Metropolitan Washington
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METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

December 1, 2017

Honorable Emmett W. Hanger, Jr.
Co-Chair Senate Finance Committee
Pocahontas Building
Room No: E603
Senate of Virginia
P. O. Box 396
Richmond, VA 23218

Honorable Thomas K. Norment, Jr.
Co-Chair, Senate Finance Committee
Pocahontas Building
Room No: E507
Senate of Virginia
P. O. Box 396
Richmond, VA 23218

Honorable Chris S. Jones
Chairman, House Appropriations Committee
Pocahontas Building
900 E. Main St.,
Richmond, Virginia 23219

Aubrey L. Layne, Jr.
Virginia Secretary of Transportation
Patrick Henry Building
1111 E. Broad St., 3rd Floor
Richmond, VA 23219

Dear Senators Hanger and Norment, Delegate Jones, and Secretary Layne:

As you know, the Appropriation Act for the 2016-2018 biennium, chapter 780 of the 2016 Acts of Assembly, as amended by chapter 437 of the 2017 Acts of Assembly ("2016-2018 Appropriation Act"), in paragraph M of Item 436, conditionally makes available to the Metropolitan Washington Airports Authority ("MWAA") $25,000,000 of Commonwealth funding in the second half of the Commonwealth's fiscal year 2017 and $25,000,000 in the Commonwealth's fiscal year 2018 (jointly, "Commonwealth Funding") for the sole purpose of reducing the airline cost per enplanement at Washington Dulles International Airport ("Dulles Airport" or "Dulles") in order to help attract new domestic and international airlines and retain existing air carriers.

In a letter to you dated December 1, 2016, I summarized the then-existing status of the three conditions that the 2016-2018 Appropriation Act places upon MWAA's receipt of Commonwealth Funding and, in addition, provided the first of the two annual reports that MWAA is required by that Act to submit to you. In this letter, I initially provide a brief update on the status of the three conditions to MWAA's receipt of Commonwealth Funding, showing that the conditions have been fully satisfied, and then present the second annual report that MWAA is required to submit.

Conditions to Commonwealth Funding

Paragraph M of Item 436 in the 2016-2018 Appropriation Act sets out three conditions that must be satisfied before any Commonwealth Funding may be released to MWAA.

First, under paragraph M.1 of Item 436, no funds may be released unless MWAA "has entered into an agreement with one or more airlines currently operating at Washington Dulles International Airport which ensures the retention of a domestic airline hub service at the airport for at least seven years beyond calendar year 2017." As noted in my December 1, 2016, letter, this condition was satisfied in September 2016 when MWAA and United Airlines executed an amendment to United's Airport Use Agreement and Premises Lease for Dulles which extended the term of that agreement for seven years, from December 31, 2017, to and through December 31, 2024.[1]

The second condition to the release of Commonwealth Funding, set out in paragraph M.2 of Item 436, requires that the Secretary of Transportation "certify in writing to the Governor and the General Assembly that provision of the funding authorized under this item are in the public interest, that the funds will be used to supplement not supplant funds otherwise available to [MWAA], and that [MWAA] has set forth an attainable plan for long-term cost reductions" at Dulles Airport. The Secretary provided this certification to the Governor and the legislature in a memorandum dated December 16, 2016, which includes his finding that MWAA has provided assurances that Commonwealth Funding would be used to supplement and not to supplant funds otherwise available to MWAA, and that MWAA had set out an attainable plan for long-term cost reductions at Dulles Airport.

The third condition to the Commonwealth Funding is set out in paragraph M.2.a of Item 436. Under this condition, no Commonwealth Funding may be made available to MWAA unless the Virginia Department of Transportation ("VDOT") and MWAA have entered an agreement which (i) identifies the future efforts of MWAA through 2024 to reduce airline cost per enplanement ("CPE") at Dulles Airport in an amount exceeding the $50 million of Commonwealth Funding, (ii) provide VDOT with access to the financial records of MWAA, and (iii) includes "a long range plan" for the "financial viability" of Dulles Airport and "continued lower levels of cost per enplanement beyond the . . . 2016-2018 biennium without state support beyond" the $50 million of Commonwealth Funding. On March 6, 2017, VDOT and MWAA executed a funding agreement relating to the Commonwealth Funding which addresses each of these matters and includes a long range plan for the financial viability of, and for continued lower CPE levels at, the Dulles Airport beyond the 2016-2018 biennium ("Long-Range Plan" or MWAA Plan).[2]

In light of the satisfaction of these conditions, $25 million of Commonwealth Funding was released to MWAA on March 10, 2017.

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[1] This agreement ("Use and Lease Agreement") sets out the rights and obligations of airlines operating at Dulles Airport, including a commitment to lease space and operate at the airport throughout the term of the agreement, and the corresponding rights and obligations of MWAA, including a commitment to provide the facilities necessary for the airlines' operations during the term of the agreement. The amendment extending the agreement's term, in addition to having been executed by United, has been executed by all other airlines with any significant operations at Dulles.

[2] This Long-Range Plan was enclosed with my December 1, 2016, letter to you.

Report to General Assembly and Secretary of Transportation

In addition to establishing these conditions to the release of Commonwealth Funding, the 2016-2018 Appropriation Act, in paragraph M.3 of Item 436, requires MWAA on two occasions – first, no later than December 1, 2016, and, second, no later December 1, 2017 – to report to the Chairmen of the Senate Finance and House Appropriations Committees and the Secretary of Transportation on three specific matters. As earlier noted, this letter represents the second of these MWAA reports.

Each of the three matters specified in paragraph M.3 of Item 436 is identified below and immediately following each is MWAA's response to the matter.[3]

A. MWAA is to "report . . . on the actual and forecasted changes to the cost per enplanement at the Washington Dulles International Airport over the prior year, what portion of the reduction is attributable to state support, what portion [is] attributable to cost reduction measures implemented by [MWAA] and what portion is attributable to increased passenger traffic at the Airports." Item 436, paragraph M.3.

MWAA Response

The actual airline CPE at Dulles Airport in MWAA's fiscal year 2016 (see note 3) was $21.00.[4] The currently forecasted CPE at Dulles in fiscal year 2017 is $17.57, representing a $3.43 reduction from the 2016 actual CPE. See the letter report from MWAA's financial feasibility consultant, DKMG Consulting, LLC, dated December 1, 2017 ("2017 DKMG Report") (which is Enclosure A to this letter), p. 6.

The portion of this $3.43 decrease in CPE between 2016 and 2017 that is attributable to the $25 million of Commonwealth Funding that MWAA received earlier this year is $2.25. See 2017 DKMG Report, p. 6.

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[3] It should be noted that MWAA's fiscal and financial reporting year is the calendar year, unlike the Commonwealth's fiscal and financial reporting year which runs from July 1 through June 30. All information provided in this letter and its enclosures, as well as in the MWAA Long-Range Plan, for a particular "year" or on an "annual" basis relates to the MWAA fiscal year and, therefore, to a calendar year running from January 1 through December 31.

[4] The Dulles CPE for 2016 that was *estimated* in my December 1, 2016, letter to you was $20.75. That estimated CPE reflected a reduction achieved by the MWAA Plan of $2.92 from the 2015 actual Dulles CPE of $23.67. See 2017 DKMG Report (defined in the text above), p. 7. The reasons for the actual 2016 CPE being $0.25 higher than the 2016 CPE that was estimated last year are given in the 2017 DKMG Report at page 7. The *actual* 2016 Dulles CPE of $21.00 represents a $2.67 reduction, under the MWAA Plan, from the *actual* 2015 CPE of $23.67; and, as noted in the text, the CPE now estimated for 2017 represents an additional reduction of $3.43.

The portion of this CPE reduction that is attributable to additional cost reduction measures taken by MWAA is approximately $0.39. See DKMG Report, p. 6.

Finally, the portion of the CPE reduction between 2016 and 2017 that is attributable to the increase in passenger traffic in 2017 is $0.53. See DKMG Report, p. 7. In other words, were the number of enplaned passengers in 2016 used in the calculation of the 2017 CPE, rather than .the higher number of 2017 passengers used in that calculation, the 2017 CPE would have been $18.10 rather than $17.57.

Further explanations of the CPE reduction from 2016 to 2017 is provided immediately below in response to the second matter to be addressed by this letter report.

B. MWAA is to "report [on] the additional measures taken by [MWAA] to reduce the airline cost per enplanement including, but not limited to, an estimate of revenues that could be generated by development or disposal of property owned by [MWAA] as a means to further reduce long term cost per enplanement" (Item 436, paragraph M.3) and is to provide "a detailed plan on the potential sale, lease and/or development of MWAA acreage unsuitable for airport use ... [including] an update on the status of the NEPA process and of any needed approvals from the Federal Aviation Administration or the U.S. Secretary of Transportation, an identification of the types of suitable uses for the various tracts and an estimate of the revenues that could be generated from such uses" (Item 436, paragraph M.4).

<u>MWAA Response</u>

(1) <u>Additional measures taken to reduce the Dulles CPE in 2017.</u> In addition to the cost reductions addressed above, two other "measures" played a role in decreasing the Dulles CPE between 2016 and 2017.

The first is the increase in the airlines' share of the Net Remaining Revenue ("NRR") generated in 2016 at Dulles that has been used to reduce airline costs in 2017 over and above the share of 2015-generated NRR the airlines received in 2016. See 2017 DKMG Report, p. 6. This increase is largely attributed to the increase in non-airline revenues earned at the airport in 2016.

The second measure contributing to the 2016-to-2017 Dulles CPE decrease stems from rate abatements that MWAA has provided to airlines operating at the airport. These abatements, funded by MWAA from funds it controls, totaling $1.5 million in 2017, accounted for $0.14 in this CPE decrease. See 2017 DKMG Report, p. 6. (MWAA contributed $7.0 million toward airline rate abatements in 2016.)

(2) MWAA's plan for the potential sale, lease and/or development of MWAA acreage unsuitable for airport use and potential revenues from such development

As explained in my December 1, 2016, letter, MWAA owns approximately 415 acres of land along the western boundary of Dulles Airport that is not used for or dedicated to airport purposes.[5] In 2014, MWAA established an Office of Real Estate for the purpose of generating revenues from the development of these acres, as well as appropriate sites located within property that MWAA leases from the federal government. MWAA has taken a number of steps relating to the potential development of these fee-owned 415 acres, including to analyze and ascertain the physical and market feasibility of the land's development, to discuss alternative uses of the land with the Federal Aviation Administration (this land lies within the "airport layout plan" for Dulles Airport and its utilization, including for non-airport purposes, is subject to FAA review), and to prepare environmental analyzes and other documentation required by the FAA to accompany its review of these alternatives under the National Environmental Policy Act.

A description of the actions MWAA has taken, and others it intends to take in the near future, to advance the potential development of these fee-owned acres, as well as certain portions of the land it leases from the federal government, along with general revenue projections from such potential development, is presented in Enclosure B to this letter.

An MWAA Observation on the Projected CPE for 2017

Before turning to the third matter that the 2016-2018 Appropriation Act requires this letter report to address, I want to put in context the Dulles CPE of $17.57 that is now projected for 2017. I believe that the $3.43 reduction from the actual CPE in 2016 of $21.00 to this projected level for the 2017 CPE is noteworthy. But what is more noteworthy, in my view, is the reduction the 2017 CPE of $17.57 represents when seen in light of Dulles CPE projections being made only a few short years ago.

Three years ago, well before the development of the MWAA Long-Range Plan, MWAA's financial feasibility consultants (in their "Report of the Airport Consultant" (ROAC) then being prepared in connection with an upcoming 2014 sale of MWAA bonds) were projecting the 2017 CPE at Dulles to be $31.12 and comparable levels for other future years. These and other projections of high CPE levels at Dulles prompted discussions about possible Commonwealth funding assistance for Dulles and to the development of the MWAA Long-Range Plan and its multiple components

[5] MWAA owns approximately 1,175 acres of additional land at Dulles, and this land is dedicated to airport purposes. In addition, MWAA leases approximately 11,000 acres at Dulles from the federal government.

designed to drive down the Dulles CPE by reducing financing and other airport costs and increasing non-airline revenues.

The now projected 2017 Dulles CPE of $17.57 represents a $13.55, or 43.5%, reduction in the 2017 CPE that was projected in 2014. There is no question that the Commonwealth's $25 million grant which MWAA received this year is responsible for a healthy portion of this reduction – as earlier noted, approximately$2.25. But the MWAA Plan, with its financing and other cost savings and its revenue enhancements, which are addressed below in Section C, has clearly played a critical role in the substantial CPE reduction that has been achieved between the 2014-ROAC-estimated $31.12 to the now projected level of $17.57, and will continue to play that critical role in maintaining lower levels of CPE through the close of 2024.

C. MWAA's report is to "include an outline of additional measures to be taken by [MWAA] to further reduce cost per enplanement through calendar year 2024." Item 436, paragraph M.3.

<u>MWAA Response</u>

As earlier stated, MWAA's Long-Range Plan defines a series of measures it will take in order to lower, and maintain a lowered, Dulles CPE in the nine-year period from January 1, 2016, through December 31, 2024. That Long-Range Plan was enclosed with my December 1, 2016, letter to you, along with a report from DKMG Consulting, also dated December 1, 2016, which presented the financial impacts which DKMG projected the Plan would have at Dulles, including on the airport's annual CPE, in the 2016-2024 period.

DKMG Consulting has now prepared an update of its 2016 analysis of the MWAA Plan and of the Plan's financial impacts at Dulles, and its update (the 2017 DKMG Report) is enclosed with this letter as Enclosure A. In its 2016 letter report, DKMG was largely *projecting* the Plan's impacts in each year of the 2016-2024 period. In its 2017 letter report, the firm has used actual data and other information arising from events occurring since its 2016 letter report to substitute actual for earlier projected impacts of the MWAA Plan in 2016 and to adjust its earlier projections of impacts in the 2017-2024 period based on this new data and information, as well as current economic conditions.

My letter to you last year addressed in some detail the various components of the MWAA Plan, their relationship to the operations at Dulles, and their impacts of the Dulles CPE. Since those plan components have remained largely unchanged, I am not repeating the descriptive materials in last year's letter. I am instead presenting to you the core of the information I believe to be sought by paragraph M.3 of the 2016-2018 Appropriation Act's Item 436 – specifically, what will MWAA be doing in the remainder of the 2016-2024 period to lower the costs that airlines pay for their use of

Dulles Airport's facilities and services, and to keep those costs, along with the related CPE metric, as low as possible.

I have tried to achieve this through the two tables and related text that are set out in the next few pages.

The first table shows five components of the MWAA Long-Range Plan and, for each, states the amount of cost savings or additional revenue and funding the component actually achieved in 2016 (based on information that was not available when the 2016 DKMG letter report was prepared) and is projected to achieve in each year from 2017 through 2024 (based on updated information that has become available after the 2016 DKMG report). The table, in short, shows (i) the actions MWAA has taken and will take through 2024 to reduce the costs that airlines incur to use the facilities and services at Dulles, and (ii) the amount of the reductions in such costs that have been and are projected to be achieved through 2024 as a result of the MWAA actions.

TABLE SHOWING TOTAL AND ANNUAL COST SAVINGS AND REVENUE/FUNDING INCREASES ACHIEVED BY MWAA LONG-RANGE PLAN*

MWAA Plan Components*	Total	2016	2017	2018	2019	2020	2021	2022	2023	2024
Financing Savings	$192,558	$2,579	$8,325	$8,533	$22,904	$26,820	$37,098	$29,899	$24,646	$31,754
Airline rate abatement	8,500	7,000	1,500	0	0	0	0	0	0	0
Transfer from Reagan National	270,000	40,000	40,000	35,000	30,000	25,000	25,000	25,000	25,000	25,000
New non-airline revenues	212,115	18,658	17,539	25,821	25,095	24,938	24,495	25,024	25,229	25,316
Cost reductions	91,104	5,623	8,214	10,329	10,354	10,656	10,977	11,308	11,647	11,996
TOTAL	$774,277	$73,859	$75,578	$78,408	$88,353	$87,414	$97,570	$91,231	$86,572	$94,066

Source: 2017 DKMG Report, Attachment, Table 1. (Numbers are in thousands (1000).)
* Not including the $50 million Commonwealth Funding component.

I offer the following comments on this table.

- The MWAA Plan, by reducing airport costs and delivering new revenues and other funding to Dulles, reduces the costs that airlines incur to use the airport's facilities and services. The Plan reduces costs and delivers new funding of more than $774 million over the 2016-2024 period, well in excess of the $50 million in savings and new revenues that the 2016-2018 Appropriation Act (in Item 436, paragraph M.2.a) requires MWAA to achieve in this period. In fact, the requirement was satisfied in 2016.
- The Plan's financing savings, which exceed $192 million over this nine-year period, arise from bond refinancings that closed in 2016 and 2017 and additional refinancings that MWAA intends to undertake in 2018 and 2019. See 2017 DKMG Report, pp. 2-3. The Plan does not include the refinancing of other

MWAA bonds that are subject to refunding in years after 2019. It is very possible that additional debt service savings can be achieved from refinancings occurring in those years, although the amount of such savings would be affected were federal tax law amended to eliminate the tax-exempt status of "private activity bonds."

- The Plan's "airline rate abatement" component has been funded in two years by MWAA's contribution of funds it controls (i.e., funds derived from its share of the year-end Net Remaining Revenues generated at Dulles). See 2017 DKMG Report, p. 3. The Plan currently shows no rate abatement contributions for additional years. However, as part of its preparation of future year budgets, MWAA will review the feasibility and necessity of making additional contributions toward airline rate abatements.

- The Plan's "new non-airline revenues" component represents a broad range of MWAA actions taken to increase revenues at Dulles from sources other than the airlines. Those actions (see 2017 DKMG Report, p. 4) are projected to produce over $212 million in new revenues in the 2016-2024 period that will work to reduce the cost airlines pay MWAA to use and operate at the airport. However, these actions do not include other MWAA activities currently in analysis or planning stages that will, if implemented, produce additional non-airline revenues at Dulles. Such activities include the commercial development of land at Dulles that is owned or leased by MWAA and, for the foreseeable future, is not needed for airport purposes (see Enclosure B); monetization of a new, state-of-the-art digital wi-fi system that MWAA has recently constructed throughout the passenger concourses at Dulles; changing the facilities at which rental car services are delivered at Dulles, making them more convenient to passengers and valuable to rental car companies; expanding and enhancing food and beverage concessions in certain passenger concourses which today fall short of meeting passenger demand during parts of the day; and enhancing the airport's facilities for transportation network company vehicles (e.g., Uber and Lyft) to enable them to better address the increasing passenger demand for transportation via these vehicles. Any of these activities, when implemented, will effectively become part of the MWAA Plan and will deliver additional non-airlines revenues that can be used to reduce the cost airlines incur to use the airport facilities and services at Dulles.

- The Plan's "cost reductions" component represents airport cost reductions beyond those arising from the refinancing of MWAA bonds and the corresponding reduction in debt service costs. See 2017 DKMG Report, p. 4. These cost reductions amounted to over $18 million in 2016, and are projected to total over $91 million in the 2016-2024 period. This Plan component, like others in the MWAA Plan, is neither fixed nor set in stone, but is consistently under review, as we regularly look for additional ways to decrease the costs of providing facilities and services at Dulles.

The second table I have prepared addresses the effect over time on the Dulles CPE of the savings and new revenues and funding shown in the above table. It also shows the effect on the CPE of the $50 million in Commonwealth Funding. And it further shows the CPE effect of the increases in Dulles debt service costs that will arise starting in 2019 due to the series of new capital projects (with total cost of approximately $445 million) which MWAA and the airlines, as part of the extension of the Use and Lease Agreement through 2024, agreed would be constructed during the extended term of the agreement.

TABLE SHOWING IMPACT ON ANNUAL DULLES CPEs OF THE MWAA LONG-RANGE PLAN, THE COMMONWEALTH FUNDING AND NEW DEBT SERVICE COSTS									
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Base Case CPEs	$25.55	$26.24	$26.36	$26.38	$26.53	$26.80	$26.11	$25.80	$25.13
1. Reduction in CPEs due to Five Components of MWAA Plan*	($4.55)	($6.42)	($6.34)	($7.06)	($6.79)	($7.57)	($6.87)	($6.37)	($6.71)
2. Reduction in CPEs due to $50 million in Virginia funding	0	($2.25)	($2.20)	0	0	0	0	0	0
3. Increase in CPEs due to new debt service costs	0	0	0	$0.16	$0.30	$0.87	$1.02	$1.20	$1.40
Actual (2016) and Projected (2017 - 2024) CPEs	$21.00	$17.57	$17.82	$19.48	$20.04	$20.10	$20.26	$20.63	$19.82

Source: 2017 DKMG Report, p. 2 and attached Table 2.

* These five components are identified and addressed in the prior table; the Plan's sixth component, the Commonwealth Funding, is addressed separately in row #2.

I also offer a few comments on this table.

- The derivation of the table's "Base Case CPEs" is shown in the second table (Table 2) attached to the 2017 DKMG Report. These Base Case CPEs state, based on financial information available in 2016 and used in preparation of the 2016 ROAC, the *pre-MWAA-Plan* level of Dulles CPEs projected over the 2016-2024 period. Their calculation does not consider the MWAA Plan or its impacts on CPEs; nor does the calculation consider the new debt service costs arising from the new $445 million in capital spending agreed to by the airlines and MWAA when extending the Use and Lease Agreement. These Base Case CPEs show that, *without* the MWAA Plan and *without* these new debt service costs, CPEs in the 2016-2024 period would run from a low of $25.55 in 2016 to a high of $26.80 in 2021, and to an average CPE over the period of $26.10.

- The CPEs projected in the final row of the table are *post-MWAA-Plan* CPEs, and take into account the financial impacts of the Plan (including the Commonwealth Funding), as well as the new debt service costs at Dulles. These CPEs are considerably lower than the pre-MWAA-plan Base Case CPEs, running from a low of $17.57 in 2017 to a high $21.00 in 2016, and to an average of $19.63 in the 2016-2024 period, which is $6.47, or 25%, less than the average Base Case CPE of $26.10. These lower CPEs, I believe, demonstrate the meaningful impact of the MWAA Plan, and the financing and other savings and new revenues it has and is projected to produce (as shown in the first table above), in achieving reductions in Dulles CPEs in the 2016-2024 period.

- The Commonwealth Funding, which has allowed the CPE to fall by approximately $2.25 in both 2017 and 2018, has been of enormous benefit to MWAA. It played a major, if not the essential, role in the decision of airlines to agree to extend the term of the Use and Lease Agreement through 2024. This extension, together with the Commonwealth's demonstrated support for Dulles, has provided a level of stability to the airport that is critical to the implementation and success of the MWAA Plan, and to the ability of the airport to retain existing and attract new airlines and air service, and to grow the number of passengers it serves.

- This table does not directly show the effect of increasing passenger traffic on the Dulles CPE since this effect is otherwise captured and reflected in the CPE calculation. MWAA did, however, ask DKMG to estimate the effect on CPEs in the 2016-2024 period that can fairly be said to stem from increases in passenger enplanements. DKMG has done this, and it estimates that the passenger increases assumed in its analyses of the MWAA Plan (an annual 2.2% compounded growth rate in years 2017 through 2024) accounted for an average reduction in the annual Dulles CPE of $2.22 in the 2016-2024 period. See 2017 DKMG Report, p. 5 and attached Table 3.

MWAA greatly appreciates the support provided by the General Assembly in the 2016-2018 Appropriation Act, and commits to the continued implementation of its Long-Range Plan and to working to define and implement new actions for inclusion in the Plan that will help maintain lowered airline cost per enplanement levels at Dulles Airport.

If you have any questions regarding this report, I ask that you contact MWAA's Chief Financial Officer, Andrew Rountree. Mr. Rountree can be reached by phone at (703) 417-8710 or by email at andrew.rountree@mwaa.com.

Sincerely,

John E. Potter
President and Chief Executive Officer

Enclosures

ENCLOSURE A

TO

DECEMBER 1, 2017, MWAA LETTER REPORT

TO

CHAIRMEN OF SENATE FINANCE AND HOUSE APPROPRIATIONS COMMITTEES

AND

SECRETARY OF TRANSPORTATION

DKMG Consulting LLC

December 1, 2017

Mr. Andrew T. Rountree
Vice President for Finance and Chief Financial Officer
Metropolitan Washington Airports Authority
1 Aviation Circle
Washington, D.C. 20001-6000

Re: Updated Financial Analysis of the Metropolitan Washington Airports Authority's Long-Range Plan for the Viability of Washington Dulles International Airport and Continued Lower Levels of Airline Cost Per Enplanement

Dear Mr. Rountree:

DKMG Consulting, LLC (DKMG) is pleased to submit this letter to present our updated financial analysis associated with the Metropolitan Washington Airports Authority's (MWAA) long-range plan for the viability of Washington Dulles International Airport (Dulles) and continued lower levels of airline cost per enplanement (CPE) beyond the Commonwealth of Virginia (the Commonwealth) 2016-2018 Biennium (the MWAA Plan). In 2016, MWAA developed the MWAA Plan to achieve financing savings, revenue increases, and cost reductions at Dulles with the intent of reducing Dulles's CPE. MWAA is required to submit the financial results of the MWAA Plan to the Commonwealth over the course of the Funding Agreement between the Commonwealth and MWAA dated March 6, 2017. Since DKMG Consulting LLC (DKMG) prepared the financial analysis included in the Report of the Airport Consultant dated May 31, 2016 for the issuance of MWAA's Airport System Revenue Refunding Bonds Series 2016A (AMT) and Series 2016B (Non-AMT) (2016 ROAC), DKMG was tasked by MWAA to prepare the 2016 financial analysis of the MWAA Plan presented in a letter dated December 1, 2016 (12/1/16 DKMG Letter). DKMG also prepared the financial analysis included in the Report of the Airport Consultant dated June 6, 2017 for the issuance of MWAA's Airport System Revenue and Refunding Bonds Series 2017A (AMT)(2017 ROAC) and as a result was tasked to prepare a 2017 updated financial analysis of the MWAA Plan, which is presented in this letter (12/1/17 DKMG Letter).

The attached **Table 1** presents the financial impacts of the MWAA Plan from January 1, 2016 through December 31, 2024. As shown in the table, the total financing efficiency savings, contribution of available MWAA funds, future revenues, and cost savings that the MWAA Plan makes available toward the reduction of Dulles's CPE were estimated to be approximately $474.9 million in the 12/1/16 DKMG Letter from 2016 through 2024. Since that letter was prepared, an additional $235.8 million is estimated to be available to reduce Dulles's CPE from 2016 through 2024 for a total of $710.8 million in the total financing efficiency savings, contribution of available MWAA funds, future revenues, and cost savings.

The attached **Table 2** presents the impact of the MWAA Plan in reducing the CPE at Dulles. The following table summarizes the data included in Table 2.

	Actual	Estimate	Budget	Projected					
	2016	2017	2018	2019	2020	2021	2022	2023	2024
Components of the MWAA Plan									
Financing Savings									
2016 actual refunding and savings	$0.02	($0.39)	($0.41)	($0.41)	($0.39)	($0.35)	($0.30)	($0.29)	($0.27)
2017 actual refunding and savings	($0.23)	($0.14)	($0.01)	($0.13)	($0.11)	($0.98)	($0.94)	($0.26)	($0.68)
Future refunding and savings									
12/1/16 DKMG Letter	$0.00	($0.07)	($0.07)	($1.23)	($1.36)	($1.34)	($1.33)	($1.31)	($1.15)
12/1/17 DKMG Letter	$0.00	($0.00)	($0.11)	($0.31)	($0.38)	($0.42)	$0.22	($0.05)	($0.26)
Total future refunding and savings	$0.00	($0.07)	($0.18)	($1.54)	($1.74)	($1.76)	($1.10)	($1.37)	($1.41)
Total financing savings	($0.21)	($0.61)	($0.60)	($2.08)	($2.25)	($3.10)	($2.34)	($1.92)	($2.35)
Available funds and future revenues									
Use of unrestricted cash for a rate abatement	($0.65)	($0.14)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Use of unrestricted cash generated at Reagan National	($3.72)	($3.66)	($3.13)	($2.62)	($2.14)	($2.09)	($2.05)	($2.01)	($1.97)
Future nonairline revenues									
12/1/16 DKMG Letter	$0.13	($0.44)	($0.75)	($0.51)	($0.49)	($0.55)	($0.67)	($0.63)	($0.48)
12/1/17 DKMG Letter	($0.01)	($0.88)	($0.71)	($1.08)	($1.10)	($1.07)	($1.03)	($1.00)	($0.98)
Total future nonairline revenues	$0.12	($1.31)	($1.45)	($1.59)	($1.58)	($1.62)	($1.70)	($1.63)	($1.47)
Cost reductions									
12/1/16 DKMG Letter	($0.58)	($0.30)	($0.55)	($0.51)	($0.51)	($0.45)	($0.45)	($0.45)	($0.53)
12/1/17 DKMG Letter	$0.43	($0.21)	($0.59)	($0.20)	($0.30)	($0.31)	($0.31)	($0.32)	($0.35)
Total cost reductions	($0.15)	($0.51)	($1.14)	($0.71)	($0.81)	($0.76)	($0.76)	($0.77)	($0.88)

* Columns may not add to totals shown because of rounding.

A summary of the MWAA Plan and its projected financial impact on Dulles's CPE included in this table is presented below:

- ***Financing Savings*** – In 2016 and 2017, MWAA issued bonds in part to refund outstanding bonds issued in 2006 and 2007. In addition, at the request of MWAA's Chief Financial Officer, MWAA's financial advisor, Frasca & Associates, LLC (Frasca), prepared a long-range strategy for the future refunding of outstanding MWAA bonds, which is described in the attached memorandum prepared by Frasca dated November 29, 2017. A description of the financing savings actually achieved as a result of the 2016 and 2017 refundings and the savings projected to be achieved as a result of future refundings in 2018 and 2019 is as follows:

  – <u>2016 Refunding and Savings</u> – In July 2016, MWAA refunded the Series 2006A Bonds and Series 2006B Bonds at an all in true interest cost of 3.35% and refunded the Series 2006C Bonds at an all in true interest cost of 2.27% to achieve a financing savings of approximately $40.9 million from 2016 through 2024 (see Table 1). These savings are projected to produce an average reduction in Dulles's CPE of $0.34 from 2019 through 2024, with annual reductions ranging between $0.27 and $0.41.

- 2017 Refunding and Savings – In July 2017, MWAA refunded the Series 2007A Bonds and Series 2007B Bonds at an all in true interest cost of 2.47% to achieve a financing savings of approximately $43.6 million reflected in the 12/1/16 DKMG Letter and an additional approximately $32.7 million reflected in this letter, for a total financing savings of $76.2 million from 2016 through 2024 (see Table 1). These savings are projected to produce an average reduction in Dulles's CPE of $0.52 from 2019 through 2024, with annual reductions ranging between $0.11 and $0.98.

- 2018 and 2019 Refunding and Savings – MWAA intends on refunding outstanding bonds in 2018 and 2019, which will not result in the extension of any maturities on the refunded bonds. Frasca has calculated the debt service resulting from these proposed refundings using the following assumptions:

Date	Refunded Series	Par Amount ($M)	All-in TIC	Interest Spread
July 2018	2008A, 2009C	$376.6	3.61%	+ 50 bps
July 2019	2009B	$170.1	3.21%	+ 100 bps

* Spread to market rates are as of November 1, 2017.

As shown in Table 1, once these outstanding bonds are refunded, MWAA is estimated to achieve a financing savings of approximately $56.7 million reflected in the 12/1/16 DKMG Letter and an additional approximately $18.8 million reflected in this letter, for a total financing savings of $75.5 million from 2016 through 2024. In addition, these bonds are projected to produce an average reduction in Dulles's CPE of $1.49 from 2019 through 2024, with annual reductions ranging between $1.10 and $1.76.

- ***Available Funds and Future Revenues*** – In addition to the financing savings, MWAA intends on contributing unrestricted cash, increasing future revenues, and decreasing future expenses to reduce Dulles's CPE as follows:

  - Use of Unrestricted Cash for a Rate Abatement – In the 2016 and 2017 budget, MWAA provided a rate abatement of $7 million and $1.5 million, respectively. These amounts provided a credit to the airlines' rate base in turn lowering Dulles's CPE by approximately $0.65 in 2016 and $0.14 in 2017.

  - Use of Unrestricted Cash Generated at Ronald Reagan National Airport (Reagan National Airport) – Under the 2015 Airline Agreement, MWAA may use its share of Net Remaining Revenues (NRR) generated at Reagan National Airport, as available up to agreed-upon maximum amounts, to reduce airline rentals, fees, and charges at Dulles in the following year. From 2016 through 2024, such maximum amounts are $40 million in 2016 and 2017, $35 million in 2018, $30 million in 2019, and $25 million in 2020 through 2024. This equates to approximately $270 million of NRR from Reagan National Airport being used at Dulles from 2016 to 2024 (see Table 1), which is projected to produce an average annual reduction of $2.60 in Dulles's CPE over this nine-year period, with annual with annual reductions ranging between $1.97 and $3.72.

- Future Nonairline Revenues – Over the past year, MWAA expanded its ground transportation services, re-competed the advertising concession contracts with more favorable financial terms, and refurbished the concession program at Dulles. As a result, Dulles's actual 2016 nonairline revenues were 10.1% higher than budget. This increase in revenues has resulted in higher nonairline revenues at Dulles for estimated 2017 and budgeted 2018, increasing the projections for such revenues for 2019 through 2024.[1] The nonairline revenue increase at Dulles resulting from these changes is estimated to be approximately $55.5 million reflected in the 12/1/16 DKMG Letter and an additional approximately $156.7 million reflected in this letter, for total future nonairline revenues of $212.2 million from 2016 through 2024 (see Table 1), which is projected to produce an average annual reduction in Dulles's CPE of $1.60 from 2019 through 2024, with annual reductions ranging between $1.47 and $1.70.

- Cost Reductions – MWAA's 2017 and 2018 budget handbooks direct staff to contain and limit the growth of expenses with the goal of producing a level of budget expenses lower than the level of expenses forecasted in the 2016 ROAC and 2017 ROAC. As a result of this direction, the 2017 budgeted expenses for Dulles are only 0.28% higher than the 2016 budgeted expenses and the 2018 budgeted expenses for Dulles are only 0.62% higher than the 2017 budgeted expenses. The 2017 budgeted expenses at Dulles are 2.7% lower than the 2017 forecast included in the 2016 ROAC and the 2018 budgeted expenses at Dulles are 2.4% lower than the 2018 forecast included in the 2017 ROAC. Expenses at Dulles are forecast to grow by 3% annually from 2019 through 2024. MWAA's cost reduction measures equate to cost decreases at Dulles of approximately $63.3 million reflected in the 12/1/16 DKMG Letter and an additional approximately $27.8 million reflected in this letter, for total cost reductions of $91.1 million from 2016 through 2024 (see Table 1). The cost reduction measures are projected to produce an average reduction in Dulles's CPE of $0.78 from 2019 through 2024, with annual reductions ranging from $0.71 to $0.88.

- ***New Dulles Capital Program Debt Service*** – In 2016, the 2015 Airline Agreement for Dulles was amended to expand the term of the agreement by seven years through December 31, 2024, and to provide for a series of capital projects to be undertaken at Dulles in the

[1] In general, parking, rental car, and ground transportation revenues are forecasted to grow with originating passengers; terminal concession revenues are forecasted to growth with enplanements; certain aviation revenues are forecasted to increase based on debt service in those areas; and all other revenue is forecasted to grow with inflation.

expanded seven-year period. The cost of these projects was estimated at $445.6 million, and authorization for the projects, at this cost, has been provided in MWAA's 2017 budget. These projects include utility upgrades to Concourse C/D, capacity enhancements to the international arrivals facility, baggage handling improvements, existing aircraft upgrades to accommodate additional international service, construction of four additional domestic gates, airfield pavement, passenger conveyance systems, airport-wide utility systems, roads and other support projects. MWAA will seek grant funding where available for the new capital program at Dulles but the projects will be primarily debt-funded, which will in turn increase the airlines' rates and charges. Since MWAA intends to implement these new projects in 2018 through 2025, it was determined that the increased debt service resulting from these projects and its impact on Dulles's CPE should be included in this analysis. Frasca provided the estimated debt service associated with this new debt using the following assumptions:

Date	Purpose	Par Amount ($M)	Interest Rates
July 2018	New money	$118.0	6.0%
July 2019	New money	$218.4	6.0%
July 2021	New money	$327.4	6.0%

The increase in debt service associated with the new capital program is projected to be approximately $63.5 million from 2019 through 2024 (see Table 1). This is projected to produce an average increase in Dulles's CPE of $0.82 during that six-year period, with annual increases ranging from $0.16 and $1.40 (see Table 2).

Table 2 shows that Dulles's CPE in 2019, the year after the Commonwealth of Virginia funding ends, is projected to increase from $17.82 in 2018 to $19.48, which is significantly lower than the $26.38 it would have been without the contributions of the MWAA Plan.

Table 3 presents the impact of increases in passenger traffic (or enplanements) on Dulles's CPE. For this analysis, Dulles's CPE was calculated holding the passenger traffic numbers at the 2015 levels from 2016 through 2024. This result was compared to Dulles's CPE using the passenger traffic forecasts in the 2017 ROAC, which reflect a compound annual growth rate of 2.2% from 2017 through 2022 (the final year presented in the 2017 ROAC). This analysis assumes the same growth rate for 2023 and 2024. The difference in the CPE was then multiplied by enplanements to calculate the dollar impact of the increase in passenger traffic. This impact equates to an average reduction in Dulles's CPE of $2.22 from 2016 through 2024.

In addition to the actions identified in the MWAA Plan, MWAA intends to apply certain Designated Passenger Facility Charges (PFCs) at Dulles, as defined by Thirty-fifth Supplemental Indenture, beyond 2016, which was the final year of the commitment. These Designated PFCs are used for the payment of PFC-eligible debt service at Dulles, and therefore, lower the debt service included in the airlines rate base. Since this is not identified as part of the MWAA Plan, it is not included in the step down on Table 2 but it is included in the 2016 ROAC CPE base case on Table 2. This equates to an average of $43 million a year from 2017 through 2024, or a $3.50 average reduction to Dulles's CPE.

Finally, MWAA requested a comparison of Dulles's 2015 actual CPE of $23.67 to the 2016 actual CPE of $21.00, and of the 2016 actual CPE to the 2017 estimated CPE of $17.57 presented on the last line of Table 2. This comparison is presented below.

	Impact on CPE	2014 ROAC	2015 ROAC
Actual 2015 CPE per 12/1/16 DKMG Letter	$23.67	$29.86	$24.60
Net increase in debt service *	0.71		
Available funds and future revenues			
Use of unrestricted cash for a rate abatement	(0.65)		
Airline's share of Dulles's NRR	(2.84)		
Cost reductions	(0.14)		
Total variance from actual 2015 to estimate 2016	($2.92)		
Estimated 2016 CPE per 12/1/16 DKMG Letter	$20.75	$30.89	$24.43
2017 refunding and savings	(0.23)		
Additional 2018 and 2019 refundings and savings since 12/1/16 DKMG Letter	0.00		
Additional future nonairline revenues since 12/1/16 DKMG Letter	(0.01)		
Additional cost reductions since 12/1/16 DKMG Letter	0.43		
Updated tenant equipment and passenger conveyance deplanements	0.16		
Change due to revised terminal leased space	0.05		
Change due to revised activity	(0.15)		
Total variance from estimated 2016 to actual 2016	$0.25		
Actual 2016 CPE per 12/1/17 DKMG Letter	$21.00	$30.89	$24.43
Net increase in debt service	0.04		
Available funds and future revenues			
Use of unrestricted cash for a rate abatement	(0.14)		
Airline's share of Dulles's NRR	(0.70)		
Cost reductions	(0.39)		
Commonwealth of VA Grant	(2.25)		
Total variance from actual 2016 to estimated 2017	($3.43)		
Estimated 2017 CPE per 12/1/17 DKMG Letter	$17.57	$31.12	$24.70

* This amount is the net of previous financing savings (including 2016 refundings) and the increase in debt service is primarily related to the in-line baggage system, airfield panel replacement, and fourth runway maintenance equipment projects coming fully on line in 2016.
** Columns may not add to totals shown because of rounding.

As shown in the table, the 2015 actual CPE of $23.67 is lower than the projected CPE in the 2014 ROAC and 2015 ROAC of $29.86 and $24.60, respectively. In addition, the 2017 estimated CPE of $17.57 is $13.55 lower than the amount projected in the 2014 ROAC of $31.12 and $7.13 lower than the amount projected in the 2015 ROAC of $24.70. If the 2017 estimated CPE of $17.57 was calculated using the 2016 enplanements, it would be $0.53 higher or $18.10.

* * * * *

The assumptions and estimates underlying the projections are inherently subject to change and, though considered reasonable when taken as a whole as of this date, are subject to a wide variety of business, economic, and competitive risks and uncertainties that could cause actual results to vary materially from projected results. Accordingly, there can be no assurance that assumptions will be realized, that unanticipated events and circumstances will not occur, and that actual results will not be materially higher or lower than projected results. DKMG has no responsibility to update this letter for events and circumstances occurring after the date of the letter.

Sincerely,

DKMG Consulting, LLC

DKMG Consulting LLC

Attachment - Table 1

Metropolitan Washington Airports Authority

Updated Financial Analysis of the MWAA Plan

Financing Efficiency Savings and Available Funds

(amounts in 000's)

December 1, 2017

	2016	2017	2018	2019	2020	2021	2022	2023	2024	Sum of 2016 - 2024
Components of the MWAA Plan *										
Financing Savings										
2016 actual refunding and savings	($173)	$5,760	$5,768	$5,766	$5,677	$4,518	$4,517	$4,519	$4,517	$40,870
2017 estimated refunding and savings	0	774	1	10,626	6,539	6,537	6,540	6,538	5,994	43,550
2018 and 2019 estimated refundings and savings	0	0	895	4,326	10,297	10,299	10,298	10,297	10,297	56,709
Subtotal	($173)	$6,534	$6,663	$20,719	$22,513	$21,354	$21,355	$21,355	$20,808	$141,129
Available funds and future revenues										
Use of unrestricted cash for a rate abatement	$7,000	$1,500	$0	$0	$0	$0	$0	$0	$0	$8,500
Use of unrestricted cash generated at Reagan National	40,000	40,000	35,000	30,000	25,000	25,000	25,000	25,000	25,000	270,000
Future nonairline revenues	4,402	5,492	6,767	6,019	6,322	6,454	6,561	6,666	6,782	55,465
Cost reductions	7,351	5,437	6,594	6,797	6,997	7,209	7,429	7,648	7,876	63,339
Subtotal	$58,753	$52,429	$48,361	$42,816	$38,319	$38,663	$38,990	$39,314	$39,658	$397,303
New Dulles capital program debt service	$0	$0	($10)	($2,223)	($3,763)	($10,237)	($12,783)	($15,042)	($19,435)	($63,494)
Total per 12/1/16 DKMG Letter	$58,580	$58,963	$55,014	$61,312	$57,069	$49,780	$47,562	$45,626	$41,031	$474,938
Cumulative	$58,580	$117,543	$172,558	$233,869	$290,939	$340,719	$388,281	$433,907	$474,938	
2017 refunding and savings										
2017 actual refunding and savings	$2,752	$2,485	($1,365)	$8,747	$6,424	$17,498	$16,786	$9,272	$13,620	$76,219
Less: 2017 estimated refunding and savings	0	(774)	(1)	(10,626)	(6,539)	(6,537)	(6,540)	(6,538)	(5,994)	(43,550)
Additional 2017 refunding and savings since 12/1/16 DKMG Letter	$2,752	$1,711	($1,366)	($1,880)	($115)	$10,961	$10,246	$2,734	$7,626	$32,669
Additional 2018 and 2019 refundings and savings since 12/1/16 DKMG Letter	$0	$80	$3,236	$4,065	$4,422	$4,783	($1,702)	$557	$3,320	$18,761
Additional future nonairline revenues since 12/1/16 DKMG Letter	14,256	12,047	19,054	19,076	18,616	18,041	18,463	18,563	18,534	156,650
Additional cost reductions since 12/1/16 DKMG Letter	(1,728)	2,777	3,735	3,557	3,659	3,768	3,879	3,999	4,120	27,766
Subtotal	$15,280	$16,615	$24,658	$24,819	$26,582	$37,553	$30,885	$25,854	$33,600	$235,845
Total per 12/1/17 DKMG Letter	$73,860	$75,578	$79,673	$86,130	$83,651	$87,333	$78,447	$71,480	$74,631	$710,783
Cumulative	$73,860	$149,438	$229,111	$315,241	$398,892	$486,225	$564,672	$636,152	$710,783	

* The MWAA Plan's component related to the Commonwealth of Virginia funding is not presented in this table.

** Columns may not add to totals shown because of rounding.

Attachment - Table 2

Metropolitan Washington Airports Authority

Updated Financial Analysis of the MWAA Plan

Impacts of the MWAA Plan on Dulles's CPE (page 1 of 2)

December 1, 2017

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Airline Cost per Enplanement										
2014 ROAC CPE	$29.86	$30.89	$31.12	$31.12	N/A	N/A	N/A	N/A	N/A	N/A
2015 ROAC CPE	$24.60	$24.43	$24.70	$25.63	$25.75	$26.01	N/A	N/A	N/A	N/A
2016 ROAC CPE	$23.67	$21.15	$20.18	$20.87	$23.63	$24.28	$24.62	N/A	N/A	N/A
CPE projections not included in 2016 ROAC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23.66	23.01	22.02
Commonwealth funding	0.00	0.00	2.29	2.23	0.00	0.00	0.00	0.00	0.00	0.00
Estimated 2016 financing savings	0.00	0.03	0.12	0.12	0.12	0.11	0.08	0.39	0.77	1.14
Use of unrestricted cash for a rate abatement	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Use of unrestricted cash generated at Reagan National	0.00	3.72	3.66	3.13	2.62	2.14	2.09	2.05	2.01	1.97
Total adjustments to the 2016 ROAC CPE	$0.00	$4.41	$6.06	$5.49	$2.75	$2.25	$2.18	$26.11	$25.80	$25.13
Adjusted 2016 ROAC CPE (Base Case)	$23.67	$25.55	$26.24	$26.36	$26.38	$26.53	$26.80	$26.11	$25.80	$25.13
Commonwealth funding	$0.00	$0.00	($2.29)	($2.23)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Financing Savings										
2016 actual refunding and savings	0.00	0.02	(0.39)	(0.41)	(0.41)	(0.39)	(0.35)	(0.30)	(0.29)	(0.27)
Future estimated refundings and savings	0.00	0.00	(0.07)	(0.07)	(1.23)	(1.36)	(1.34)	(1.33)	(1.31)	(1.15)
Available funds and future revenues										
Use of unrestricted cash for a rate abatement	0.00	(0.65)	(0.14)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Use of unrestricted cash generated at Reagan National	0.00	(3.72)	(3.66)	(3.13)	(2.62)	(2.14)	(2.09)	(2.05)	(2.01)	(1.97)
Future nonairline revenues	0.00	0.13	(0.44)	(0.75)	(0.51)	(0.49)	(0.55)	(0.67)	(0.63)	(0.48)
Cost reductions	0.00	(0.58)	(0.30)	(0.55)	(0.51)	(0.51)	(0.45)	(0.45)	(0.45)	(0.53)
New Dulles capital program debt service	0.00	0.00	0.00	0.00	0.16	0.30	0.87	1.02	1.20	1.40
Total cost minimization factors in 12/1/16 DKMG Letter	$0.00	($4.80)	($7.27)	($7.14)	($5.12)	($4.60)	($3.93)	($3.77)	($3.50)	($3.00)
CPE after applying the MWAA Plan in 12/1/16 DKMG Letter *	$23.67	$20.75	$18.97	$19.22	$21.26	$21.93	$22.87	$22.34	$22.30	$22.12

Attachment - Table 2

Metropolitan Washington Airports Authority

Updated Financial Analysis of the MWAA Plan

Impacts of the MWAA Plan on Dulles's CPE (page 2 of 2)

December 1, 2017

Components of the MWAA Plan *	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CPE after applying the MWAA Plan in 12/1/16 DKMG Letter *	$23.67	$20.75	$18.97	$19.22	$21.26	$21.93	$22.87	$22.34	$22.30	$22.12
Impact of Commonwealth Funding on CPE due to change in enplanements		$0.00	$0.04	$0.03	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Financing Savings										
2017 refunding and savings		($0.23)	($0.14)	($0.01)	($0.13)	($0.11)	($0.98)	($0.94)	($0.26)	($0.68)
Additional 2018 and 2019 refundings and savings since 12/1/16 DKMG Letter		$0.00	($0.00)	($0.11)	($0.31)	($0.38)	($0.42)	$0.22	($0.05)	($0.26)
Available funds and future revenues										
Additional future nonairline revenues since 12/1/16 DKMG Letter		($0.01)	($0.88)	($0.71)	($1.08)	($1.10)	($1.07)	($1.03)	($1.00)	($0.98)
Additional cost reductions since 12/1/16 DKMG Letter		$0.43	($0.21)	($0.59)	($0.20)	($0.30)	($0.31)	($0.31)	($0.32)	($0.35)
Other changes since 12/1/16 DKMG Letter										
Recovery of vacant common use gate space per 02/01/16 gate agreement		$0.00	$0.20	$0.17	$0.14	$0.17	$0.17	$0.17	$0.17	$0.18
Updated tenant equipment and passenger conveyance deplanements		$0.16	($0.09)	$0.01	($0.02)	$0.00	$0.00	$0.00	$0.00	$0.00
Change due to revised terminal leased space		$0.05	$0.06	$0.02	$0.02	$0.03	$0.02	$0.02	$0.03	$0.02
Change due to revised activity		($0.15)	($0.37)	($0.22)	($0.20)	($0.19)	($0.20)	($0.21)	($0.24)	($0.24)
Total cost minimization factors since 12/1/16 DKMG Letter		$0.25	($1.40)	($1.41)	($1.78)	($1.89)	($2.77)	($2.08)	($1.67)	($2.31)
Total cost minimization factors		($4.55)	($8.68)	($8.54)	($6.90)	($6.49)	($6.70)	($5.85)	($5.17)	($5.31)
CPE after applying the MWAA Plan in 12/1/17 DKMG Letter **	$23.67	$21.00	$17.57	$17.82	$19.48	$20.04	$20.10	$20.26	$20.63	$19.82

* These CPE's are calculated by adding/subtracting the components of the MWAA Plan to the adjusted 2016 ROAC as presented in this table.

** These CPE's are calculated by adding/subtracting the components of the MWAA Plan to the CPE presented in the 12/1/16 MWAA Plan.

*** Columns may not add to totals shown because of rounding.

Attachment - Table 3

Metropolitan Washington Airports Authority

Updated Financial Analysis of the MWAA Plan

Impacts of Passenger Growth on Dulles's CPE

December 1, 2017

Airline Cost per Enplanement	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Per 12/1/16 DKMG Letter										
CPE after applying the MWAA Plan (see Table 2)	$23.67	$20.75	$18.97	$19.22	$21.26	$21.93	$22.87	$22.34	$22.30	$22.12
Less: impact of passenger traffic growth	$0.00	($0.48)	$0.51	$0.97	$1.57	$2.13	$2.76	$3.23	$3.76	$4.29
CPE without the impact of passenger traffic growth	$23.67	$20.26	$19.48	$20.19	$22.83	$24.06	$25.63	$25.56	$26.06	$26.41
Per 12/1/17 DKMG Letter										
CPE after applying the MWAA Plan (see Table 2)	$23.67	$21.00	$17.57	$17.82	$19.48	$20.04	$20.10	$20.26	$20.63	$19.82
Less: impact of passenger traffic growth	$0.00	$0.30	$0.79	$1.11	$1.67	$2.20	$2.69	$3.22	$3.80	$4.17
CPE without the impact of passenger traffic growth	$23.67	$21.30	$18.36	$18.92	$21.15	$22.24	$22.79	$23.48	$24.43	$23.99

FRASCA & ASSOCIATES, LLC
521 MADISON AVENUE, SEVENTH FLOOR
NEW YORK, NY 10022
TEL: 212 355-4050

TO:	Andrew Rountree
FROM:	Frasca & Associates, LLC
SUBJECT:	**Washington Dulles International Airport Future Financings – 2017 Update**
DATE:	November 29, 2017

On November 10, 2016, Frasca & Associates, LLC (FRASCA) provided the Airports Authority with a memorandum outlining the anticipated Airport System Bond transactions and resulting debt service requirements for Dulles International Airport (IAD). This memorandum updates that prior analysis. FRASCA modeled bond transactions for future Airport System Bonds anticipated for new money issues required to fund Capital Construction Program (CCP) projects at IAD as well as potential future refunding issues to lower debt service costs at IAD.

For purposes of this memorandum, FRASCA has assumed no change in tax laws that may impact the Airports Authority's debt issuance. Certain potential changes, particularly the elimination of the partial exemption of the tax-exemption for Private Activity Bonds, may impact this analysis. At this time, it is unclear whether such proposals may be enacted as part of potential "tax reform" legislation.

New Money Transactions

The following table summarizes the anticipated new money transactions that were modeled and included in the November 2016 FRASCA letter.

New Money Financings in the November 2016 FRASCA Letter

Date	Purpose	IAD Par	Assumed Interest Rates
July 2017	New Money	$58.1 M	6.00%
July 2018	New Money	$138.8 M	6.00%
July 2020	New Money	$161.3 M	6.00%
July 2022	New Money	$272.0 M	6.00%
Total		$630.2 M	

Consistent with the Airports Authority's recent past practices (as well as general practice in the airport industry), we assumed a conservative interest rate (6.00% for a 30-year term) for these new money bond issues.

The following table shows the actual 2017 new money issue and the future estimated new money issues through 2022 for IAD from the 2017 Report of the Airport Consultant (ROAC).

New Money Financings in the November 2017 FRASCA Letter

Date	Purpose	IAD Par	Interest Rates
July 2017	New Money	$34.6 M	3.72% Actual
July 2018	New Money	$118.0 M	6.00%
July 2019	New Money	$218.4 M	6.00%
July 2021	New Money	$327.4 M	6.00%
Total		$698.4 M	

The following table compares the debt service (net of capitalized interest) for the estimated new money issues.

New Money Debt Service

(in $millions)	2018	2019	2020	2021	2022	2023	2024	Total
2016 Letter	$3.71	$7.36	$9.86	$18.41	$21.05	$23.31	$27.70	$111.40
2017 Letter	$1.87	$5.14	$7.35	$15.65	$24.86	$24.86	$26.50	$106.22
Difference	($1.84)	($2.23)	($2.52)	($2.76)	$3.82	$1.56	($1.20)	($5.17)

Refunding Transactions

For the 2016 FRASCA letter, we estimated savings for future refunding opportunities. These savings opportunities were not included in the 2017 ROAC forecasts, consistent with general industry practices. We assumed a spread to the then current market interest rates to account for future uncertainty to the date of the refunding. The refundings were generally structured to produce uniform savings in each year between 2019 and 2024. FRASCA modeled future refunding transactions for bonds with call dates through 2019.

Refundings in the November 2016 FRASCA Letter

Date	Refunded Series	Refunding Par	Interest Rate Spread *	All-in TIC
July 2017	2007A, 2007B	$382.9 M	+50 bps	3.07%
July 2018	2008A, 2009C	$389.1 M	+100 bps	4.02%
July 2019	2009B	$170.1 M	+100 bps	3.25%

* Spread to market rates as of November 10, 2016.

For the 2017 FRASCA letter, we included the actual results from the 2017 refunding and re-ran the refundings for 2018 and 2019 to update the interest rates assumption and to target the savings to create a smoother increase in aggregate annual IAD debt service (previously the refundings were structured as level annual savings).

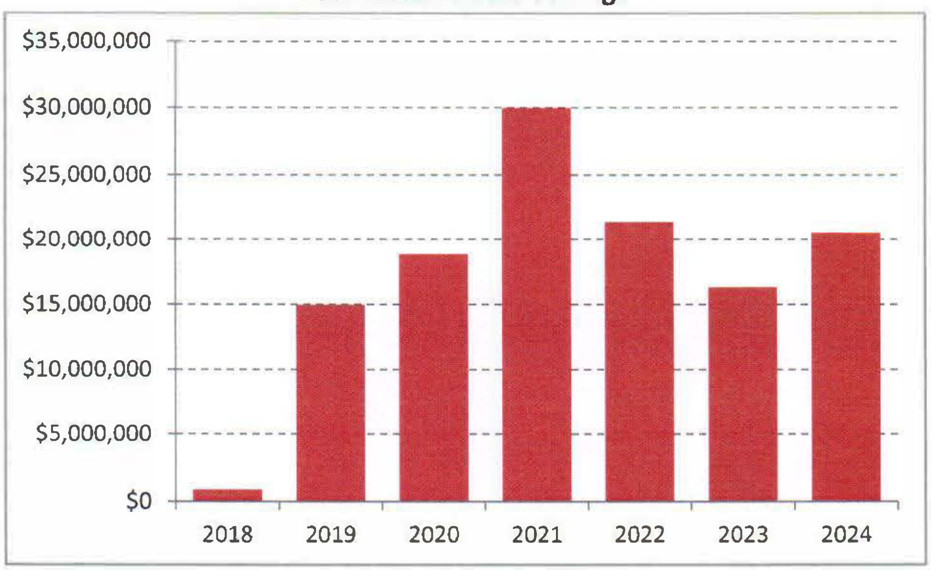
Refundings in the November 2017 FRASCA Letter

Date	Refunded Series	Refunding Par	Interest Rate Spread	All-in TIC
July 2017	2007A, 2007B	$334.5M	Actual	2.47%
July 2018	2008A, 2009C	$376.6M	+50 bps**	3.61%
July 2019	2009B	$170.1M	+100 bps**	3.21%

** Spread to market rates as of November 1, 2017.

The following graph shows the annual savings results (actual for the 2017 refunding and estimated for the 2018 and 2019 refundings) for IAD. The estimated total savings at IAD from 2018 through 2024 is $122.8 million. In the November 2016 FRASCA letter, the estimated total savings for IAD from 2017 to 2024 was $100.3 million.

Estimated Annual Savings



ENCLOSURE B
TO
DECEMBER 1, 2017, MWAA LETTER REPORT
TO
CHAIRMEN OF SENATE FINANCE AND HOUSE APPROPRIATIONS COMMITTEES
AND
SECRETARY OF TRANSPORTATION

Metropolitan Washington Airports Authority Plans for Land Development at Washington Dulles International Airport

Over the past several years, the Metropolitan Washington Airports Authority (MWAA) has worked to reduce the costs of airline operations at Dulles Airport in order to ensure the airport's competitiveness in the domestic airport market and to preserve the airport's role as the region's international gateway to the world. An important component of this effort is to monetize the MWAA real property assets that are suitable for commercial development and are not anticipated to be required for airport operations.

In August 2017, MWAA entered a contract with CBRE, Inc., for commercial real estate services. The primary objective of the CBRE contract is the identification of potential uses and users of the three real estate parcels that are shown in Attachment 1: (1) the "Western Lands" parcel (415 acres) that is land owned by MWAA and is located along the west side of the airport, just east of Route 606; (2) the "606 Frontage" parcel (45 acres) that is land MWAA leases from the federal government and is located along Route 606 on the west side of the airport; and (3) the "Metro 606" parcel (68 acres) that is land leased from the federal government and is located at the north end of the airport in close proximity to a new Metrorail station that is currently under construction as part of the new Metro Silver Line.

CBRE will begin to actively market these three parcels in December 2017. The response of the real estate market will guide MWAA on the potential uses and potential value of the parcels.

Prior to the engagement of CBRE, MWAA had initiated preparation of an environmental assessment of the Western Lands parcel. This was done as part of MWAA's participation in the Federal Aviation Administration process whereby domestic airports are able to obtain the FAA's review and approval of development and other construction activities that are proposed to take place on airport-owned or -leased land. This FAA process includes a review by the FAA, as required by the National Environmental Policy Act, of the environmental impacts of any such proposed development and construction occurring on an airport. MWAA undertook the preparation of an environmental assessment in order to identify to the FAA the environmental impacts of the development of the Western Lands parcel.

In the course of preparing this environmental assessment, MWAA has identified potential uses of the Western Lands parcel to include the following: data centers; distribution and warehouse facilities; light industrial activities; and retail spaces. See Attachment 2. At this point, MWAA has submitted a draft environmental assessment to the FAA, and is awaiting the completion of its review. Following the FAA approval of the draft assessment, MWAA will proceed with the public comment phase of the FAA process. It is anticipated that the FAA process will reach a conclusion in the second quarter of 2018.

Environmental assessments relating to the 606 Frontage and North Metro parcels will be performed following the CBRE marketing effort and will be based on the particular users and uses that the marketing effort has identified.

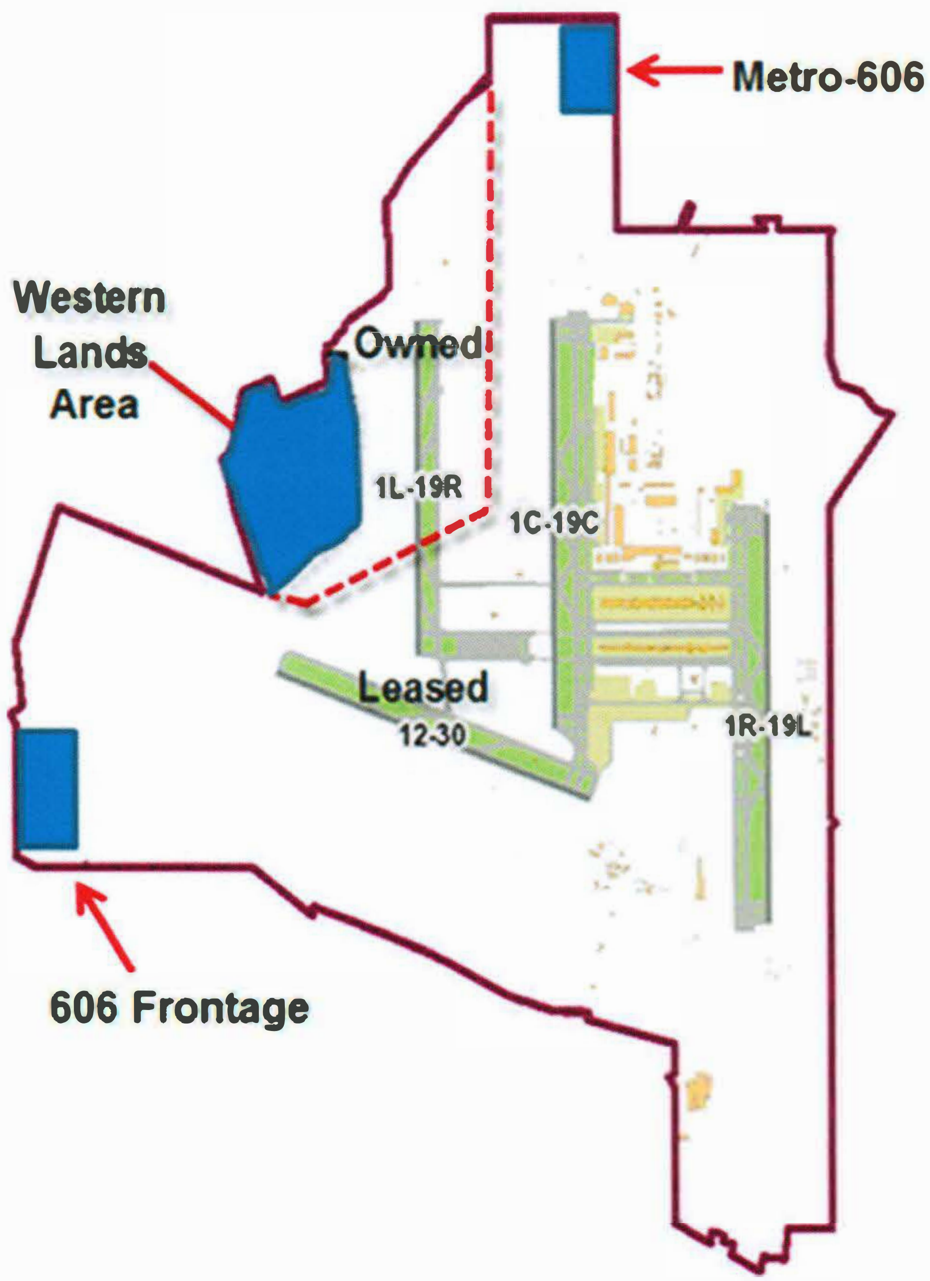
The potential revenues that may be generated from the sale or lease of these three parcels will be driven by the nature and mixture of the land uses that are proposed in response to the CBRE marketing effort and are ultimately accepted by MWAA. Ranges of potential revenues arising from the sale of the parcel that is owned by MWAA (the Western Lands Parcel) can be estimated in a general fashion based on land sales in areas around Dulles Airport over the past two years. Sales prices have ranged from $440,000/acre to $1,300,000/acre for data center uses; $160,000/acre to $500,000/acre for industrial uses; and $500,000/acre to $1,500,000/acre for retail uses. Sales for office uses have been very limited with a single sale valued at $300,000/acre. These sale values, of course, are highly dependent on the particular location, condition and other characteristics of the land in question. Nonetheless, they show a general range of prices that the sale of the MWAA-owned Western Lands parcel, or parts thereof, may bring.

It is difficult to project or estimate the lease revenue that MWAA might obtain from a lease of the 606 Frontage or North Metro parcel, both of which consist of land that MWAA leases from the federal government. This is because there simply are no recent data regarding ground leases in the areas around Dulles which would show the ground lease rental rates that genuine market transactions have produced. A better sense of potential lease revenue arising from MWAA ground lease transactions will become available as the interested parties response to the CBRE marketing of the 606 Frontage and North Metro parcels. And, of course, ultimate lease rental rates will be significantly affected by the nature, size and timing of the lessee's development and the extent of on- and off-site infrastructure costs to be assumed by the lessee.

It is MWAA's expectation that a much clearer picture of the potential development of the three parcels being marketed by CBRE, and of the potential revenues that may be derived from the sale or lease of the Western Lands parcel and from the lease of the 606 Frontage and North Metro parcels, will obtained through `CBRE marketing effort. That effort, as noted, is just starting and will be seeking submissions from parties interested in any of the parcels towards the end of the first quarter of 2018.

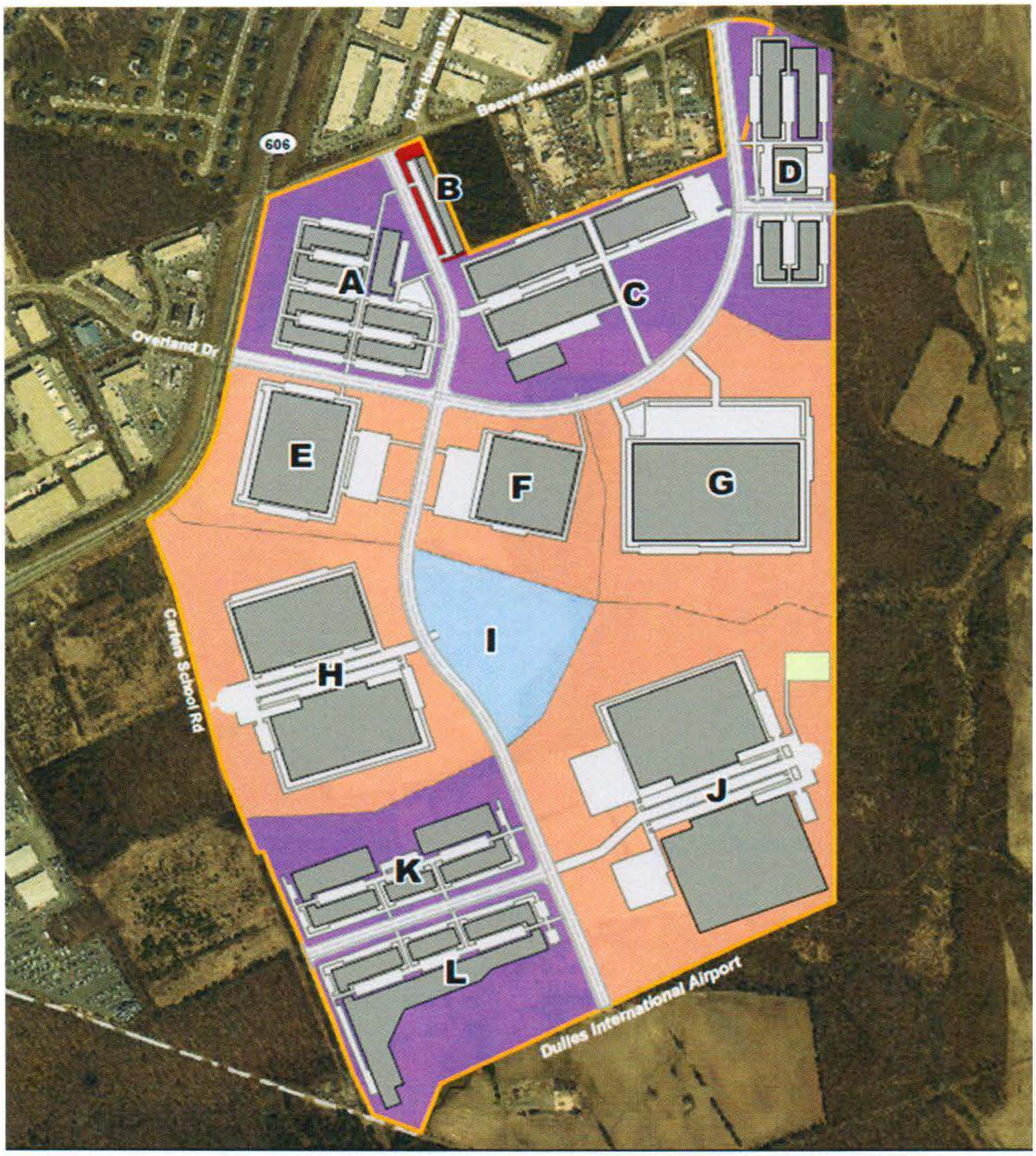
Attachment 1

The Three Parcels at Washington Dulles International Airport



Attachment 2

The Western Lands Parcel – An Example of Potential Uses



LEGEND

- Western Land Area Property Boundary
- Dulles International Airport Property Boundary
- Road with Shared Use Path
- Parking Pavement
- Building
- Data Center
- Retail
- Utilities
- Warehouse/Flex
- Utility Area