement has not been finalized. *MWAA has received comments from WMATA based on their review of the Package B contract documents and MWAA is in the process of responding to those comments.*

MWAA anticipates issuing solicitation for the Package B Contract in late 2013, with final contractor selection in May 2014, contract award in June 2014 *and NTP in July 2014*. Substantial completion is currently scheduled for June 29, 2018.

- **Advanced Earthwork (Package S)**

The Phase 1 contractor used the site of the proposed Dulles Maintenance Facility to stockpile excavated material. To construct the new facility, it will be necessary to move most of the stockpiled material and re-grade the site. MWAA intends to award an Advanced Earthwork contract to move the stockpile to another site on Dulles Airport property. The Advanced Earthwork contract will have a separate contractor, scope, DBE goal, and milestones from the Package B contract.

MWAA issued the Advanced Earthwork contract (Package S) solicitation on June 27, 2013 and held the pre-proposal conference on July 12, 2013. Bids are due on August 12, 2013 and MWAA anticipates an award by the end of August, with NTP by *mid-September 2013*.

MWAA reported that the Package S contract documents were revised to ensure that the work for Package S is no longer within the Dulles Airport Air Operations Area.

The same coordination procedures used during Phase 1 are already in place with the Dulles Airport staff and notices have been re-issued.

- **Parking Garages (Package C)**

At present, Fairfax County and Loudoun County plan to procure the five required parking garages.

Fairfax County is currently responsible for two parking garages: one at the *Innovation Center Station* and one at the *Herndon Station*. *The conceptual designs are currently under development for both stations and the County's Department of Public Works and Environmental Services is the lead county agency for the design and construction of both parking facilities.* Fairfax County anticipates issuing a Design-Bid-Build solicitation through the Public Works and Environmental Services Department for the construction of both of their parking garages. *The County plans to design, construct, own, maintain, and operate both parking facilities. The selection of a firm to complete the final design for the parking facilities is expected in late August 2013. Construction is expected to be completed in April 2018.*

On July 30, 2013, Fairfax County approved a Real Estate Exchange Agreement for the site of the Innovation Center Station. The Agreement provides for the exchange of property and property acquisition necessary to implement a joint development plan.

Loudoun County is currently responsible for three parking garages: one at the *Route 606 Station* and two at the *Route 772 Station*. On November 16, 2012, Loudoun County issued a Solicitation for Conceptual Proposals through the Public-Private Transportation Act of 1995 for Loudoun County Parking Facilities. The solicitation requested the submittal of conceptual proposals from qualified private entities for the finance, design, development, construction, and operation of the parking facilities for *Route 606 and 772 Stations*. Following a detailed review of the proposals by Loudoun County staff, an action item was put before the Loudoun County Board of Supervisors requesting their approval to proceed with a Best and Final Offer for the three garages. At its meeting on July 17, 2013, the Board voted to reject the three initial proposals which were received through a Request for Information process. The Board voted instead to solicit new proposals through a *Request for Proposals (RFP)* process. Loudoun County is considering using a Design-Build-Operate-Maintain procurement method *and intends to fully privatize the three parking facilities.*

Loudoun County advised that they are in the process of changing the location of the Route 772 Station North Parking Facility due to a dispute with the current land owner.

e. Real Estate

MWAA submitted their Real Estate Acquisition Management Plan (RAMP), *Revision 0*, for Phase 2 on August 19, 2013. *The PMOC is in the process of reviewing the RAMP.* Details of the required properties will be developed during the design phase of the Package A Contract.

f. Utility Coordination

MWAA submitted their Permit Management Plan, Revision 0, for Phase 2 on August 19, 2013. The PMOC is in the process of reviewing the Permit Management Plan. The contract with CRC states that all utility relocations are the contractor's responsibility.

g. Vehicle Procurement

On August 15, 2012, MWAA authorized WMATA to amend their contract with Kawasaki to exercise the option for an additional sixty-four 7000 Series railcars for Phase 2. WMATA's letter of August 30, 2012 confirmed the executed amendment to the Kawasaki Contract. The latest schedule from Kawasaki dated July 25, 2013 shows final delivery for the last Phase 2 vehicle no later than August 9, 2017.

The original railcar award included cost escalation factors depending on when the options were exercised. FTA requested that MWAA provide the current railcar budget for Phase 2, including the cost escalation factor based on when the option was exercised to confirm the current Phase 2 railcar budget.

3. Project Management Plan and Sub-plans

MWAA has submitted the PMP and required sub-plans. Below is the status of each plan received by FTA through July 31, 2013.

- MWAA submitted that latest version of the draft Phase 2 **Project Management Plan** (PMP), Version 1.1 to FTA on May 16, 2013 for FTA review and approval. Version 1.1 included modifications based on the comments received from FTA to Version 1.0, dated November 2012 submitted to FTA on December 7, 2012. The résumé summaries of key personnel were received on June 21, 2013. *On August 2, 2013, the PMOC recommended that FTA accept the PMP, Version 1.1, and direct MWAA to formally issue the final PMP for this stage of the Phase 2 project for approval.*
- MWAA submitted the latest revision of the Phase 2 **Quality Program Plan** (QPP), Revision 1, to the FTA on March 26, 2013 for FTA review and approval. The QPP incorporates the changes to address the PMOC comments to QPP Revision 0, dated October 24, 2012 submitted to FTA on December 12, 2012. The comments were discussed after the March 7, 2013 FTA/PMOC monthly meeting, and were addressed and closed. The PMOC recommended acceptance of the QPP to FTA on May 17, 2013.
- MWAA submitted the Phase 2 **Safety and Security Management Plan** (SSMP), Revision Draft dated February 28, 2013, to the FTA on March 27, 2013 for review and approval. On May 17, 2013, the PMOC recommended that the FTA accept the SSMP contingent upon the signature by WMATA's Chief Safety Officer. *MWAA addressed the three recommendations included in the PMOC review and the SSMP, Rev.0 dated July 2013 was signed off by WMATA's Chief Safety Officer on August 6, 2013. MWAA submitted the SSMP to FTA on August 12, 2013.*

The Tri-state Oversight Committee (TOC) stated that they are revising the Safety and Security Oversight Management Plan for Phase 2 to clearly outline the lines of authority between the TOC, MWAA and WMATA. As of this report however the TOC has not yet met with MWAA to initiate the process.

- MWAA submitted the latest revision of the Phase 2 **Risk and Contingency Management Plan** (RCMP), Revision 1, to the FTA on April 24, 2013 for review and approval. Revision 1 included modifications based on the comments received from FTA to Revision 0, Draft 2, dated December 2012. MWAA submitted their draft SCC Budget Workbook to the PMOC on May 28, 2013. MWAA, FTA and the PMOC met on July 9, 2013 to review MWAA's development of project costs. Based on the discussions during the review meetings, *MWAA issued a revised RCMP Revision 1A for PMOC review on July 31, 2013.*

Based on the review of the revised RCMP, a subsequent meeting was held with MWAA to discuss the development of secondary contingency provided. On August 14, 2013, the PMOC completed a sensitivity analysis of the Modeled Contingency Requirement and concluded that there is still the indication that additional contingency is needed over that currently included in the project budget of \$2,902 million. The PMOC recommended that the project budget should include ample contingency for all project risks and recommends a project budget of \$3,126 million.

- Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA **Rail Fleet Management Plan** (RFMP) is the applicable document. WMATA submitted RFMP Rev 4G to the FTA on August 3, 2012. FTA's letter dated October 11, 2012 conditionally approved the RFMP with the proviso that WMATA keep the FTA informed of the operating plan for the startup of the Dulles service. WMATA's submitted their RFMP, Revision I to the FTA on July 5, 2013. WMATA submitted RFMP, Revision J, on *August 1, 2013* and it was accepted by FTA on August 8, 2013.

4. Project Schedule

Phase 2 is currently in the procurement phase. Construction is expected to begin in July 2013 with revenue service in September 2018. The table below shows the Phase 2 milestones, as provided by MWAA in the latest schedule dated July 2013 and updated during the July10, 2013 meeting.

DULLES CORRIDOR PHASE 2 MILESTONES	
MILESTONE	DATE
Package A Design-Build Contract Award	05/14/2013(A)
Package S Advanced Earthwork Contract IFB	06/27/2013 (A)
Package A Contract NTP	07/08/2013(A)
Package S Advanced Earthwork Contract Award	08/30/2013
Package S Advanced Earthwork Contract NTP	09/16/2013
Package B Contract RFQ	10/15/2013
Package B Contract RFP	01/15/2014
Package B Contract Award	05/28/2014
Package B Contract NTP	07/01/2014
Package S Advanced Earthwork Contract Substantial Completion	10/01/2014
Deadline for Fairfax and Loudoun Counties' decision to construct the Parking Facilities	12/31/2014
Construction of Parking Facilities Complete	April 2018
Package B Contract Substantial Completion	06/29/2018
Package A Contract Substantial Completion	07/07/2018
Begin Operations Readiness Testing	07/07/2018
Complete Operations Readiness Testing	09/04/2018
Project Final Acceptance	09/04/2018

DULLES CORRIDOR PHASE 2 MILESTONES	
MILESTONE	DATE
Begin Revenue Operations Acceptance Testing	09/05/2018
Complete Revenue Operations Acceptance Testing	01/02/2019
Revenue Service Date	Spring 2019

a. Important Activities – 90-Day Look Ahead

- Receive bids and issue NTP for Advanced Earthwork Contract (Package S).
- Execute third-party agreement for the Dulles Greenway.
- *Fairfax County to select a firm to complete the final design for the Innovation Center and Herndon parking facilities.*

5. Project Cost

MWAA's current Phase 2 project budget is \$2,902,000,000, including the cost of the parking garages to be funded by Fairfax and Loudoun Counties. This figure is in year-of-expenditure dollars and excludes the finance costs. Below is the breakdown of that budget:

ESTIMATED CAPITAL COSTS (\$ Millions)	
SCOPE AND FTA COST CATEGORIES	PHASE 2
Guideway and Track Elements	\$ 409
Stations and Parking	\$ 262
Support Facilities: Yards and Shops	\$ 295
Sitework and Utilities	\$ 424
Train Systems	\$ 227
Right-of-Way and Property Acquisition	\$ 62
Rail Cars and Support Vehicles	\$ 282
Design and Engineering Services	\$ 546
Unallocated Contingency	\$ 79
Baseline Project Cost Estimate	\$ 2,587
Phase 2 County-Funded Elements	\$ 315
TOTAL PROJECT CAPITAL COST	\$ 2,902

Primary funding for Phase 2 comes from MWAA (7.75%), Fairfax County (21.74%), Loudoun County (14.89%), Commonwealth of Virginia (11.13%), and the Dulles Toll Road (44.49%). MWAA, Fairfax County, and Loudoun County anticipate receiving a total of \$1.9 billion in direct loans under the United States Department of Transportation (USDOT) Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance program to assist in financing their shares.

SOURCES OF CAPITAL FUNDING (\$ Millions)				
	Multi-funded Elements	County-funded Elements	Phase 2 Total	% of Total
Commonwealth of Virginia	\$ 323		\$ 323	11.13%
Fairfax County	\$ 484	\$ 147	\$ 631	21.74%
Loudoun County	\$ 264	\$ 168	\$ 432	14.89%
MWAA (Aviation Funds)	\$ 225		\$ 225	7.75%
MWAA (Dulles Toll Road)	\$ 1,291		\$ 1,291	44.49%
Total Sources of Funding	\$ 2,587	\$ 315	\$ 2,902	100.00%

On April 11, 2013, MWAA provided the financial feasibility study to the TIFIA Joint Program Office. On May 9, 2013, MWAA submitted its initial plan of finance and financial model, and indicative rating to the TIFIA Joint Program Office. *MWAA reported that they are making progress with the TIFIA Joint Program Office and the TIFIA Joint Program Office is in the process of reviewing the credit ratings for the Counties of Loudoun and Fairfax. Based upon ongoing conversations and meetings with TIFIA Joint Program Office, supporting documentation is being requested of and received from the counties and the Airports Authority.*

The County of Fairfax submitted its initial plan of finance and financial model, indicative rating, and feasibility study to the TIFIA Joint Program Office on June 5, 2013. The initial submittal from Loudoun County is pending receipt of its indicative rating from Standard & Poor's which is expected in mid-June 2013. Once the rating is received, Loudoun County will forward its initial plan of finance and financial model, indicative rating, and feasibility study to the TIFIA Joint Program Office. MWAA, and Fairfax and Loudoun Counties presented the financial plans for the project to the USDOT TIFIA staff and consultants on June 21, 2013.

Fairfax and Loudoun Counties have agreed to remove the parking garages from the TIFIA loan and construct the garages with their own funds. In exchange for removing the funds from the TIFIA loan, the Counties will agree to deliver the garages without requesting funding from the Phase 2 project budget. This agreement is pending completion.

MWAA added that the TIFIA Joint Program Office has requested a traffic and revenue analysis which will take some time to complete.

The SCC Project Cost Summary by SCC Code as provided in the July 2013 RCMP:

Contract Package	SCC Code	SCC Category	Construction Cost		Owner Cost		Total Program Cost	
			YOE Estimate including Contingency	YOE Estimate total without Contingency	YOE Estimate including Contingency	YOE Estimate total without Contingency	YOE Estimate including Contingency	YOE Estimate total without Contingency
A	10	Guideway	\$ 340,953	\$ 340,953	\$ 67,552	\$ 3,993	\$ 408,505	\$ 344,946
	20	Stations, Stops, Terminals, Intermodals	\$ 224,433	\$ 224,433	\$ 32,331	\$ 3,992	\$ 256,763	\$ 228,424
	30	Support Facilities: Yards, Shops and Admin Bldgs	\$ 377	\$ 377	\$ -	\$ -	\$ 377	\$ 377
	40	Sitework and Special Conditions	\$ 352,760	\$ 352,760	\$ 51,143	\$ 12,651	\$ 403,902	\$ 365,411
	50	Systems	\$ 172,044	\$ 172,044	\$ 38,009	\$ 21,750	\$ 210,053	\$ 193,794
	60	ROW, Land and existing improvements	\$ -	\$ -	\$ 63,646	\$ 58,523	\$ 63,646	\$ 58,523
	70	Vehicles	\$ -	\$ -	\$ 213,383	\$ 212,765	\$ 213,383	\$ 212,765
	80	Professional services and Agency costs	\$ 87,210	\$ 87,210	\$ 356,465	\$ 323,841	\$ 443,675	\$ 411,051
	90	Unallocated Contingency			\$ 59,484	\$ -	\$ 59,484	\$ -
		Package A Total	\$ 1,177,777	\$ 1,177,777	\$ 882,013	\$ 637,515	\$ 2,059,790	\$ 1,815,292
B	10	Guideway	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	20	Stations, Stops, Terminals, Intermodals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	30	Support Facilities: Yards, Shops and Admin Bldgs	\$ 247,207	\$ 222,194	\$ 36,996	\$ 7,286	\$ 284,203	\$ 229,480
	40	Sitework and Special Conditions	\$ 29,513	\$ 26,300	\$ 3,871	\$ 1,511	\$ 33,383	\$ 27,811
	50	Systems	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	60	ROW, Land and existing improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	70	Vehicles	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	80	Professional services and Agency costs	\$ 23,280	\$ 20,786	\$ 72,436	\$ 64,650	\$ 95,717	\$ 85,436
	90	Unallocated Contingency			\$ 15,965	\$ -	\$ 15,965	\$ -
		Package B Total	\$ 300,000	\$ 269,281	\$ 129,268	\$ 73,447	\$ 429,268	\$ 342,727
C	10	Guideway	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	20	Stations, Stops, Terminals, Intermodals	\$ 227,737	\$ 198,564	\$ 3,968	\$ -	\$ 231,705	\$ 198,564
	30	Support Facilities: Yards, Shops and Admin Bldgs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	40	Sitework and Special Conditions	\$ 3,957	\$ 3,445	\$ 968	\$ -	\$ 4,925	\$ 3,445
	50	Systems	\$ 6,823	\$ 5,952	\$ -	\$ -	\$ 6,823	\$ 5,952
	60	ROW, Land and existing improvements	\$ 10,825	\$ 9,832	\$ -	\$ -	\$ 10,825	\$ 9,832
	70	Vehicles	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	80	Professional services and Agency costs	\$ 65,794	\$ 58,518	\$ 76,091	\$ 67,912	\$ 141,885	\$ 126,430
	90	Unallocated Contingency			\$ 16,771	\$ -	\$ 16,771	\$ -
		Package C Total	\$ 315,136	\$ 276,312	\$ 97,797	\$ 67,912	\$ 412,933	\$ 344,224
		Project Total	\$ 1,792,913	\$ 1,723,370	\$ 1,109,079	\$ 778,874	\$ 2,901,992	\$ 2,502,243

On May 14, 2013, MWAA awarded the Package A Contract for final design and construction of the line and stations in the amount of \$1,177,777,000. This was \$307.6 million below the engineer's estimate; however, MWAA is issuing an Owner Controlled Insurance Program (OCIP), the cost of which was initially intended to be included in the DB contract cost. The cost of the OCIP, which was estimated at \$50 million, will be transferred from Package A to the Owner Cost. Thus, the net savings realized was approximately \$250 million.

6. Project Risks

MWAA submitted the latest revision of the Phase 2 Risk and Contingency Management Plan (RCMP), *Revision 1A*, to the FTA on *July 31, 2013*, including MWAA's proposed Top Ten Risks to FTA for review and approval. MWAA has identified four primary mitigation strategies; however, MWAA and the PMOC agree that the primary and secondary mitigation measures should be developed in more detail following the award of the DB contracts.

- **Budget Risks:** MWAA has allocated \$577 million in contingency for the overall project. Contingency is further broken down by Package as follows: \$366 million for Package A, \$122 million for Package B, and \$89 million for Package C. A contingency management plan has been established for the release of contingency based on contract milestones.

The Phase 2 budget of \$2,902 million does not include additional costs for secondary mitigation but rather six opportunities for secondary mitigation. On August 14, 2013, the PMOC completed a sensitivity analysis of the Modeled Contingency Requirement and concluded that there is still the indication that additional contingency is needed over that currently included in the project budget of \$2,902 million. The PMOC disagreed with the proposed opportunities for secondary mitigation, and continues to recommend that the

project budget should include ample contingency for all project risks and recommends a project budget of \$3,126 million.

- **Schedule Risks:** *The result from MWAA's schedule risk analysis shows that there is less than 5 percent chance that the Schedule Substantial Completion Date (SSCD) will take place on July 7, 2018. The 80% confidence level date for the SSCD is December 6, 2018, indicating a hypothetical delay of 152 calendar days. The schedule risk analysis performed by the project team was limited to the SSCD. For the Revenue Service Date the project team has accepted the recommendation by PMOC to include a time contingency of 14 months in the overall program schedule. Overall, the schedule contingency including the WMATA testing through the Revenue Service Date is 14 months. This plan is under review by the PMOC.*
- **Top Ten Risks:** In its *July 2013 RCMP, Revision 1A*, MWAA provided a summary of the Top Ten Risks for review and approval. Below is the MWAA proposed Top Ten Risks submitted to FTA in the RCMP, which the PMOC is reviewing.

Summary Status of the Top Ten Project Risks, July 2013 RCMP

RCMP Revision 1a - July 2013			
Risk ID	Event Description	(Proposed Primary) Risk Mitigation	Risk Rating
80.R.1	Project Team and various Agencies add new design requirements not currently included in the PE documents.	Project Team earliest possible exploration and identification of politically based/influenced issues from any and all sources and the timely implementation of a solution that minimizes cost and schedule impact to the Project.	32
40.C.98	Utility Companies involved in the utility relocation delay the DB.	DB to establish agreements with utility companies to start relocations work in advance of construction and complete by earliest need date in DB schedule for timely Project Completion.	27
20.C.103	PE Design for the Dulles Airport Station mezzanine construction on either or both sides of North Garage Walk-back Tunnel proves challenging due to extent of as-built conditions and construction alterations required to the existing tunnel.	DB to undertake early exploration and verification of existing conditions and provide, as required, alternative solutions. Project Team to allow maximum flexibility in design parameters for Dulles Airport Station to encourage DB to achieve optimum final design-construction solutions to lower cost & simplify construction and accommodate patron interface.	27
80.D.70	Loudoun and Fairfax Counties interfering with the design process of the parking garages and do not complete design documents in a timely manner.	Project Team to coordinate with Loudoun and Fairfax Counties to ensure timely issuance of DB packages for Garages and completion of designs.	27
20.R.124	Fairfax and Loudoun Counties, when assigned responsibility, do not complete procurement and construction of parking facilities in timely manner.	Project Team to develop a plan as to how it would build parking facilities in the event of failure by either Fairfax or Loudoun County, and identify and allocate funding sources, enforce deadlines for timely decisions and actions by Fairfax and Loudoun Counties.	27
80.D.39	Fairfax and Loudoun Counties, VDOT, Reston and Town of Herndon require local roadway improvements & traffic signal integration not currently planned or represented in the PE design.	DB to undertake early coordination with the Project Team, Loudoun and Fairfax Counties, Reston and Town of Herndon, VDOT and the owners/developers of congruous and adjacent real property..	24
80.D.43	Initial PE design addressing issues of real property acquisition is incomplete, vague or ambiguous.	Project Team to perform advance supplemental analysis of PE design and real estate requirements; Project Team include pessimistic availability dates in DB Contract Documents.	24
40.R.96	VDOT, Loudoun County, Fairfax County, Reston, and/or Town of Herndon do not provide new roadways or alteration connecting existing roadways to Project station and parking facility access points.	The Project Team is to coordinate and clarify the responsibilities and obligations of Loudoun and Fairfax Counties, the Town of Herndon, Reston, and VDOT, in the IGA and engage the above named counties and local authorities to solidify buy-in from owners and developers of contiguous and adjacent properties for completing access roadways availability to meet the DB schedule for Project Completion.	21
80.C.193	DB does not issue complete and coordinated documents for use in design, construction and the permitting process.	The Project Team is to coordinate the clear articulation in the DB RFP documents the expectations for DB early establishment of submissions procedures and compliance therewith during design and construction, to include establishment of interim milestones during the design phase that are enforceable. Furthermore, the Project Team has to ensure that the DB Contract Documents clearly articulate the DB responsibilities and obligations to provide full and complete submissions to include the work scope of all disciplines required to complete construction and that submittals are staggered to prevent overloading of the review systems.	18
60.R.22	Project Team or DB does not make timely acquisition of right-of-way permanent and temporary easements.	The Project Team shall coordinate the early acquisition of right-of-way and easements so as to not impact the DB design and construction process and progress.	18

7. Action Items

MWAA – DULLES CORRIDOR METRORAIL PROJECT PHASE 2- Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
1	2A	MWAA needs to submit an updated RCMP	The RCMP must take into account the PMOC recommended contingency levels for each contract package	N	N	N	PMOC met with MWAA on August 8, 2013 to review its comments on RCMP Rev 1a, draft.	R
2	2B	MWAA needs to address questions raised by FTA Civil Rights Division regard the overall DBE project goal for Phase 2.	FTA Civil Rights Division questioned part of the methodology used in developing the goal, MWAA must address the questions.	Y	N	N	MWAA is coordinating with FTA.	R
1	2A	Fairfax and Loudoun need to submit Title VI Plan for FTA review and approval.	Any project receiving federal funds needs to submit a Title VI Plan for review and approval by FTA.	N	N	N	MWAA is coordinating with FTA.	R
2	2B	MWAA to confirm and provide railcar budget with cost escalation factors based on when the railcar option was exercised.	The current railcar budget for Phase 2 is needed to confirm that the current Phase 2 railcar budget is sufficient.	Y	N	N	MWAA is coordinating with FTA.	R

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

Subtask 2A CLIN 0002A – PMP Review
Subtask 2B CLIN 0002 – On-Site Monitoring

LEGEND

PRIORITY (PR)

1- Most Critical
2- Critical
3- Least Critical

GRANTEE ACTION

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

PMO CONTRACTOR STATUS

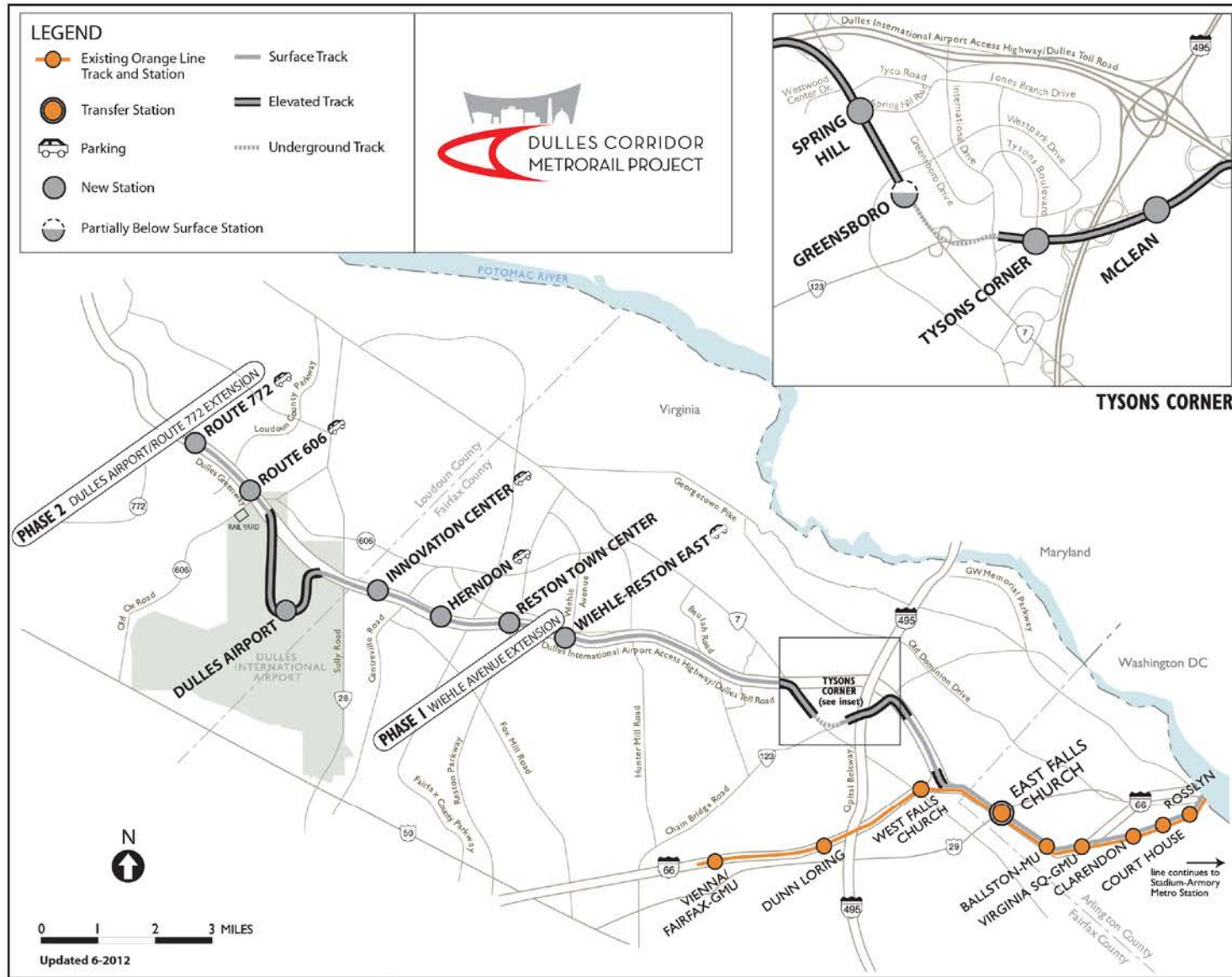
R – Review On-going
C – Completed – No further review required

APPENDICES

APPENDIX A – LIST OF ACRONYMS

Board	MWAA Board of Directors
<i>CRC</i>	<i>Capital Rail Constructors</i>
DB	Design-Build
<i>DBE</i>	<i>Disadvantaged Business Enterprise</i>
DIAAH	Dulles International Airport Access Highway
EA	Environmental Assessment
<i>FONSI</i>	<i>Finding of No Significant Impact</i>
FTA	Federal Transit Administration
LPA	Locally Preferred Alternative
MWAA	Metropolitan Washington Airports Authority
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OCIP	Owner Controlled Insurance Program
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
SCC	Standard Cost Category
<i>SSCD</i>	<i>Schedule Substantial Completion Date</i>
SSMP	Safety and Security Management Plan
TBD	To Be Determined
<i>TOC</i>	<i>Tri-state Oversight Committee</i>
TIFIA	Transportation Infrastructure Finance and Innovation Act
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation
WFC	West Falls Church
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX B – PROJECT MAP



[illegible]

