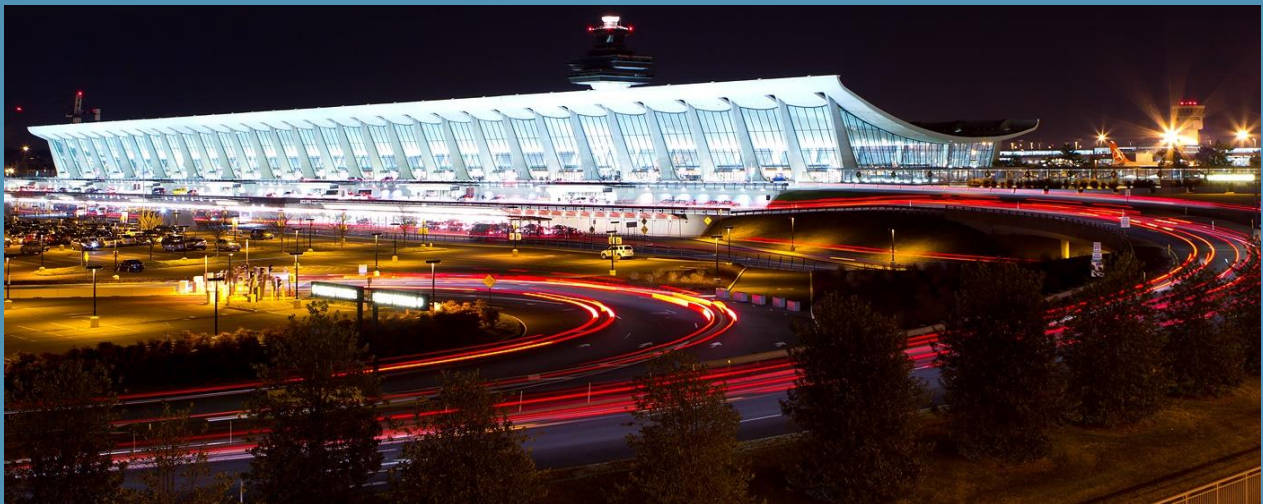


WASHINGTON-BALTIMORE REGIONAL AIR PASSENGER SURVEY – 2017 GENERAL FINDINGS

June 2018



2017 WASHINGTON-BALTIMORE REGIONAL AIR PASSENGER SURVEY – GENERAL FINDINGS

Prepared by the National Capital Region Transportation Planning Board in cooperation with the Federal Aviation Administration
June 2018

ABOUT THE TPB

The National Capital Region Transportation Planning Board (TPB) is the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 23 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

CREDITS

Authors: Abdurahman Mohammed, Senior Transportation Engineer; Tim Canan, Planning Data and Research Program Director; Arianna Koudounas, Transportation Planner

Contributing Editors: Arianna Koudounas, Transportation Planner

Design: Arianna Koudounas, Transportation Planner

Cover Photos (clockwise from top left): BWI Airport Aerial (BWI Marshall Airport/Flickr), DCA Metro Station (Bossi/Flickr), Dulles Terminal Night 5 (Andrew Burns/Flickr)

ACKNOWLEDGEMENTS

Staff gratefully acknowledges the continued funding and operational support of our regional airport partners. At BWI Marshall Airport: Tony Storck, Director, Office of Air Service Development. At the Metropolitan Washington Airports Authority: Michael Hewitt, P.E., Airport Planning Engineer, Dennis Hazell, Associate Executive Staff Coordinator, Washington Dulles International Airport, and Bob Curtin, Office of the Airport Manager, Ronald Reagan Washington National Airport.

ACCOMMODATIONS POLICY

Alternative formats of this document are available upon request. Visit www.mwcog.org/accommodations or call (202) 962-3300 or (202) 962-3213 (TDD).

TITLE VI NONDISCRIMINATION POLICY

The Metropolitan Washington Council of Governments (COG) fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations prohibiting discrimination in all programs and activities. For more information, to file a Title VI related complaint, or to obtain information in another language, visit www.mwcog.org/nondiscrimination or call (202) 962-3300.

El Consejo de Gobiernos del Área Metropolitana de Washington (COG) cumple con el Título VI de la Ley sobre los Derechos Civiles de 1964 y otras leyes y reglamentos en todos sus programas y actividades. Para obtener más información, someter un pleito relacionado al Título VI, u obtener información en otro idioma, visite www.mwcog.org/nondiscrimination o llame al (202) 962-3300.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
Airport Enplanement Share (Figure 5)	2
Airport Choice (Table 3)	2
Airport Preference (Table 6)	3
Trip Purpose (Table 7)	3
Ground Trip Origin (Table 8)	3
Mode of Access (Table 9)	3
Air Traveler Characteristics (Tables 14 - 17)	4
At-Airport Use of Facilities (Tables 18 - 19)	4
I. INTRODUCTION	5
II. FINDINGS - TRANSPORTATION	7
Airport Enplanement Share (Survey Question A-1)	7
Airport Choice (Survey Question C-1)	10
Airport Preference (Survey Question C-2)	13
Trip Purpose (Survey Question A-3)	16
Trip Origin (Survey Question B-1)	18
Mode of Access (Survey Question B-7)	18
III. FINDINGS - AIR TRAVELER CHARACTERISTICS	28
Resident Status (Survey Question D-1)	28
Age (Survey Question D-3)	29
Income (Survey Question D-4)	29
Boarding Pass and Bag Checking (Survey Question A-4)	32
APPENDIX A: SURVEY METHODOLOGY	36
Survey Design	37
Changes in Survey Design Since 2011	37
Sample Selection	37
Conducting the Survey	38
Factoring the Survey Data	38
Level of Confidence	39
APPENDIX B: SURVEY QUESTIONNAIRE	40
APPENDIX C: SURVEY PROCEDURES MANUAL	43

LIST OF TABLES

Table 1: Data Collection Summary	7
Table 2: Annual Air Passenger Trip Originations (000s)	8
Table 3: Primary Reasons for Airport Choice	11
Table 4: First, Second, and/or Third Reasons for Airport Choice	12
Table 5: Annual Originating Air Passenger Preferred Airport (000s)	14
Table 6: Annual Originating Air Passenger Preferred Airport by Resident Status (000s)	15
Table 7: Annual Originating Air Passenger Trip Purpose (000s)	17
Table 8: Annual Originating Air Passenger Trip Origin (000s)	20
Table 9: Annual Originating Air Passenger Mode of Access (000s)	21
Table 10: Annual Originating Air Passenger Drop-Off (Yes/No) at Airport by Mode of Access (000s)	24
Table 11: Annual Originating Air Passenger Mode of Access by Resident Status, Region (000s)	25
Table 12: Annual Originating Air Passenger Mode of Access by Trip Purpose (000s)	26
Table 13: Annual Originating Air Passenger Mode of Access by Trip Origination (000s)	27
Table 14: Annual Originating Air Passengers Resident Status (000s)	28
Table 15: Annual Originating Air Passenger Age (000s)	30
Table 16: Annual Originating Air Passenger Annual Household Income by Airport (000s)	31
Table 17: Annual Originating Air Passenger Household Income by Resident Status	32
Table 18: At-Airport Use of Boarding Pass and Bag Check Facilities	34
Table 19: At-Airport Use of Boarding Pass and Bag Check Facilities by Destination	35

LIST OF FIGURES

Figure 1: Washington-Baltimore Air System Planning Region	1
Figure 2: Washington-Baltimore Air System Planning Region	6
Figure 3: Regional Enplanements (000s)	8
Figure 4: Airport Share of Annual Local Originating Passengers	9
Figure 5: Airport Share of Annual Connecting Passengers	9
Figure 6: Airport Share of Total Annual Passengers	9
Figure 7: Local Originating Air Passenger Airport Choice	10
Figure 8: Lower Airfares as Primary Factor in Airport Choice	10
Figure 9: Travel from Preferred Airport (Locally Originating Passengers)	13
Figure 10: 2017 Regional Local Originating Air Passenger Resident Status	15
Figure 11: Annual Originating Air Passengers by Trip Purpose (Percent by Airport)	16
Figure 12: Local Air Passenger Trip Origins (Region)	18
Figure 13: Local Air Passenger Mode of Access (Region)	18
Figure 14: Departing Passenger Mode of Access by Resident Status	23
Figure 15: Age Distribution of Locally Originating Air Passengers (Region)	29
Figure 16: Income Distribution of Locally Originating Air Passengers (Region)	29
Figure 17: Passengers Who Stopped for Boarding Pass and/or Bag Check (Region)	33
Figure 18: 2017 Air Passenger Survey	41

EXECUTIVE SUMMARY

In October 2017, the Metropolitan Washington Council of Governments (MWCOCG) conducted a regional air passenger survey (APS) at the three major commercial airports in the Washington-Baltimore Region: Baltimore/Washington International Thurgood Marshall Airport (BWI), Ronald Reagan Washington National Airport (DCA), and Washington Dulles International Airport (IAD). The APS was jointly funded by the Metropolitan Washington Airports Authority (MWAA) and the Maryland Aviation Administration (MAA) of the Maryland Department of Transportation (MDOT). 22,900 out of approximately 78,700 enplaning passengers on 657 randomly selected flights completed survey questionnaires as they waited to board their flights, resulting in an overall response rate of 27.4 percent. The survey questionnaires asked passengers to provide information about their upcoming flight, their trip to the airport, their choice of airport, and their demographic characteristics. The 2017 APS was the thirteenth in a series of regional air passenger surveys conducted since 1981. Prior surveys were conducted in 1981/82, 1987, 1992, 1998, 2000, 2002, and every two years since 2005. Data from the air passenger surveys provide the basis for analysis of major changes in airport use in the region. These surveys are an essential component of the air systems planning and master planning processes in the region and provide information necessary to account for airport ground access in the region's travel demand model.

The Washington/Baltimore air systems planning region stretches from Harford County, Maryland on the Susquehanna River to the north, to Spotsylvania County Virginia to the south, and from the Chesapeake Bay in the east to the foothills of the Appalachian Mountains to the west. This air systems planning region consists of 25 jurisdictions, 161 Aviation Analysis Zones, and 2,604 Transportation Analysis Zones.

Figure 1: Washington-Baltimore Air System Planning Region



Source: Washington-Baltimore Regional Air Passenger Survey 2017

The General Findings Report of the 2017 Washington-Baltimore Regional Air Passenger Survey (APS) summarizes findings regarding patterns of airport enplanement share, airport choice, airport preference, air trip purpose, ground trip origin, airport mode of access, air traveler characteristics, and at-airport use of facilities - an overview of which is provided below. The report analyzes these data based on their geographic distribution. Regional percentages shown in this document are subject to a sampling error of approximately plus or minus three percentage points at the 90 percent confidence level. Percentages at each of the individual airports are subject to a sampling error of twice that amount. This report will be followed by a more detailed report containing geographically-specific analysis and conclusions.

Airport Enplanement Share (Figure 5)

In 2017, 36.4 million passengers traveled through the Washington-Baltimore Region, an increase of seven percent from 2015 (34.1 million). This total is broken down by the percentage of passengers at each airport:

- 36 percent of passengers at BWI (down from 35 percent in 2015)
- 33 percent of passengers at DCA (down from 34 percent in 2015)
- 31 percent of passengers at IAD (the same as in 2015)

Of those 36.4 million passengers, 26.7 million originated locally from the Washington-Baltimore Region, an increase of five percent from 2015 (25.4 million), while 9.8 million made a connection through the region; an increase of 13 percent from (8.7 million). These totals are broken down by airport below:

Locally Originating

- 67 percent of passengers at BWI (down from 71 percent in 2015)
- 88 percent of passengers at DCA (down from 90 percent in 2015)
- 64 percent of passengers at IAD (up from 62 percent in 2015)

Connecting

- 33 percent of passengers at BWI (up from 29 percent in 2015)
- 12 percent of passengers at DCA (up from 10 percent in 2015)
- 36 percent of passengers at IAD (down from 38 percent in 2015)

Airport Choice (Table 3)

Survey respondents were asked to rank the three most important reasons (out of a list of nine) for choosing the airport they were departing from, of which closest airport and lowest airfare were the highest ranked.

Closest Airport

- 59 percent of BWI travelers (down from 60 percent in 2015)

- 70 percent of DCA travelers (up from 65 percent in 2015)
- 47 percent of IAD travelers (unchanged from 2015)

Lowest Airfare

- 19 percent of BWI travelers (unchanged from 2015)
- 8 percent of DCA travelers (down from 11 percent in 2015)
- 16 percent of IAD travelers (up from 15 percent in 2015)

Airport Preference (Table 6)

- For all air passengers (both residents and non-residents of the area), airport preference changed little between 2015 and 2017. In 2017 overall airport preference was distributed as follows: BWI (28 percent), DCA (41 percent), and IAD (15 percent). Fifteen percent expressed no preference.
- Area resident preference distribution: BWI (33 percent), DCA (41 percent), and IAD (19 percent).
- Non-resident preference distribution: BWI (26 percent), DCA (41 percent), and IAD (13 percent).

Trip Purpose (Table 7)

- The percentage of locally originating air passengers reporting that they were traveling for non-business-related reasons declined from 63 percent in 2015 to 62 percent in 2017.
- While non-business trips such as vacation declined from 28 percent to 24 percent, business-related trips overall increased from 37 percent in 2015 to 38 percent in 2017.

Ground Trip Origin (Table 8)

- Between 2015 and 2017, the percentage of air passengers beginning their trips from a private residence increased from 56 percent to 60 percent of total trip originations.
- The percentage of air passengers beginning their trip to the airport from a hotel or motel saw a five percent decline between 2015 and 2017 - from 33 percent to 28 percent.
- While sufficient information is not currently available, it is possible that the aforementioned trends were at least in part a result of increased usage of companies like Air BNB. Future surveys will be designed to gain further insights into this trend.

Mode of Access (Table 9)

- The region's most common mode of access to the airports continued to be the automobile (private, rental, taxicab, and transportation network companies (TNCs) such as Uber/Lyft), accounting for 84 percent of all local originations.
 - Of the 84 percent of trips accessed by automobile, the following numbers provide the 2017 percent breakdown for each automobile trip type in the region, followed by the

2015 percentage breakdown in parentheses: private car – 47 percent (up from 44 percent), rental car – 12 percent (down from 14 percent), taxicab – 11 percent (down from 15 percent), and TNC – 14 percent (up from 9 percent).

- Metrorail usage by passengers traveling to DCA continues to be among the highest proportion of any airport in the United States at 13 percent (up from 12 percent in 2015).
 - While overall access by automobile to DCA remained the same at 77 percent, the following numbers provide the 2017 percent breakdown for each automobile trip type to DCA, followed by the 2015 percentage breakdown in parentheses: private car – 29 percent (up from 28 percent), rental car – 9 percent (down from 10 percent), taxicab – 18 percent (down from 25 percent), and TNC – 21 percent (up from 14 percent).
- Similar trends in mode of access were observed at BWI and IAD, with overall access to airport by automobile increasing by two (89 percent, up from 87 percent) and five percent (89 percent, up from 84 percent), respectively. Both airport experienced significant increases in airport access by private car (four percent each) and TNC (three and six percent, respectively), while access by rental car and taxicab declined at the same rate (by three and two percent, respectively) at both airports.

Air Traveler Characteristics (Tables 14 - 17)

- In 2017, area residents accounted for 40 percent of the total departing air passengers. Non-residents accounted for the remaining 60 percent of departing air passengers.
- Local originating passengers under the age of 25 increased from eight to nine percent, while passengers age 35 and older decreased from 73 to 72 percent. Passengers age 25 to 34 remained the same at 19 percent.
- Household incomes for air travelers in the Washington-Baltimore region continue to be higher than the regional median. In 2017, only 27 percent of the region's passengers had household incomes less than \$80,000. For all three airports, more than 73 percent of air passengers (both residents and non-residents) had incomes of \$80,000 or more.
- More than half of both area residents (59 percent) and non-residents (53 percent) have an annual household income of over \$120,000.

At-Airport Use of Facilities (Tables 18 - 19)

- Overall, 63 percent of departing passengers reported stopping for a boarding pass and/or bag check; 26 percent of whom utilized the E-ticket Kiosk. When compared with 2015 findings, passengers who made a stop for a boarding pass and/or bag check increased at all three airports.
- Of those reporting making stops for a boarding pass and/or bag check, there was not a significant variation between airports: BWI – 65 percent, DCA – 61 percent, IAD – 65 percent.
- Similarly, for the 33 percent of regional departing passengers who reported making no stop for either a boarding pass and/or bag check, there was minimal variation among the three airports: BWI – 32 percent, DCA – 35 percent, IAD – 30 percent.

I. INTRODUCTION

This report summarizes the findings from the 2017 Washington-Baltimore Regional Air Passenger Survey (APS) conducted concurrently at Baltimore/Washington International Thurgood Marshall Airport (BWI), Ronald Reagan Washington National Airport (DCA) and Washington Dulles International Airport (IAD). The Metropolitan Washington Council of Governments (COG) conducted this survey as part of its Continuous Airport System Planning (CASP) program. One of the goals of the CASP program is to continue the rational development of aviation facilities and services at the three major commercial airports serving the Washington-Baltimore region, shown in Figures 1 and 2.

The 2017 regional air passenger survey was the thirteenth in a series of regional air passenger surveys conducted since 1981. Prior surveys were conducted in 1981/82, 1987, 1992, 1998, 2000, 2002, and every two years since 2005. Data from the air passenger surveys provide the basis for analysis of major changes in airport use for the region. Hundreds of millions of dollars have been invested in facility improvements at the region's three major commercial airports in the past several years and more improvement planning continues. The data produced by these air passenger surveys will be invaluable in further planning for these improvements. The survey data will also be useful in the following areas:

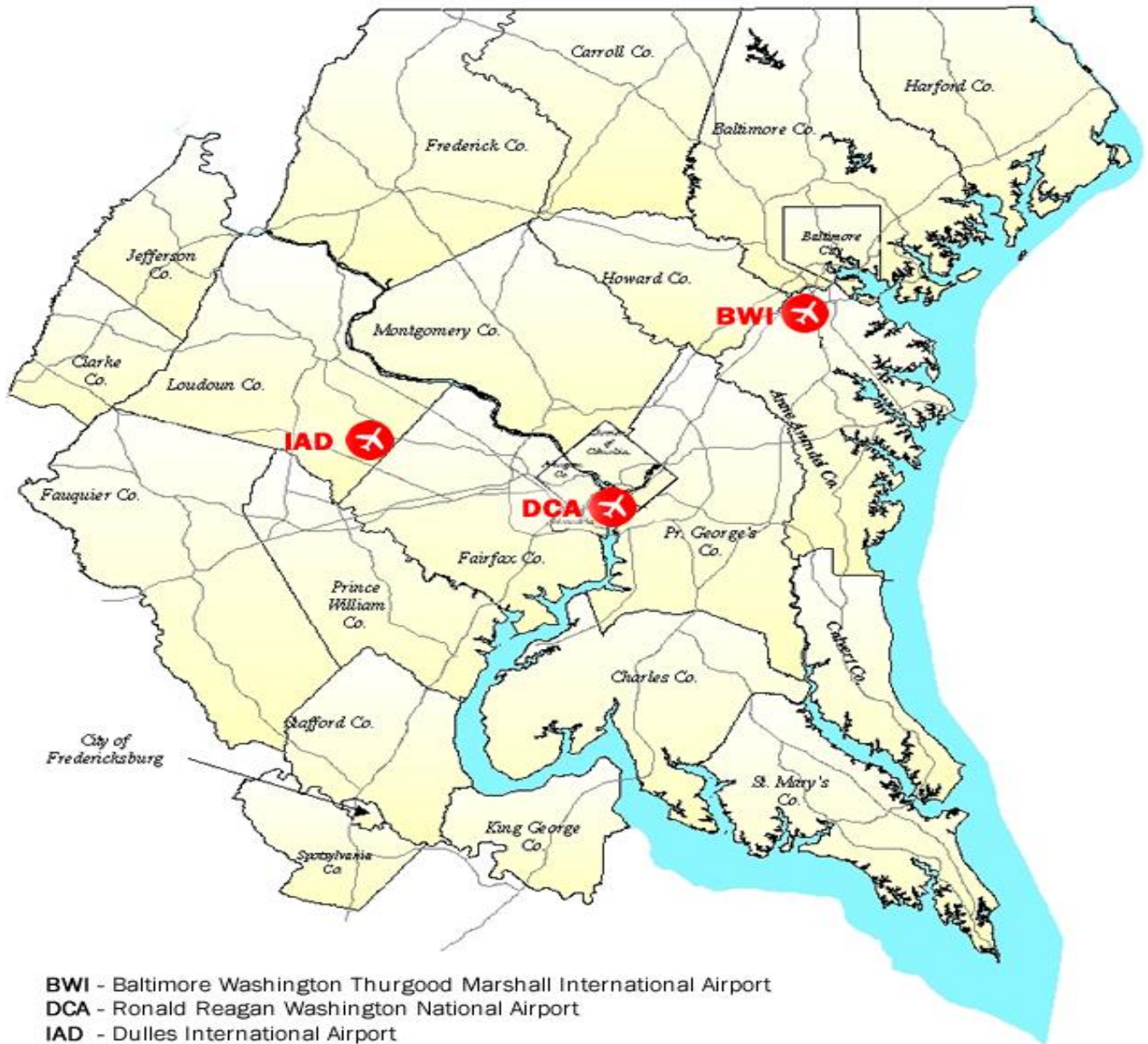
- **Market analyses, passenger trip mode and purpose, geographic information, preferred airport, and socioeconomic data on passengers for use in developing airport, airline and support services**
- **Planning for airport access roadways and services, including development of transportation model improvements such as enhanced mode split models and estimates of airport traffic volumes**
- **Planning terminals and groundside facilities, including parking, curbside, baggage, and passenger boarding gate areas**
- **Time series trend analyses of changes in air traveler characteristics and airport use**
- **Air passenger demand and allocation forecasting for future updates to the Washington-Baltimore Regional Airport System Plan**

The 2017 air passenger survey took place during the two-week period from Wednesday, October 7th to Tuesday, October 17th. Flights requiring resurveying occurred between October 18th and October 30th. Approximately 21,700 passengers out of a total of 78,700 enplaning passengers on 657 flights (582 domestic and 75 international) completed surveys as they waited to board their planes, an overall response rate of 27 percent. All 21,700 completed survey questionnaires have been processed and tabulated.¹

The survey sample includes flights from 36 airlines, of which 24 are international and 12 are domestic carriers. The sample flights are grouped into 340 destination clusters. The survey instrument contains questions regarding the respondent's airline trip, the trip to the airport, the choice of airport, and several demographic questions, such as household size, household income, and respondent age. Appendix B contains the 2017 survey questionnaire.

¹ Families or groups traveling together may complete one questionnaire for their group, although it is preferable to have each individual over the age of 16 complete their own questionnaire.

Figure 2: Washington-Baltimore Air System Planning Region



BWI - Baltimore Washington Thurgood Marshall International Airport
DCA - Ronald Reagan Washington National Airport
IAD - Dulles International Airport

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 1: Data Collection Summary

Airport	Flight Surveyed	Revenue Passengers	Completed Surveys	Response Rate
BWI	236	30,412	8,808	29.0%
DCA	231	23,767	6,362	26.8%
IAD	190	24,564	6,517	26.5%
Total	657	78,743	21,687	27.5%

Source: Washington-Baltimore Regional Air Passenger Survey 2017

II. FINDINGS - TRANSPORTATION

Survey results are summarized by airport and the overall Washington-Baltimore air systems planning region. The various travel modes used to access each airport, trip purpose, number of trips at each airport, preferred airport, trip origin, place of origin, age of air travelers and income of air travelers are included. These summaries generally reflect trips where passengers arrive at the airport by ground transportation. Passengers arriving to the surveyed flight by a connecting flight (in contrast to ground access transportation) are only included in discussions of total enplanements in the airport use section of this report.

Although the data for the 2017 survey were collected over a two-week period in October, the survey results have been annualized to observed annual passengers for the 12-month period from January to December 2017. Regional percentages shown in the data tables are subject to a sampling error of approximately plus or minus three percentage points at the 90 percent confidence level. Percentages at individual airports are subject to a sampling error of twice that amount. Where applicable, the 2017 survey results are compared with results from the 2013 and the 2015 surveys.

Airport Enplanement Share (Survey Question A-1)²

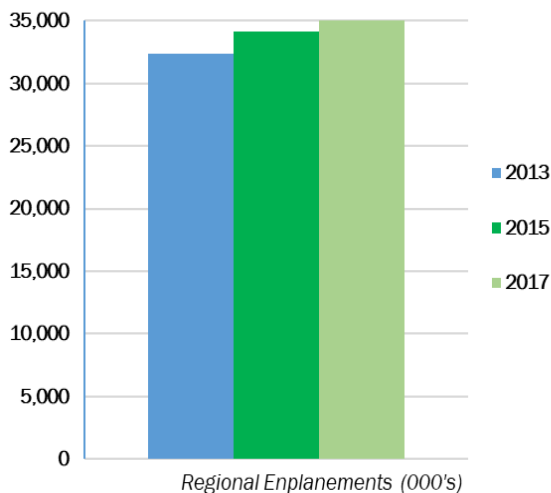
In 2017, 36.4 million passengers traveled through the Washington-Baltimore Region, an increase of seven percent from 2015 (34.1 million). Of those 36.4 million passengers, 26.7 million passengers originated locally from the Washington-Baltimore Region, an increase of five percent (from 25.4 million) from 2015, while 9.8 million passengers made a connection through the region – an increase of 13 percent (from 8.7 million). Note: in Table 2 and all subsequent tables, percentages represent a percent of the total at the bottom of the table in each respective column.

The regional total of enplanements, broken out by the percentage of passengers at each airport, are as follows: 36 percent of passengers at BWI (down from 35 percent in 2015), 33 percent of passengers at DCA (down from 34 percent in 2015), and 31 percent of passengers at IAD (the same as in 2015).

² Where applicable, references are given to the survey question for which data are compiled for the analysis.

Between 2015 and 2017, the number of local originating air passengers increased at all three airports. From a regional perspective, BWI accounts for 76 percent of the increase in connecting passengers, while IAD accounted for 54 percent of the total increase in local originating passengers. The percentage breakdown for locally originating versus connecting flights, by airport, are as follows: BWI – 67 percent locally originating, 33 percent connecting; DCA – 88 percent locally originating, 12 percent connecting; and IAD – 64 percent locally originating, 36 percent connecting. To review all shifts in these percentages, regionally and by airport, from 2013 and 2015, see Table 2.

Figure 3: Regional Enplanements (000s)



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Figures 4, 5, and 6 illustrate the airport share of local originating passengers, connecting passengers, and total enplaning passengers from the surveys conducted in 2013, 2015, and 2017. In 2017 the greatest share of the region's local originating passengers departed from DCA, (39 percent) - BWI and IAD accounted for 33 percent and 27 percent, respectively (see Figure 4). BWI had the greatest share of the region's connecting passengers (44 percent), while DCA had the least (15 percent). IAD comprised 41 percent of all connecting flights, a significant decrease in the 2015 region share of 47 percent (see Figure 5). BWI has the greatest share of the region's total enplaning passengers (36 percent), while DCA and IAD follow close after with 33 and 31 percent, respectively (Figure 6).

Table 2: Annual Air Passenger Trip Originations (000s)

Enplanement Type		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
Local originations (came by ground transportation)	Number	8,498	8,485	8,910	8,686	10,367	10,499	6,214	6,592	7,245	23,398	25,444	26,653
	Percent	75%	71%	67%	85%	90%	88%	57%	62%	64%	72%	75%	73%
Connected from another flight	Number	2,766	3,449	4,305	1,511	1,127	1,458	4,676	4,120	4,062	8,953	8,696	9,826
	Percent	25%	29%	33%	15%	10%	12%	43%	38%	36%	28%	25%	27%
Total Enplanements	Number	11,264	11,934	13,215	10,197	11,494	11,957	10,890	10,712	11,307	32,351	34,140	36,479
Percent of Region		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

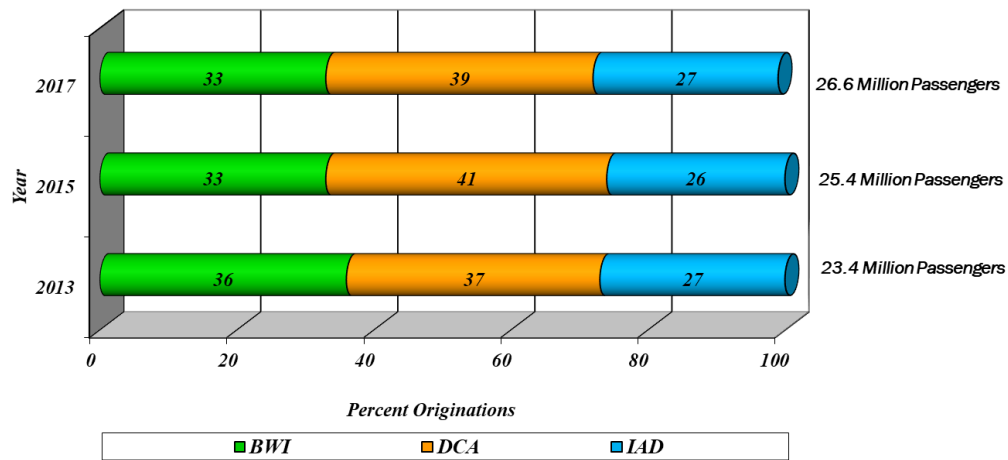
Notes:

* Totals may not add due to rounding

* "Total Enplanements" includes passengers on domestic scheduled, commuter and international flights

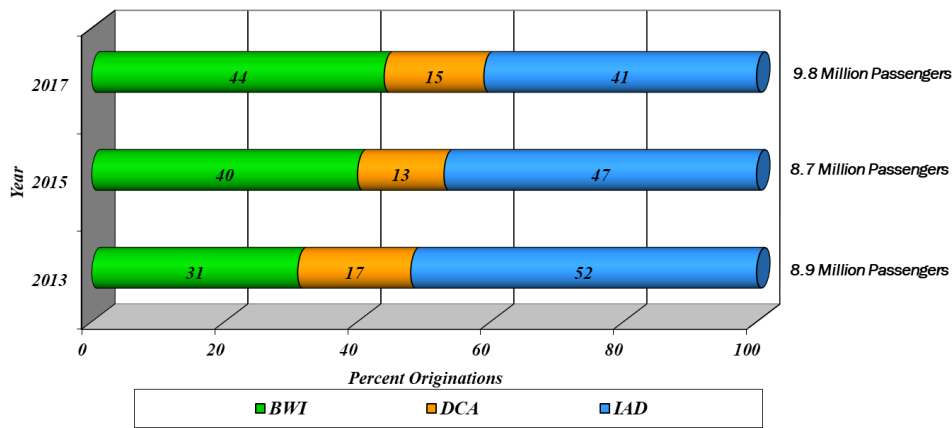
Source: Washington-Baltimore Regional Air Passenger Survey 2017

Figure 4: Airport Share of Annual Local Originating Passengers



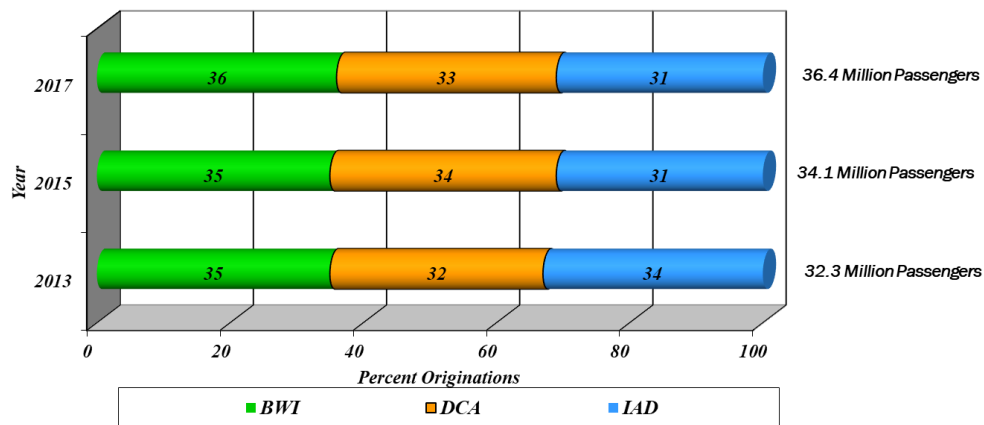
Source: Washington-Baltimore Regional Air Passenger Survey 2017

Figure 5: Airport Share of Annual Connecting Passengers



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Figure 6: Airport Share of Total Annual Passengers



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Airport Choice (Survey Question C-1)

Survey respondents ranked the three most important reasons (out of a list of nine) for choosing their departing airport. Table 3 summarizes the airport choice responses, which are categorized either as accessibility conditions (closest airport, better public transportation, better road access and parking facilities) or quality of air service reasons (convenient flight times, nonstop or direct flights, less expensive airfares, frequent flier restrictions).

When compared with 2015, the percentage of locally originating passengers citing accessibility conditions as the most important factor in airport choice remains unchanged at the regional level, while a slight increase occurs at DCA and IAD, from 73 percent to 76 percent and from 50 percent to 51 percent, respectively. Quality of air service shows a slight decline from 33 percent to 32 percent. Passengers citing less expensive airfare as a primary factor also drops slightly from 15 to 14 percent, while passengers citing more convenient flight times as the most important reason increased at all three airports.

Figure 7: Local Originating Air Passenger Airport Choice

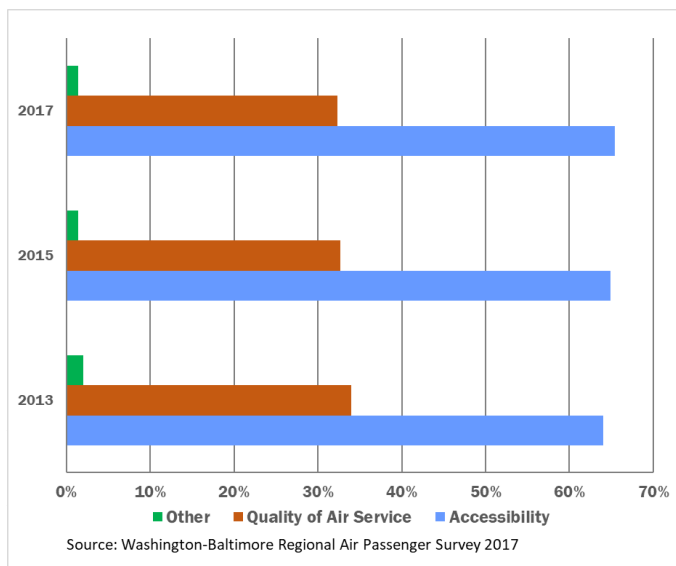
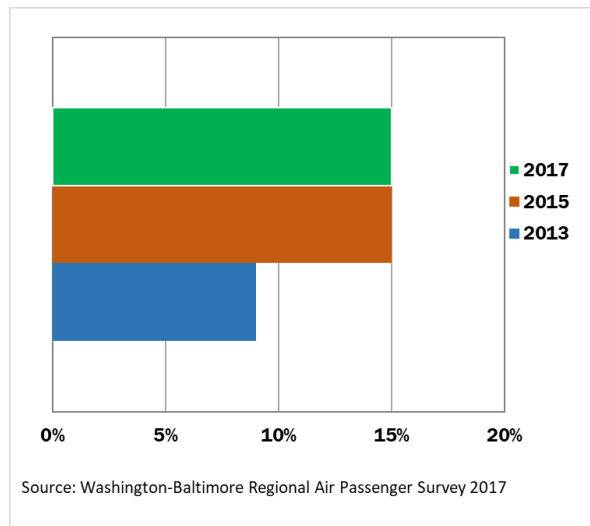


Figure 8: Lower Airfares as Primary Factor in Airport Choice



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Closest airport and lowest airfare, 60 percent and 14 percent respectively, are the top two reasons reported for influencing airport choice. For those citing closest airport, this number decreased slightly at BWI (59 percent, down from 60 percent), increased by five percent at DCA (up from 65 percent to 70 percent), and remained unchanged at IAD (47 percent). For those citing lowest airfare, BWI remains unchanged at 19 percent, while DCA declined (8 percent, down from 11 percent) and IAD increased (16 percent, up from 15 percent).

Table 3: Primary Reasons for Airport Choice

Primary reason for choosing airport used	BWI			DCA			IAD			REGION		
	2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
<u>Accessibility</u>												
Closest airport	58%	60%	59%	65%	65%	70%	46%	47%	47%	58%	60%	60%
Better public ground transportation	1%	1%	1%	6%	6%	4%	1%	1%	0%	1%	3%	2%
Better access roads and parking	4%	5%	5%	2%	2%	1%	5%	3%	3%	5%	2%	3%
SUBTOTAL -- Accessibility	63%	65%	65%	73%	73%	76%	52%	50%	51%	64%	65%	65%
<u>Quality of Air Service</u>												
More convenient flight times	6%	6%	7%	7%	7%	8%	11%	14%	15%	7%	9%	9%
Only airport with direct/non-stop flight	4%	4%	4%	4%	4%	4%	14%	11%	11%	5%	6%	6%
Less expensive airfare	22%	19%	19%	11%	11%	8%	15%	15%	16%	15%	15%	14%
Frequent flyer with specific airline	2%	2%	2%	2%	2%	2%	3%	3%	2%	3%	2%	2%
Only airport serving market	1%	1%	1%	1%	1%	1%	4%	4%	4%	4%	2%	2%
SUBTOTAL -- Quality of Air Service	35%	33%	34%	25%	25%	23%	47%	47%	47%	34%	33%	32%
OTHER	2%	2%	1%	3%	3%	2%	1%	2%	2%	2%	1%	1%
TOTAL	100%	100%	100%	101%	101%	100%	100%	99%	100%	100%	99%	99%

Notes:

* Totals may not add due to rounding

* "Total Enplanements" include passengers on scheduled domestic, commuter and international flights

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 4: First, Second, and/or Third Reasons for Airport Choice

Primary reason for choosing airport used	BWI			DCA			IAD			REGION		
	2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
<u>Accessibility</u>												
Closest airport	27%	28%	27%	32%	33%	32%	25%	25%	25%	29%	29%	29%
Better public ground transportation	3%	3%	3%	11%	10%	11%	3%	3%	2%	6%	6%	6%
Better access roads and parking	19%	18%	18%	12%	12%	10%	15%	14%	15%	16%	15%	14%
SUBTOTAL -- Accessibility	49%	49%	48%	55%	55%	53%	43%	41%	41%	51%	50%	49%
<u>Quality of Air Service</u>												
More convenient flight times	16%	17%	17%	17%	18%	18%	19%	19%	21%	17%	18%	18%
Only airport with direct/non-stop flight	7%	7%	8%	7%	7%	7%	12%	12%	12%	8%	8%	8%
Less expensive airfare	18%	17%	18%	11%	12%	11%	13%	14%	14%	14%	14%	14%
Frequent flyer with specific airline	5%	6%	6%	5%	5%	6%	7%	7%	6%	6%	6%	6%
Only airport serving market	2%	1%	2%	2%	2%	2%	4%	5%	4%	2%	3%	2%
SUBTOTAL -- Quality of Air Service	48%	48%	50%	42%	44%	44%	55%	57%	56%	47%	49%	49%
OTHER	3%	1%	2%	3%	2%	2%	2%	1%	2%	2%	2%	2%
TOTAL	100%	99%	100%	100%	101%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals may not add due to rounding

* "Total Enplanements" include passengers on scheduled domestic, commuter and international flights

Source: Washington-Baltimore Regional Air Passenger Survey 2017

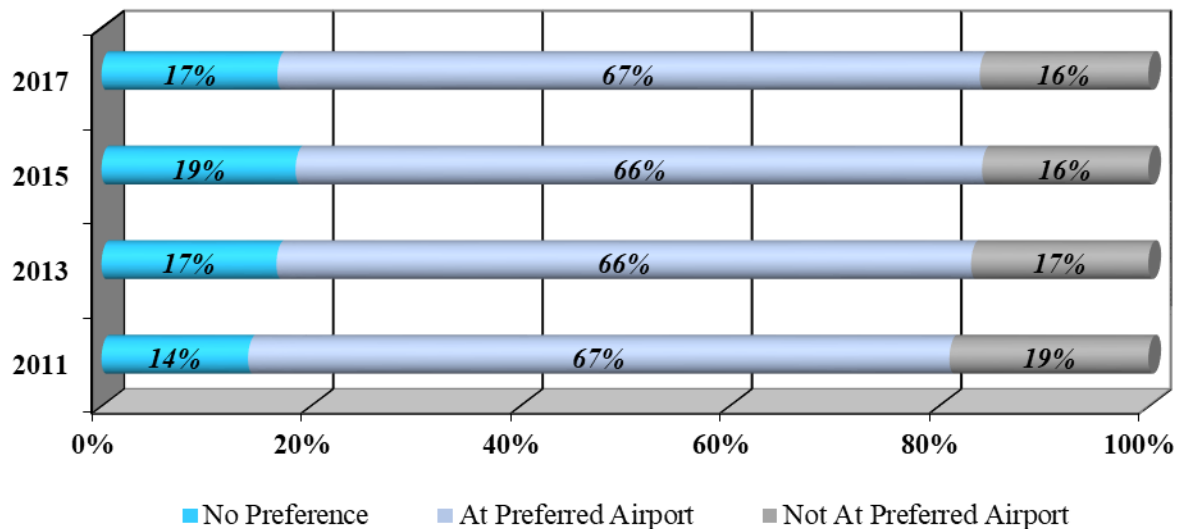
Airport Preference (Survey Question C-2)

Passengers also cite their preferred airport, as travel restrictions and service availability sometimes prevent passengers from using their top choice. Figure 9 shows the percentage breakdown for airport preference by locally originating passengers (no preference, at preferred airport, not at preferred airport). Table 5 shows this breakdown by the airport that surveyed passengers departed from, paired with their stated airport preference, while Table 6 shows this broken down by resident status.

Between 2015 and 2017 the percentage of passengers departing from their preferred airport remained almost the same at 67 percent, up from 66 percent in 2015. Those traveling with no preference declined by two percent, while those reporting not traveling at their preferred airport remained the same. Figure 8 illustrates these percentages for the four most recent survey years.

In 2017, 40 percent of locally originating passengers preferred to use DCA, 27 percent preferred BWI, and 17 percent preferred IAD, while 17 percent had no preference (see Table 5). While these preference numbers remain the same from 2015 for BWI and IAD, preference for traveling from DCA shows a three percent increase, and those with no preference decreased by two percent.

Figure 9: Travel from Preferred Airport (Locally Originating Passengers)



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 5: Annual Originating Air Passenger Preferred Airport (000s)

Preferred Airport		BWI Marshall			Reagan National			Dulles			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
BWI MARSHALL	Number	5,904	5,676	5,993	294	422	323	398	350	418	6,596	6,448	6,734
	Percent	72%	70%	70%	4%	4%	3%	7%	6%	6%	29%	27%	27%
REAGAN NATIONAL	Number	863	774	849	5,981	6,947	7,533	1,242	1,265	1,538	8,086	8,986	9,920
	Percent	11%	10%	10%	71%	70%	76%	21%	21%	23%	36%	37%	40%
DULLES	Number	336	297	327	660	710	574	2,979	3,140	3,256	3,975	4,147	4,157
	Percent	4%	4%	4%	8%	7%	6%	51%	52%	50%	18%	17%	17%
No Preference	Number	1,085	1,371	1,344	1,441	1,814	1,523	1,218	1,270	1,334	3,744	4,455	4,201
	Percent	13%	17%	16%	17%	18%	15%	21%	21%	20%	17%	19%	17%
TOTAL	Number	8,188	8,118	8,513	8,376	9,893	9,953	5,837	6,025	6,546	22,401	24,036	25,012
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		310	367	397	310	474	546	377	567	699	997	1,408	1,642
Total Originations		8,498	8,485	8,910	8,686	10,367	10,499	6,214	6,592	7,245	23,398	25,444	26,654

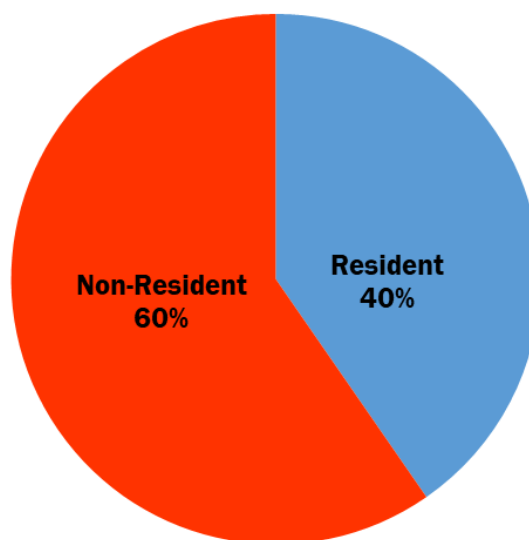
Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

The difference in airport preference between residents and non-residents is summarized in Table 6. In 2017, local originating passengers visiting the region (non-residents) accounted for 60 percent of local originating passengers. Of these visitors, 40 percent selected DCA as their preferred airport, which is also the percentage of resident air passengers who prefer DCA. Preference rates for non-residents were 26 percent and 13 percent for BWI and IAD, respectively, compared to 33 percent and 19 percent for residents. Non-residents continue to be least likely to express a preference for an airport (20 percent), compared to residents (seven percent).

Figure 10: 2017 Regional Local Originating Air Passenger Resident Status



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 6: Annual Originating Air Passenger Preferred Airport by Resident Status (000s)

Preferred Airport		Resident			Non-Resident			Total		
		2013	2015	2017	2013	2015	2017	2013	2015	2017
BWI Marshall	Number	3,176	2,285	2,631	2,929	3,163	3,038	6,105	5,448	5,669
	Percent	36%	34%	33%	25%	25%	26%	30%	28%	28%
Reagan National	Number	3,330	2,592	3,298	4,181	4,942	4,903	7,511	7,534	8,201
	Percent	38%	38%	41%	35%	40%	41%	37%	39%	41%
Dulles	Number	1,645	1,433	1,515	1,859	1,596	1,485	3,504	3,029	3,000
	Percent	19%	21%	19%	16%	13%	13%	17%	16%	15%
No Preference	Number	602	442	630	2,809	2,793	2,397	3,411	3,235	3,027
	Percent	7%	7%	8%	24%	22%	20%	17%	17%	15%
TOTAL	Number	8,753	6,752	8,074	11,778	12,494	11,823	20,531	19,246	19,897
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals do not include non-respondents and resident unknown

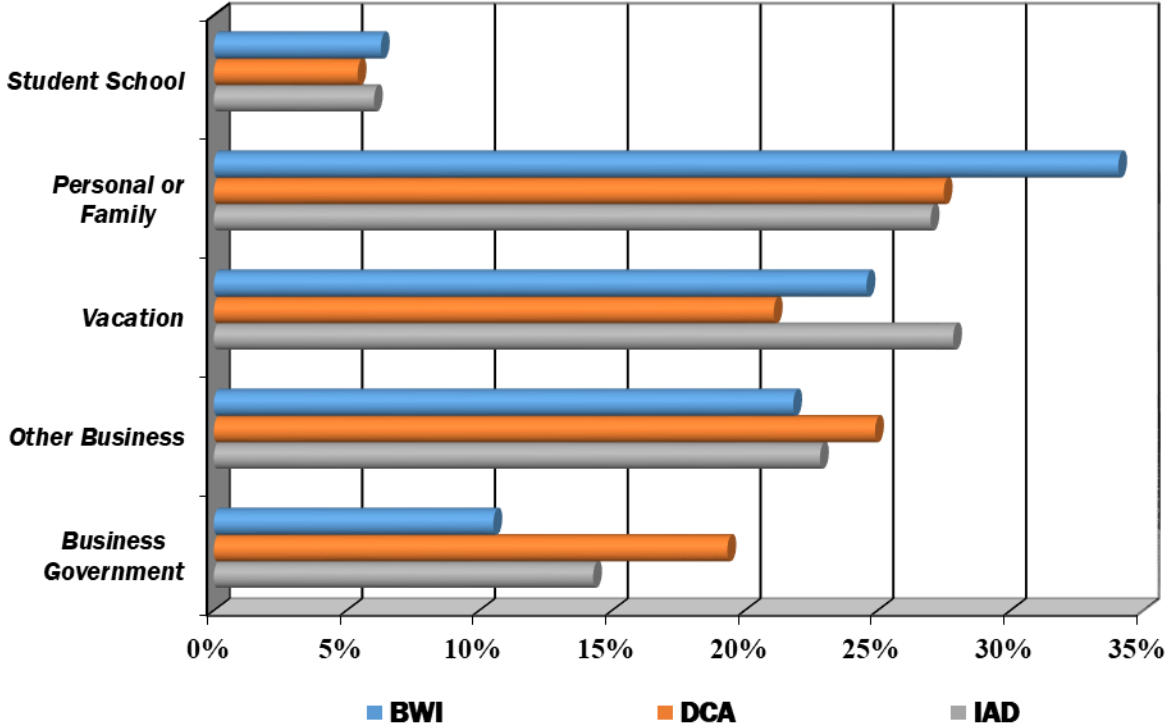
Source: Washington-Baltimore Regional Air Passenger Survey 2017

Trip Purpose (Survey Question A-3)

In 2017, the percentage of locally originating air passengers reporting traveling for non-business reasons decreased, when compared to 2015. As shown in Table 7, the percentage of business-related travel increased between 2015 and 2017, from 37 percent to 38 percent. In 2017, vacation travelers decreased to 24 percent (from 28 percent, 2015) and school-related travel remained unchanged at six percent. Similarly, personal or family-related travel increased between 2015 and 2017, from 28 percent to 31 percent.

Figure 11 shows air travel by trip purpose at each of the three airports in 2017. This figure shows that DCA generally has the greatest percentage of business-related air travel, IAD has the greatest percentage of vacation-related travel and BWI has the greatest percentage of personal or family-related travel.

Figure 11: Annual Originating Air Passengers by Trip Purpose (Percent by Airport)



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 7: Annual Originating Air Passenger Trip Purpose (000s)

Trip Purpose		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
<u>Business Related</u>													
Business related to federal government (including military)	Number	554	736	775	980	1,661	1,779	525	761	901	2,059	3,158	3,454
	Percent	7%	9%	9%	12%	16%	17%	9%	12%	13%	9%	13%	13%
Business related to state and local gov.	Number	81	144	145	131	212	220	43	89	100	255	445	465
	Percent	1%	2%	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%
Other Business	Number	1,851	1,938	1,906	2,019	2,305	2,574	1,203	1,339	1,600	5,073	5,582	6,080
	Percent	22%	23%	22%	24%	22%	25%	20%	21%	23%	22%	22%	23%
SUBTOTAL -- Business	Number	2,486	2,818	2,825	3,130	4,178	4,573	1,771	2,189	2,601	7,387	9,185	9,999
	Percent	30%	33%	32%	37%	41%	44%	30%	34%	37%	33%	37%	38%
<u>Non-Business Related</u>													
Vacation	Number	2,650	2,482	2,147	2,343	2,376	2,180	2,242	2,096	1,952	7,235	6,954	6,278
	Percent	32%	29%	25%	28%	23%	21%	37%	33%	28%	32%	28%	24%
Personal or family affairs	Number	2,815	2,560	2,975	2,596	2,794	2,841	1,617	1,622	1,892	7,028	6,976	7,708
	Percent	34%	30%	34%	31%	27%	27%	27%	25%	27%	31%	28%	30%
Student or school related	Number	225	417	549	296	675	560	311	363	423	832	1,455	1,532
	Percent	3%	5%	6%	4%	7%	5%	5%	6%	6%	4%	6%	6%
Other	Number	102	155	239	66	242	184	49	137	143	217	534	567
	Percent	1%	2%	3%	1%	2%	2%	1%	2%	2%	1%	2%	2%
SUBTOTAL -- Non-Business	Number	5,792	5,614	5,910	5,301	6,087	5,765	4,219	4,218	4,410	15,312	15,919	16,084
	Percent	70%	67%	68%	63%	59%	56%	70%	66%	63%	67%	63%	62%
TOTAL	Number	8,278	8,432	8,735	8,431	10,265	10,337	5,990	6,407	7,011	22,699	25,104	26,084
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		220	52	174	257	102	162	224	185	234	701	339	569
Total Originations		8,498	8,484	8,910	8,688	10,367	10,499	6,214	6,592	7,245	23,400	25,443	26,653

Notes:

* Totals may not add due to rounding

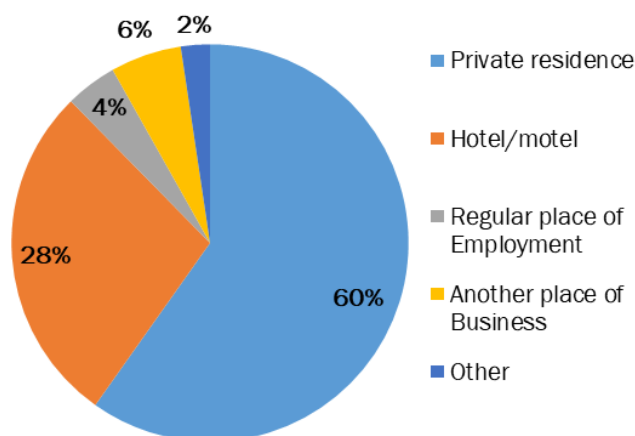
Source: Washington-Baltimore Regional Air Passenger Survey 2017

Trip Origin (Survey Question B-1)

Table 8 summarizes the ground trip origin responses for the last three survey years. Between 2015 and 2017, the percentage of air passengers beginning their trips from a private residence increased from 56 percent to 60 percent. Air passengers beginning their trip to the airport from a hotel or motel declined from 33 percent to 28 percent. While sufficient information is not currently available, it is possible that these trends were at least in part a result of increased usage of companies like Air BNB. Future surveys will be designed to gain further insights into this trend.

At 37 percent, DCA continues to have the greatest percentage of passengers originating from a hotel or motel. In the region, the percentage of passengers reporting beginning their trip to the airport from either their regular place of employment or from another place of business remains the same.

Figure 12: Local Air Passenger Trip Origins (Region)



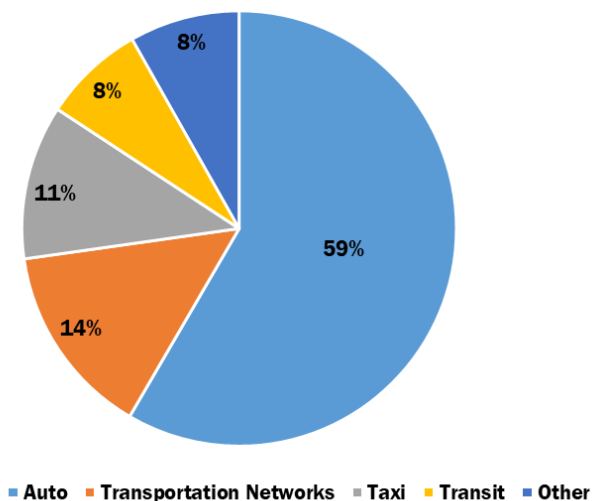
Note: - Non-respondents are not included

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Mode of Access (Survey Question B-7)

Table 9 provides a summary of mode of access to each airport and for the region. In 2017, the region's most common mode of access to the airports continues to be the automobile (private, rental, taxicab, and transportation network companies – TNCs – such as Uber/Lyft), accounting for 84 percent of all local originations. Of the total trips accessed by automobile, the following numbers provide the 2017 percent breakdown for each automobile trip type in the region, followed by the 2015 percentage breakdown in parentheses: private car – 47 percent (up from 44 percent), rental car – 12 percent (down from 14 percent), taxicab – 11 percent (down from 15 percent), and TNC – 14 percent (up from nine percent). Public transportation³ carried nine percent of

Figure 13: Local Air Passenger Mode of Access (Region)



Source: Washington-Baltimore Regional Air Passenger Survey 2017

³ Metrorail, Metrobus / MTA bus, MTA light rail, MARC commuter rail, and airport buses, vans, and limousines.

passengers, while courtesy buses provided by hotels and motels accounted for four percent of all local originations in 2017.

Metrorail usage by passengers traveling to DCA continues to be among the highest proportion of any airport in the United States at 13 percent (up from 12 percent in 2015). While overall access by automobile to DCA remains the same at 77 percent, the following numbers provide the 2017 percent breakdown for each automobile trip type to DCA, followed by the 2015 percentage breakdown in parentheses: private car – 29 percent (up from 28 percent), rental car – 9 percent (down from 10 percent), taxicab – 18 percent (down from 25 percent), and TNC – 21 percent (up from 14 percent).

Similar trends in mode of access are observed at BWI and IAD, with overall access to airport by automobile increasing by two percent (89 percent, up from 87 percent) and five percent (89 percent, up from 84 percent), respectively. Both airports experienced significant increases in airport access by private car (four percent each) and TNC (three and six percent, respectively), while access by rental car and taxicab declined at both airports at the same rate (by three and two percent, respectively).

Table 8: Annual Originating Air Passenger Trip Origin (000s)

Ground Trip Origin		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
Private residence	<i>Number</i>	5,676	5,380	5,985	4,398	4,440	4,940	3,760	3,800	4,385	13,834	13,620	15,310
	<i>Percent</i>	67%	65%	70%	51%	44%	49%	61%	61%	64%	60%	56%	60%
Hotel/motel	<i>Number</i>	1,864	2,071	1,652	3,161	4,090	3,755	1,940	1,884	1,716	6,965	8,045	7,123
	<i>Percent</i>	22%	25%	19%	37%	41%	37%	32%	30%	25%	30%	33%	28%
Passenger's regular place of employment	<i>Number</i>	328	258	332	349	465	488	180	195	256	857	918	1,076
	<i>Percent</i>	4%	3%	4%	4%	5%	5%	3%	3%	4%	4%	4%	4%
Another place of business	<i>Number</i>	403	340	404	511	727	747	203	268	332	1,117	1,335	1,483
	<i>Percent</i>	5%	4%	5%	6%	7%	7%	3%	4%	5%	5%	5%	6%
Other	<i>Number</i>	160	193	228	209	269	252	58	110	126	427	572	606
	<i>Percent</i>	2%	2%	3%	2%	3%	2%	1%	2%	2%	2%	2%	2%
TOTAL	Number	8,431	8,242	8,601	8,628	9,991	10,182	6,141	6,257	6,815	23,200	24,490	25,598
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		67	242	309	59	376	316	73	339	430	199	957	1,055
Total Originations		8,498	8,484	8,910	8,687	10,367	10,498	6,214	6,596	7,245	23,399	25,447	26,653

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 9: Annual Originating Air Passenger Mode of Access (000s)

Mode of Access		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
Private car	Number	5,289	4,864	5,299	2,887	2,866	2,889	3,049	3,006	3,420	11,225	10,736	11,608
	Percent	64%	59%	63%	34%	28%	29%	50%	48%	52%	49%	44%	47%
Rental car	Number	1,188	1,424	1,193	793	1,015	853	1,032	980	837	3,013	3,419	2,883
	Percent	14%	17%	14%	9%	10%	9%	17%	16%	13%	13%	14%	12%
Taxi	Number	414	476	303	2,624	2,481	1,783	968	788	759	4,006	3,745	2,845
	Percent	5%	6%	4%	31%	25%	18%	16%	13%	11%	18%	15%	11%
Transportation Network (Uber, Lyft, etc..)	Number	0	404	633	0	1,394	2,057	0	439	871	0	2,237	3,561
	Percent	0%	5%	8%	0%	14%	21%	0%	7%	13%	0%	9%	14%
Metrorail (DCA)	Number	0	0	0	1,235	1,173	1,263	0	39	35	1,235	1,212	1,298
	Percent	0%	0%	0%	15%	12%	13%	0%	1%	1%	5%	5%	5%
Rail service	Number	130	165	217	0	11	62	0	8	25	130	184	304
	Percent	2%	2%	3%	0%	0%	1%	0%	0%	0%	1%	1%	1%
Light Rail (BWI)	Number	103	44	53	0	0	0	0	0	0	103	44	53
	Percent	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Airport bus/Van/Limo	Number	629	311	188	527	325	172	554	399	143	1,710	1,035	503
	Percent	8%	4%	2%	6%	3%	2%	9%	6%	2%	8%	4%	2%
Hotel/motel courtesy bus	Number	386	461	269	308	600	467	268	349	247	962	1,410	983
	Percent	5%	6%	3%	4%	6%	5%	4%	6%	4%	4%	6%	4%
Metrobus/MTA Bus	Number	71	79	94	65	73	16	138	141	113	274	293	223
	Percent	1%	1%	1%	1%	1%	0%	2%	2%	2%	1%	1%	1%
Other	Number	44	71	151	62	130	243	33	151	155	139	352	549
	Percent	1%	1%	2%	1%	1%	2%	1%	2%	2%	1%	1%	2%
TOTAL	Number	8,254	8,299	8,399	8,501	10,068	9,805	6,042	6,300	6,605	22,797	24,667	24,809
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		239	185	511	185	299	693	174	291	640	598	775	1,844
Total Originations		8,493	8,484	8,910	8,686	10,367	10,499	6,216	6,591	7,245	23,395	25,442	26,653

Notes:

* Transportation Network mode of access, (Uber, Lyft) was introduced in 2015 survey

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

The percentage of air passengers using TNCs varies from eight percent at BWI, to 21 percent at DCA, to 13 percent at IAD. Since 2015, the percentage of passengers traveling by private car has increased: at BWI by nine percent, at DCA by one percent, and at IAD by 14 percent. Traveling by taxi decreased significantly at all three airports (36 percent at BWI, 28 percent at DCA and four percent at IAD), a 24 percent decline regionally. This decrease could be attributed to the 59 percent regional increase in departing passengers' mode of access to the airports by TNC (57 percent at BWI, 48 percent at DCA and 98 percent at IAD), between 2015 and 2017. Travel by TNC at DCA accounted for 50 percent of the regional total, which could be due to the airport's proximity to the downtown areas of D.C. and Northern Virginia.

Table 11 provides a regional comparison of resident versus non-resident departing air passengers by mode of access. Regionally, TNCs comprise 16 percent of the mode share for residents in 2017, and 11 percent for non-residents. However, a greater majority of area residents access the airports by private auto (65 percent). Area residents accessing the airports also show a significant increase in TNCs when compared with 2015, an increase of 90 percent, same as for non-residents. At all airports, the share of residents using private auto, taxis and metro rail to access the airport declined between 2015 and 2017, which could be attributed, at least in part, to the 63 percent increase in TNC ridership.

Departing passengers traveling either for work or non-work using TNCs accounted for 14 percent of the total (Table 12). Among those who used TNCs to travel to the airport, more than half were non-work trips. Originating passenger mode of access by trip origination, either home or non-home, is presented in Table 13.

In the 2017 survey, passengers were also asked, "Is this how you usually get to this airport?" (Survey question B-8). 79 percent use the same mode of access to the airport, while the remaining 21 percent do not. Respondents' use of parking facilities at the airport show that among those who have parked their cars, 71 percent use the parking facilities located at the airports. Among those who use parking facilities at BWI, 35 percent use the Long-Term A or B Parking Garage and 29 percent use the Daily Parking garage. At DCA, 42 percent of parking usage is at the Long-Term / Daily Parking Garage. At IAD, Long-Term / Daily Parking and Long-Term / Economy Parking make up 61% of total parking use.

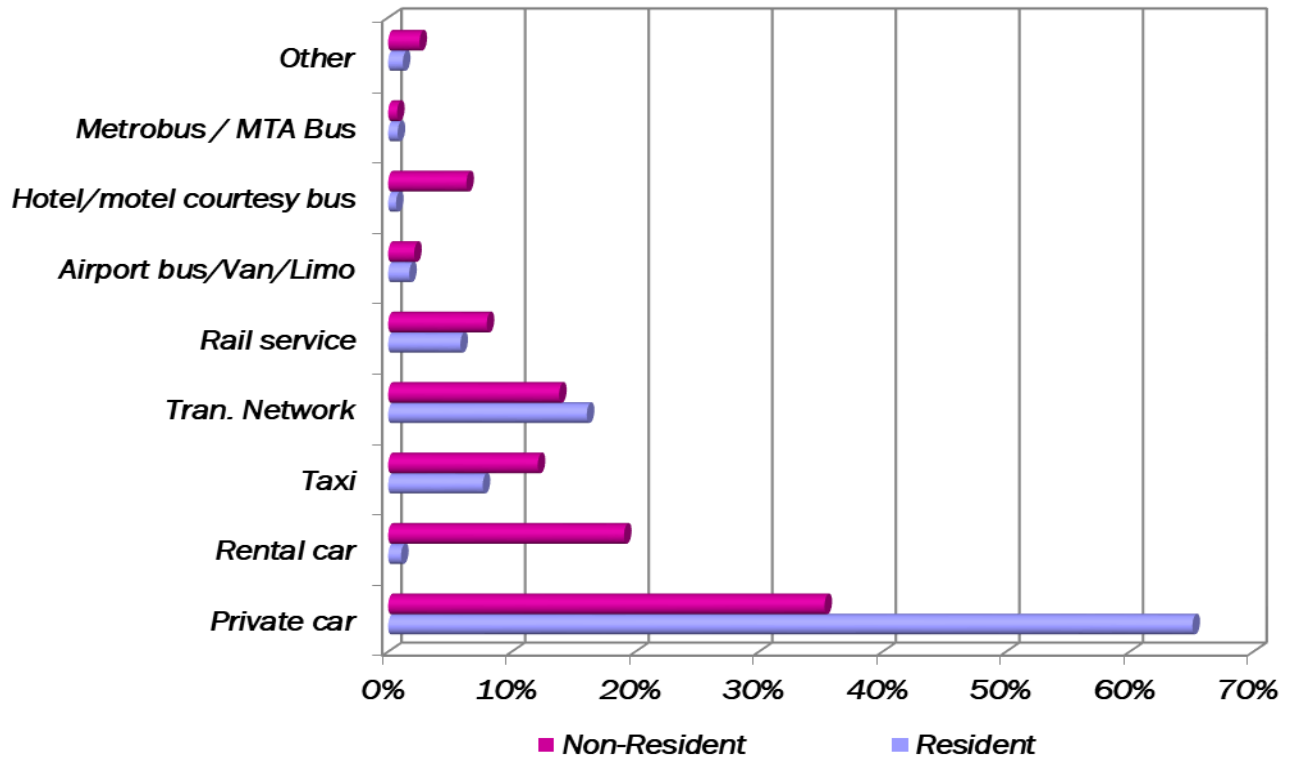
More than 68 percent of passengers are dropped-off at the airport. At BWI, 92 percent of those dropped off arrive by automobile (private, rental, taxicab, and TNCs). The same is true for 92 percent at DCA and 94 percent at IAD (see Table 10).

The 2017 survey questionnaire included the question, "Is this where you usually park your vehicle at this airport?" Overall, 83 percent indicated that they used the same parking facility for this trip that they usually use. In examining individual parking facility usage, 80 percent responded they parked their vehicle at their usual parking facility at DCA, while corresponding numbers for both BWI and IAD were 84 percent.

Analyzing mode of access by resident status (as shown in Figure 14) reveals some interesting differences. While residents of the region overwhelmingly use private cars (65 percent) to access the airport, non-resident air passengers continue to be more evenly distributed among private cars (35 percent), rental cars (19 percent), taxicabs (12 percent), and TNCs (14 percent). Non-resident air

passengers were also more likely than resident air travelers to use hotel/motel courtesy bus for ground access to the airport.

Figure 14: Departing Passenger Mode of Access by Resident Status



Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 10: Annual Originating Air Passenger Drop-Off (Yes/No) at Airport by Mode of Access (000s)

Mode of Access		BWI Marshall			Reagan National			Dulles			REGION		
		YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
Private car	Number	2,608	2,247	4,855	1,873	751	2,624	2,089	1,027	3,116	6,571	4,024	10,595
	Percent	74%	87%	80%	46%	64%	50%	66%	84%	71%	61%	81%	67%
Rental car	Number	138	186	325	110	93	202	116	86	202	364	365	729
	Percent	4%	7%	5%	3%	8%	4%	4%	7%	5%	3%	7%	5%
Taxi	Number	127	18	144	627	77	705	283	37	320	1,037	132	1,169
	Percent	4%	1%	2%	15%	7%	13%	9%	3%	7%	10%	3%	7%
Transportation Network (Uber, Lyft, etc..)	Number	350	18	368	1,132	63	1,195	474	18	492	1,956	98.69	2,055
	Percent	10%	1%	6%	28%	5%	23%	15%	1%	11%	18%	2%	13%
Metrorail (DCA)	Number	0	0	0	30	101	131	2	11	13	32	112	143
	Percent	0%	0%	0%	1%	9%	2%	0%	1%	0%	0%	2%	1%
Rail service	Number	31	28	59	21	7	28	10	3	13	62	38	100
	Percent	1%	1%	1%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Light Rail (BWI)	Number	0	6	6	0	0	0	0	0	0	0	6	6
	Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Airport bus/Van/Limo	Number	74	12	86	62	12	74	62	7	69	198	32	230
	Percent	2%	0%	1%	2%	1%	1%	2%	1%	2%	2%	1%	1%
Hotel/motel courtesy bus	Number	88	14	102	135	30	164	70	9	79	293	53	346
	Percent	3%	1%	2%	3%	3%	3%	2%	1%	2%	3%	1%	2%
Metrobus/MTA Bus	Number	24	11	35	2	4	5	2	19	21	28	33	61
	Percent	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Other	Number	71	30	101	103	27	130	68	10	78	241	68	309
	Percent	2%	1%	2%	3%	2%	2%	2%	1%	2%	2%	1%	2%
TOTAL	Number	3,512	2,570	6,082	4,093	1,165	5,258	3,177	1,227	4,404	10,782	4,962	15,744
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Transportation Network mode of access, (Uber, Lyft) was introduced in 2015 survey

* Totals may not add due to rounding

* Totals do not include non-respondents .

Table 11: Annual Originating Air Passenger Mode of Access by Resident Status, Region (000s)

Mode of Access		Residents			Non-Residents			TOTAL		
		2013	2015	2017	2013	2015	2017	2013	2015	2017
Private car	Number	6,262	4,577	5,143	3,711	3,772	4,037	9,973	8,603	9,180
	Percent	72%	68%	65%	31%	30%	35%	48%	43%	48%
Rental car	Number	98	62	83	2,697	2,684	2,182	2,795	2,634	2,265
	Percent	1%	1%	1%	23%	21%	19%	14%	13%	12%
Taxi	Number	1,218	719	605	2,370	2,173	1,384	3,588	3,233	1,988
	Percent	14%	11%	8%	20%	17%	12%	17%	16%	10%
Transportation Network (Uber, Lyft, etc..)	Number	N/A	669	1,270	N/A	1,214	1,582	N/A	1,884	2,852
	Percent		10%	16%		10%	14%		9%	15%
Metrorail (DCA)	Number	491	353	349	655	653	735	1,146	1,177	1,084
	Percent	6%	5%	4%	6%	5%	6%	6%	6%	6%
Rail service	Number	73	49	96	50	101	129	123	143	225
	Percent	1%	1%	1%	0%	1%	1%	1%	1%	1%
Light Rail (BWI)	Number	48	4	12	49	4	12	97	24	46
	Percent	1%	0%	0%	0%	0%	0%	0%	0%	0%
Airport bus/ Van/Limo	Number	355	179	135	1,223	572	241	1,578	945	376
	Percent	4%	3%	2%	10%	5%	2%	8%	5%	2%
Hotel/motel courtesy bus	Number	80	80	50	819	1,020	724	899	898	774
	Percent	1%	1%	1%	7%	8%	6%	4%	5%	4%
Metrobus / MTA Bus	Number	66	48	61	183	127	83	249	172	143
	Percent	1%	1%	1%	2%	1%	1%	1%	1%	1%
Other	Number	20	27	94	102	242	290	122	221	384
	Percent	0%	0%	1%	1%	2%	3%	1%	1%	2%
TOTAL	Number	8,711	6,767	7,897	11,859	12,563	11,399	20,570	19,932	19,318
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals do not include resident unknown, and non-respondents for mode of access.

* Transportation Network mode of access, (Uber, Lyft) was introduced in 2015 survey

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 12: Annual Originating Air Passenger Mode of Access by Trip Purpose (000s)

Mode of Access		Work	Non-Work	Unknown	Total
Private car	<i>Number</i>	3,324	7,951	332	11,608
	<i>Percent</i>	35%	54%	46%	47%
Rental car	<i>Number</i>	1,297	1,509	78	2,883
	<i>Percent</i>	14%	10%	11%	12%
Taxi	<i>Number</i>	1,590	1,159	95	2,845
	<i>Percent</i>	17%	8%	13%	11%
Transportation Network (Uber, Lyft, etc..)	<i>Number</i>	1,663	1,821	77	3,561
	<i>Percent</i>	18%	12%	11%	14%
Metrorail (DCA)	<i>Number</i>	528	736	35	1,298
	<i>Percent</i>	6%	5%	5%	5%
Rail service	<i>Number</i>	96	203	5	304
	<i>Percent</i>	1%	1%	1%	1%
Light Rail (BWI)	<i>Number</i>	20	31	2	53
	<i>Percent</i>	0%	0%	0%	0%
Airport bus/Van/Limo	<i>Number</i>	225	258	19	503
	<i>Percent</i>	2%	2%	3%	2%
Hotel/motel courtesy bus	<i>Number</i>	441	501	41	983
	<i>Percent</i>	5%	3%	6%	4%
Metrobus/MTA Bus	<i>Number</i>	54	159	11	223
	<i>Percent</i>	1%	1%	1%	1%
Other	<i>Number</i>	216	303	30	549
	<i>Percent</i>	2%	2%	4%	2%
TOTAL	<i>Number</i>	9,454	14,630	725	24,809
	<i>Percent</i>	100%	100%	100%	100%
Non-Respondents		546	888	411	1,844
Total Originations		9,999	15,518	1,136	26,653

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 13: Annual Originating Air Passenger Mode of Access by Trip Origination (000s)

Mode of Access		Home	Non-Home	Unknown	Total
Private car	<i>Number</i>	10,077	1,465	65	11,608
	<i>Percent</i>	68%	15%	35%	47%
Rental car	<i>Number</i>	735	2,116	33	2,883
	<i>Percent</i>	5%	22%	17%	12%
Taxi	<i>Number</i>	862	1,961	22	2,845
	<i>Percent</i>	6%	20%	12%	11%
Transportation Network (Uber, Lyft, etc..)	<i>Number</i>	1,862	1,662	37	3,561
	<i>Percent</i>	13%	17%	20%	14%
Metrorail (DCA)	<i>Number</i>	524	765	10	1,298
	<i>Percent</i>	4%	8%	5%	5%
Rail service	<i>Number</i>	153	151	0	304
	<i>Percent</i>	1%	2%	0%	1%
Light Rail (BWI)	<i>Number</i>	23	30	0	53
	<i>Percent</i>	0%	0%	0%	0%
Airport bus/Van/Limo	<i>Number</i>	194	306	2	503
	<i>Percent</i>	1%	3%	1%	2%
Hotel/motel courtesy bus	<i>Number</i>	67	907	10	983
	<i>Percent</i>	0%	9%	5%	4%
Metrobus/MTA Bus	<i>Number</i>	106	111	6	223
	<i>Percent</i>	1%	1%	3%	1%
Other	<i>Number</i>	183	361	4	549
	<i>Percent</i>	1%	4%	2%	2%
TOTAL	Number	14,786	9,836	188	24,809
	Percent	100%	100%	100%	100%
Non-Respondents		525	453	867	1,844
Total Originations		15,310	10,288	1,055	26,653

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

III. FINDINGS - AIR TRAVELER CHARACTERISTICS

Section D of the survey questionnaire contained several questions regarding demographic characteristics of the air passenger. This section of the report summarizes the responses to these questions.

Resident Status (Survey Question D-1)

Table 14 summarizes resident status for locally originating air passengers in 2013, 2015, and 2017. At the regional level, the typical Resident/Non-Resident breakdown is approximately 60/40 percent, and it was exactly that in 2017. However, at IAD the breakdown is more similar (49/51 percent).

Table 14: Annual Originating Air Passengers Resident Status (000s)

Resident Status	BWI			DCA			IAD			REGION		
	2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
Resident <i>Number</i>	3,695	2,531	3,043	3,051	2,440	2,842	2,118	1,851	2,247	8,864	6,822	8,132
<i>Percent</i>	47%	36%	42%	39%	29%	34%	40%	44%	49%	42%	35%	40%
Non-Resic <i>Number</i>	4,093	4,447	4,213	4,758	5,989	5,480	3,224	2,389	2,327	12,075	12,825	12,020
<i>Percent</i>	53%	64%	58%	61%	71%	66%	60%	56%	51%	58%	65%	60%
TOTAL <i>Number</i>	7,788	6,978	7,256	7,809	8,429	8,322	5,342	4,240	4,574	20,939	19,647	20,152
<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals do not include non-respondents and resident unknown

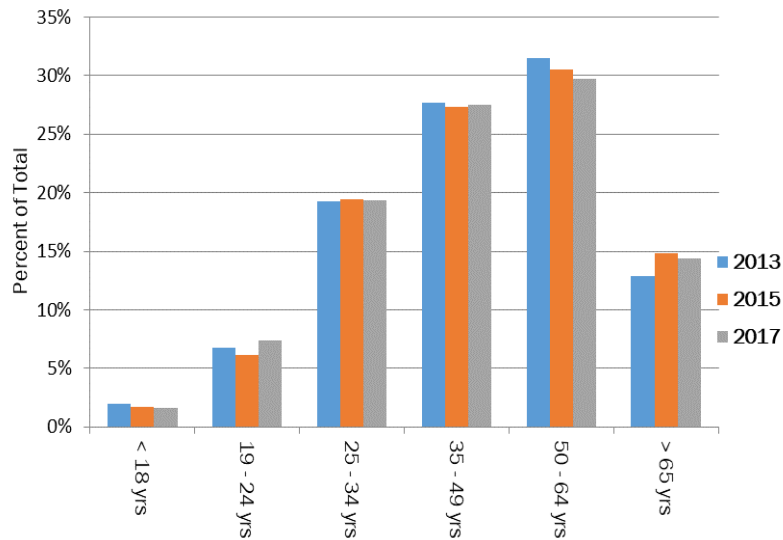
* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Age (Survey Question D-3)

Local originating passengers under the age of 25 increased from eight to nine percent, while passengers age 35 and older decreased from 73 to 72 percent. Passengers age 25 to 34 remained the same at 19 percent. Departing passengers over the age of 65 dropped from 15 percent in 2015 to 14 percent in 2017. Table 15 provides the detailed age distribution for passengers at the three airports and the region overall.

Figure 15: Age Distribution of Locally Originating Air Passengers (Region)



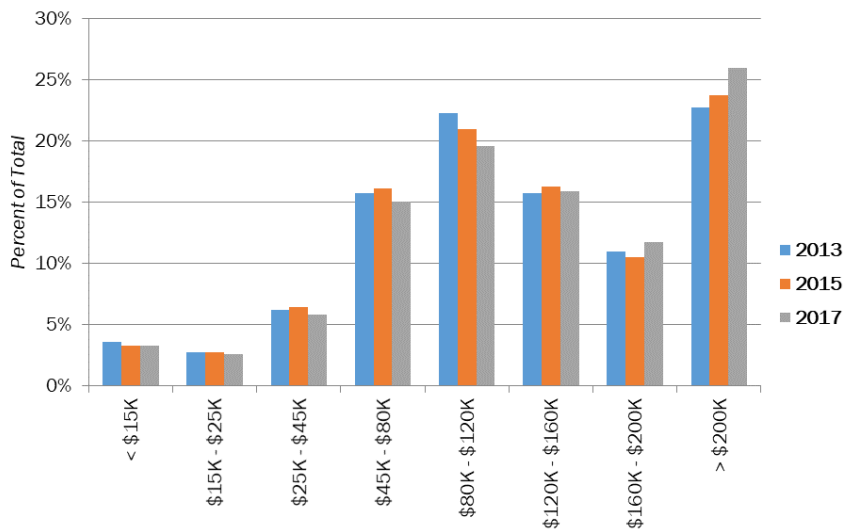
Note:- Non-respondents are not included

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Income (Survey Question D-4)

Household incomes for air travelers in the Washington-Baltimore region continue to be higher than the regional median. Table 16 shows originating air passenger household income data at the three airports and in the region. In 2017, only 27 percent of the region’s passengers had household incomes less than \$80,000. For all three airports, more than 73 percent of air passengers (both residents and non-residents) had incomes of \$80,000 or more. Over half of both area residents (59 percent) and non-residents (53 percent) have an annual household income of over \$120,000 (see Table 17). The median household income for the region is \$95,843.⁴ The median household income for the U.S. is \$57,617.⁵ This finding demonstrates that air travelers from the Washington-Baltimore region are affluent relative to the regional and national distribution of household income.

Figure 16: Income Distribution of Locally Originating Air Passengers (Region)



Source: Washington-Baltimore Regional Air Passenger Survey 2017

⁴ In 2017 inflation adjusted dollars for the Washington-Baltimore-Northern Virginia DC-MD-VA-WV Combined Statistical Area. Source: 2015-2016 American Community Survey

⁵ Ibid.

Table 15: Annual Originating Air Passenger Age (000s)

Age Group		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
18 or Younger	Number	151	119	125	144	194	148	125	79	108	420	392	381
	Percent	2%	1%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%
19 to 24 Years	Number	599	501	705	492	649	645	359	296	407	1,450	1,446	1,757
	Percent	7%	6%	9%	6%	7%	7%	6%	5%	7%	7%	6%	7%
25 to 34 Years	Number	1,447	1,483	1,564	1,728	2,047	1,761	975	1,062	1,289	4,150	4,592	4,614
	Percent	18%	18%	19%	22%	21%	19%	18%	18%	21%	19%	19%	19%
35 to 49 Years	Number	2,073	2,022	2,073	2,300	2,723	2,705	1,609	1,708	1,780	5,982	6,453	6,558
	Percent	26%	25%	25%	29%	28%	29%	29%	29%	29%	28%	27%	28%
50 to 64 Years	Number	2,612	2,600	2,489	2,517	2,799	2,881	1,678	1,792	1,717	6,807	7,191	7,087
	Percent	33%	32%	30%	31%	29%	31%	30%	30%	28%	32%	31%	30%
65 or Older	Number	1,127	1,292	1,231	849	1,232	1,283	805	979	913	2,781	3,503	3,427
	Percent	14%	16%	15%	11%	13%	14%	15%	17%	15%	13%	15%	14%
TOTAL	Number	8,009	8,017	8,187	8,030	9,644	9,423	5,551	5,916	6,214	21,590	23,577	23,824
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		550	468	723	656	723	1,076	664	675	1,031	1,870	1,866	2,830
Total Originations		8,559	8,485	8,910	8,686	10,367	10,499	6,215	6,591	7,245	23,460	25,443	26,654

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 16: Annual Originating Air Passenger Annual Household Income by Airport (000s)

Annual Household Income		BWI			DCA			IAD			REGION		
		2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
Less than \$15,000	Number	188	182	221	229	241	212	188	167	182	605	590	615
	Percent	3%	3%	3%	4%	3%	3%	4%	4%	4%	4%	3%	3%
\$15,000 - \$24,999	Number	149	153	188	149	192	167	164	147	129	462	492	484
	Percent	2%	3%	3%	2%	3%	2%	4%	3%	3%	3%	3%	3%
\$25,000 - \$44,999	Number	477	456	439	308	424	326	251	282	323	1,036	1,162	1,088
	Percent	8%	7%	7%	5%	6%	4%	6%	7%	7%	6%	6%	6%
\$45,000 - \$79,000	Number	1,093	1,091	1,056	947	1,115	999	597	686	748	2,637	2,892	2,803
	Percent	18%	18%	16%	15%	15%	13%	14%	16%	16%	16%	16%	15%
\$80,000 - \$119,000	Number	1,445	1,382	1,334	1,388	1,564	1,443	889	824	878	3,722	3,770	3,655
	Percent	23%	23%	21%	22%	21%	19%	21%	19%	18%	22%	21%	20%
\$120,000 - \$159,000	Number	1,040	1,034	1,074	955	1,216	1,183	639	669	703	2,634	2,919	2,960
	Percent	17%	17%	17%	15%	16%	16%	15%	15%	15%	16%	16%	16%
\$160,000 - \$199,999	Number	629	623	728	692	826	923	516	437	540	1,837	1,886	2,191
	Percent	10%	10%	11%	11%	11%	12%	12%	10%	11%	11%	10%	12%
\$200,000 and up	Number	1,206	1,178	1,418	1,638	1,980	2,165	963	1,105	1,259	3,807	4,263	4,842
	Percent	19%	19%	22%	26%	26%	29%	23%	26%	26%	23%	24%	26%
TOTAL	Number	6,227	6,099	6,458	6,306	7,558	7,418	4,207	4,317	4,762	16,740	17,974	18,638
	Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		2,278	2,384	2,453	2,378	2,808	3,086	2,008	2,276	2,488	6,664	7,468	8,027
Total Originations		8,505	8,483	8,911	8,684	10,366	10,504	6,215	6,593	7,250	23,404	25,442	26,665

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 17: Annual Originating Air Passenger Household Income by Resident Status

Annual Household Income		Resident Status			
		Resident	Non-Resident	Unknown	Total
Less than \$15,000	Number	146	262	207	615
	Percent	2%	3%	7%	3%
\$15,000 - \$24,999	Number	84	225	175	484
	Percent	1%	2%	6%	3%
\$25,000 - \$44,999	Number	246	555	287	1,088
	Percent	4%	6%	10%	6%
\$45,000 - \$79,000	Number	907	1,372	524	2,803
	Percent	14%	15%	18%	15%
\$80,000 - \$119,000	Number	1,227	1,938	490	3,655
	Percent	19%	21%	17%	20%
\$120,000 - \$159,000	Number	1,128	1,456	376	2,960
	Percent	17%	16%	13%	16%
\$160,000 - \$199,999	Number	799	1,146	246	2,191
	Percent	12%	12%	9%	12%
\$200,000 and up	Number	1,963	2,335	544	4,842
	Percent	30%	25%	19%	26%
TOTAL	Number	6,500	9,289	2,849	18,638
	Percent	100%	100%	100%	100%
Non-Respondents		1,634	2,733	3,660	8,027
Total Originations		8,134	12,022	6,509	26,665

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Boarding Pass and Bag Checking (Survey Question A-4)

As in the 2011, 2013 and 2015 surveys, passengers were asked if and where passengers had made a stop for a boarding pass and/or bag check at the following locations:

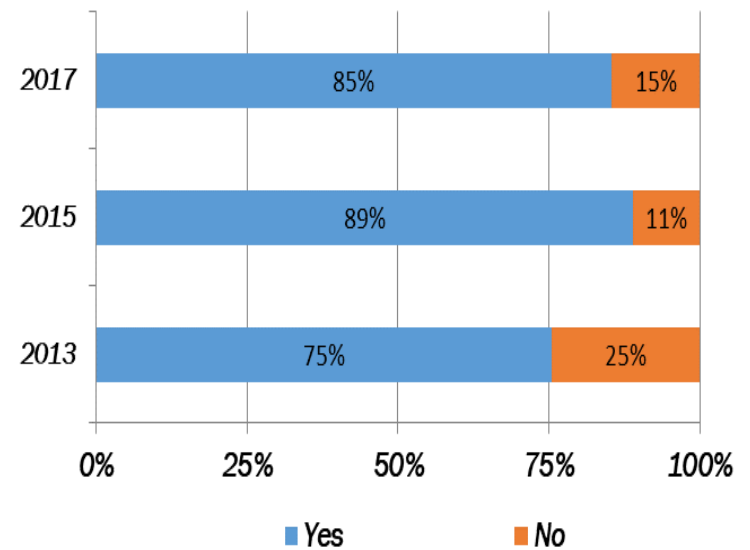
- Curbside agent for boarding pass
- Curbside agent for bag check
- E-ticket kiosk for boarding pass
- E-ticket kiosk for bag check
- Ticket agent in terminal for boarding pass
- Ticket agent in terminal for bag check
- None of the above

Table 18 shows the distribution of originating air passenger activities for boarding pass and bag checking at airport terminals. Overall, 63 percent of departing passengers reported stopping for a boarding pass and/or bag check: 61 percent at DCA; 65 percent at IAD and BWI. Conversely, of 33 percent of departing passengers reported to have made no stop for either a boarding pass and/or bag check: 35 percent at DCA, 32 percent at BWI and 30 percent at IAD. When compared with the 2015 findings, passengers who made a stop for a boarding pass and/or bag check increased at all three airports.

Among passengers in the region who reported making a stop for a boarding pass and/or bag check, 26 percent used the E-ticket Kiosk: 28 percent at DCA, 21 percent at IAD, and 26 percent at BWI. 21 percent made a stop at the Terminal Ticket Agent: 16 percent at DCA, 28 percent at IAD, and 20 percent at BWI.

Passengers also used airport terminal airline curbside facilities for boarding pass and/or bag checking services. Overall, nine percent of passengers reported using the curbside facilities for these services: 10 percent at DCA, six percent at IAD, and 11 percent at BWI.

Figure 17: Passengers Who Stopped for Boarding Pass and/or Bag Check (Region)



Note:- Non-respondents are not included

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 18: At-Airport Use of Boarding Pass and Bag Check Facilities

Passengers at Airport Boarding Pass and Bag Check			BWI Marshall			Reagan National			Dulles			TOTAL		
			2013	2015	2017	2013	2015	2017	2013	2015	2017	2013	2015	2017
A	Curbsides													
	Only stopped at Curbside for Boarding Pass	<i>Number</i>	236	257	184	169	234	165	118	92	117	523	583	466
		<i>Percent</i>	3%	3%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%
	Only stopped at Curbside for Bag Check	<i>Number</i>	625	585	313	225	294	291	145	102	86	995	981	689
		<i>Percent</i>	7%	7%	4%	3%	3%	3%	2%	2%	1%	4%	4%	3%
	Stopped at Curbside for Boarding Pass and Bag Check	<i>Number</i>	530	569	424	413	472	461	284	96	214	1,227	1,137	1,099
		<i>Percent</i>	6%	7%	5%	5%	5%	4%	5%	1%	3%	5%	4%	4%
B	E-Ticket Kiosk													
	Only stopped at E-ticket Kiosk for Boarding Pass	<i>Number</i>	1,184	970	1,063	1,768	1,880	1,548	690	677	745	3,642	3,527	3,356
		<i>Percent</i>	14%	11%	12%	20%	18%	15%	11%	10%	10%	16%	14%	13%
	Only stopped at E-ticket Kiosk for Bag Check	<i>Number</i>	350	335	475	371	466	469	257	273	239	978	1,074	1,183
		<i>Percent</i>	4%	4%	5%	4%	4%	4%	4%	4%	3%	4%	4%	4%
	Stopped at E-ticket Kiosk for Boarding Pass and Bag Check	<i>Number</i>	350	297	681	644	750	826	436	484	492	1,430	1,531	1,999
		<i>Percent</i>	4%	4%	8%	7%	7%	8%	7%	7%	7%	6%	6%	8%
C	Ticket Agent													
	Only stopped at Ticket Agent for Boarding Pass	<i>Number</i>	517	554	525	606	638	649	540	553	552	1,663	1,745	1,727
		<i>Percent</i>	6%	7%	6%	7%	6%	6%	9%	8%	8%	7%	7%	6%
	Only stopped at Ticket Agent for Bag Check	<i>Number</i>	1,100	1,137	636	461	592	532	574	710	545	2,135	2,439	1,713
		<i>Percent</i>	13%	13%	7%	5%	6%	5%	9%	11%	8%	9%	10%	6%
	Stopped at Ticket Agent for Boarding Pass and Bag Check	<i>Number</i>	811	737	576	626	668	506	878	888	799	2,315	2,293	1,881
		<i>Percent</i>	10%	9%	6%	7%	6%	5%	14%	13%	11%	10%	9%	7%
D	Other													
	Stopped at more than one place for Boarding Pass and Bag Check	<i>Number</i>	635	705	909	979	1,109	940	807	853	946	2,421	2,667	2,795
		<i>Percent</i>	7%	8%	10%	11%	11%	9%	13%	13%	13%	10%	10%	10%
	Did Not stop for Boarding Pass or Bag Check	<i>Number</i>	2,029	2,215	2,885	2,322	18	3,693	1,305	4	2,140	5,656	2,237	8,717
		<i>Percent</i>	24%	26%	32%	27%	0%	35%	21%	0%	30%	24%	9%	33%
	Non Respondents	<i>Number</i>	129	124	239	100	3,246	418	179	1,860	370	408	5,230	1,027
		<i>Percent</i>	2%	1%	3%	1%	31%	4%	3%	28%	5%	2%	21%	4%
	Total	<i>Number</i>	8,496	8,485	8,910	8,684	10,367	10,499	6,213	6,592	7,245	23,393	25,444	26,653
		<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals do not include non-respondents and resident unknown

Source: Washington-Baltimore Regional Air Passenger Survey 2017

Table 19: At-Airport Use of Boarding Pass and Bag Check Facilities by Destination

Passengers at Airport Boarding Pass and Bag Check		Domestic			International			Total		
		2011	2013	2015	2011	2013	2015	2011	2013	2015
Only stopped at Curbside for Boarding Pass	<i>Number</i>	448	518	390	75	65	76	523	583	466
	<i>Percent</i>	2%	2%	2%	3%	2%	2%	2%	2%	2%
Only stopped at Curbside for Bag Check	<i>Number</i>	942	910	650	53	72	38	995	982	689
	<i>Percent</i>	5%	4%	3%	2%	2%	1%	4%	4%	3%
Only stopped at E-ticket Kiosk for Boarding Pass	<i>Number</i>	3,515	3383	3,191	127	144	165	3,642	3,527	3,356
	<i>Percent</i>	17%	15%	14%	4%	5%	5%	16%	14%	13%
Only stopped at E-ticket Kiosk for Bag Check	<i>Number</i>	927	1002	1,116	51	72	67	978	1,074	1,183
	<i>Percent</i>	5%	4%	5%	2%	2%	2%	4%	4%	4%
Only stopped at Ticket Agent for Boarding Pass	<i>Number</i>	1,245	1330	1,291	418	415	436	1,663	1,745	1,727
	<i>Percent</i>	6%	6%	5%	15%	14%	14%	7%	7%	6%
Only stopped at Ticket Agent for Bag Check	<i>Number</i>	1,815	2099	1,410	320	340	303	2,135	2,439	1,713
	<i>Percent</i>	9%	9%	6%	11%	11%	10%	9%	10%	6%
Stopped at more than place for Boarding Pass and Bag Check	<i>Number</i>	6,061	6303	6,448	1,332	1326	1,327	7,393	7,629	7,774
	<i>Percent</i>	30%	28%	27%	47%	44%	42%	32%	30%	29%
Did Not stop for Boarding Pass or Bag Check	<i>Number</i>	5,302	2210	8,183	354	28	535	5,656	2,238	8,717
	<i>Percent</i>	26%	10%	35%	12%	1%	17%	24%	9%	33%
Non Respondents	<i>Number</i>	288	4703	841	120	525	186	408	5,228	1,027
	<i>Percent</i>	1%	21%	4%	4%	18%	6%	2%	21%	4%
Total	<i>Number</i>	20,543	22,458	23,520	2,850	2,987	3,133	23,393	25,445	26,653
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

* Totals may not add due to rounding

Source: Washington-Baltimore Regional Air Passenger Survey 2017

APPENDIX A: SURVEY METHODOLOGY

The following is a summary of the methodology used to conduct the Washington-Baltimore Regional Air Passenger Survey 2017.

Survey Design

The survey was designed to provide current air traffic patterns and user characteristics for passengers departing from the region's three major commercial airports: Baltimore/Washington Thurgood Marshall International Airport (BWI), Ronald Reagan Washington National Airport (DCA), and Washington Dulles International Airport (IAD). It was designed to be compatible with the previous surveying efforts conducted in 1981/82, 1987, 1992, 1998, 2000, 2002, 2005, 2007, 2009, 2011, 2013 and 2015, so that comparative analysis could be performed.

Changes in Survey Design Since 2011

For surveys conducted through 2009, the samples for domestic flights were stratified by different regions of the United States: Northeast, New York Metropolitan Area, Mid-Atlantic, Southeast, Great Lakes, and West. For international flights, the samples were stratified into twenty-four different regions of the world. However, for surveys since 2011, both domestic and international flights were stratified by airline and destination frequencies (i.e., the higher the scheduled flight frequency to a destination, the higher the number of flights sampled and vice versa). As such, for the 2017 sample selection there were 277 strata for domestic and 45 for international destinations, respectively, for all three airports combined. All flights selected for surveying were scheduled during a two-week period beginning Wednesday, October 4th and extending through Tuesday October 17th, 2017. Flights that were missed and those that required resurveying due to insufficient response rates were surveyed again during the subsequent two week period, ending October 30th, 2017.⁶

Sample Selection

A sample of departing air travelers was obtained by surveying all passengers on selected flights scheduled during the survey period. A sample frame was developed which included all scheduled departures during the two-week period. This list was compiled electronically from the Official Airline Guide (OAG), provided by MWAA. The edited sample frames contained one record for each flight leaving from the three airports during a seven-day week (e.g. flights scheduled to fly seven days a week were included in the sample frame seven times, flights flying six days during the week were included six times, etc.).

To ensure an acceptable level of confidence for parameter estimates while remaining within the budget constraints, a sample of approximately 582 domestic flights were drawn. The domestic flight distribution consisted of 223 at BWI, 222 at DCA, and 137 at IAD. An additional 75 international flights were drawn and distributed among the airports as follows: 13 at BWI, 9 at DCA⁷, and 53 at IAD.

⁶ Previous surveys allowed for a two-week resurvey period; however, the resurvey period for this survey was truncated for the Thanksgiving holiday.

⁷ DCA provides service to Canadian and Caribbean destinations.

The sample was reviewed by MWAA and MAA with corrections or changes being made as necessary, including any new flights that were to be added during the survey period. These additions were then used to select the final flight sample. The flights were listed by airport, date, and departure time, to enable manpower requirements to be calculated and staff time to be scheduled.

The survey only involved departing passengers. Arriving passengers were not surveyed, primarily due to limited resources. Additionally, it would have been difficult to maintain arriving passengers' attention as they proceeded to their connecting flights, baggage claim, or ground transportation. It is assumed, therefore, that the characteristics of arriving passengers would mirror those of the departing passengers surveyed. This is a hypothesis that should be tested in a future survey.

Conducting the Survey

The survey was conducted during a two-week period beginning Wednesday, October 4th and extending through Tuesday October 17th, 2017. Flights that were missed and those that required resurveying due to insufficient response rates were surveyed again during the subsequent two-week period ending October 30th, 2017. Survey managers were appointed for each of the airports from MWCOG staff, and teams of surveyors were assembled. One or two surveyors were assigned to each selected flight, based on the size of the aircraft and how many passengers were expected. Self-administered questionnaires were distributed to the passengers in the gate area as they checked-in and waited to board. The questionnaires were collected as the passengers completed them, or when the flight was called for boarding. Late-arriving passengers were given a questionnaire with a self-addressed postage paid mail-back envelope. These passengers were asked to complete the questionnaire en route and drop it in the mail upon arrival at their destination. In the 2017 survey, respondents were also given the option of responding through an online questionnaire. A copy of the survey questionnaire is included in this report as Appendix B. A copy of the Survey Procedures for the 2017 Air Passenger Survey is included in this report as Appendix C.

Factoring the Survey Data

Since the survey was conducted over two weeks in October 2017, and not continuously throughout the calendar year, the survey data do not reflect any specific annual period. Rather, the survey as it was conducted represents a “snapshot” of passenger activity, taken during the fall travel period. This survey period should be representative of typical average results.

The survey responses were expanded to represent annual passenger estimates by a three-step process. The survey responses obtained on each sampled flight were first factored up to the boarding count totals (revenue passengers only). This number was obtained from the gate attendant at the closing of each flight. Secondly, the factored survey responses were expanded to represent bi-weekly passenger totals. And finally, observed annual enplanement of regional air travel was obtained from MWAA for DCA and IAD and from MAA for BWI.

Level of Confidence

For the overall region, the theoretical level of error for response totals was expected to be within a range of plus or minus three percentage points. The level of error for each of the individual airports, or by other sub-units, was expected to be higher. Analysis of the survey data indicates that, at a 90 percent level of confidence, parameters at the regional level are within a range of plus or minus three percentage points. Percentages at individual airports are subject to a sampling error of twice that amount.

APPENDIX B: SURVEY QUESTIONNAIRE⁸

⁸ There were separate questionnaires for each airport: DCA, IAD, and BWI. The questionnaires are substantively identical. The only differences are on the questionnaire front page where the specific airport is identified and in questions where a specific airport is identified or omitted from the possible answers to eliminate illogical results. These places are illustrated with rectangles on the questionnaire image.

Figure 18: 2017 Air Passenger Survey

A. ABOUT YOUR TRIP TODAY

1. How did you get to Baltimore/Washington International Thurgood Marshall Airport for this trip? (Please check ONE answer)

₀₁ I came to this airport by GROUND TRANSPORTATION (e.g. auto, taxi, Metro, etc.) (Please proceed directly to QUESTION #2)

₀₂ I was on this flight when it arrived at this airport. (STOP. That is all the information we need)

₀₃ I made a connection at this airport from a DOMESTIC FLIGHT...

₀₄ I made a connection at this airport from an INTERNATIONAL FLIGHT... with _____ Airlines. (Please fill in the name of the airline and STOP. That is all we need to know)

If you arrived at this airport by GROUND TRANSPORTATION, please complete the rest of this survey.

2. What is the final destination of your trip today?

_____ Airport _____ City

_____ State/Province _____ Country

3. What type of trip is this? (Please check the answer for the main purpose of your travel)

₀₁ Business related to the federal government (Including military)

₀₂ Business related to state or local government

₀₃ Business that is not related to government

₀₄ Vacation

₀₅ Personal or family affairs

₀₆ Student or school related

₀₉ Other purpose (Specify: _____)

4. Since your arrival at the airport, did you stop at any of the following? (Please check ALL that apply)

₀₁ Curbside agent for boarding pass

₀₂ Curbside agent for bag check

₀₃ E-ticket kiosk for boarding pass

₀₄ E-ticket kiosk for bag check

₀₅ Ticket agent in terminal for boarding pass

₀₆ Ticket agent in terminal for bag check

₀₉ None of the above

B. ABOUT YOUR GROUND TRIP TO BWI MARSHALL AIRPORT:

1. Where did you start your ground trip to this airport (BWI)? (Please check ONE answer)

₀₁ Private residence ₀₄ Another place of business

₀₂ Hotel/Motel ₀₅ My regular place of employment

₀₃ My regular place of employment ₀₆ Other (Specify: _____)

2. What is the address of the place above? (If you prefer to provide a less specific geographic location, please indicate the nearest intersection, or building name)

Street Number Street Name City Quadrant (e.g., SW, NE)

City State Zip Code

3. What time did you begin your trip to the airport today? (Enter time and circle AM or PM)

: AM PM

4. What time did you arrive at the airport today? (Enter time and circle AM or PM)

: AM PM

5. How many people who came to the airport with you are getting on the plane with you (including yourself)?

_____ People (Including yourself)

6. How many checked-in bags on this flight are yours?

_____ Bags (Enter '0' if no bags were checked)

7. What was your primary means of transportation to this airport today? (Please check ONE answer)

₀₁ Private Car ₀₇ Metrorail

₀₂ Rented Car ₀₈ Amtrak/MARC (BWI)

₀₃ Taxi ₀₉ Light Rail (BWI)

₀₄ Transportation Network Company (ex. Uber, Lyft) ₁₀ Metrobus/MTA Bus Airport Bus

₀₅ Airport van/limo

₀₆ Hotel/Motel courtesy bus

₀₉ Other (Specify: _____)

8. Is this how you usually get to the airport?

₀₁ Yes ₀₂ No

9. If you arrived in a private vehicle (excluding rental cars):

a. Were you dropped off at the terminal curbside?

₀₁ Yes ₀₂ No

b. Where was that vehicle parked (either directly or after dropping you off)?

₀₁ It was not parked

₀₂ Hourly Parking Garage

₀₃ Daily Garage

₀₄ Express Parking Lot

₀₅ Long Term A or B

₀₆ BWI Rail Station Garage

₀₇ Off-Airport Private Parking

b1. For how long?

₀₁ For a few hours or less

₀₂ Until you return from this trip

c. Is this where you usually park your vehicle at the airport?

₀₁ Yes ₀₂ No

C. ABOUT YOUR AIRPORT AND GROUND TRIP CHOICE

1. Please rank the three most important reasons for choosing BWI Marshall Airport for your flight today. (Please write 1, 2, or 3 in the appropriate spaces)

_____ Closest airport

_____ Easy road access

_____ Convenient limo, bus, or rail service

_____ Good parking facilities

_____ More convenient flight times

_____ Less expensive airfare

_____ Only airport with non-stop flights

_____ Only airport that serves market

_____ Frequent flyer specific airline

_____ Other (Specify: _____)

Survey Continued

2. If you could have arranged the airline schedule for your trip today, which airport would you have **PREFERRED** to use?

(Please check **ONE** answer)

- ₀₁ BWI Marshall
- ₀₂ Washington Dulles International
- ₀₃ Ronald Reagan Washington National
- ₀₅ No preference

3. Please indicate which other airport(s) you considered using today.

(Please check **ALL** answers that apply)

- ₀₂ Washington Dulles International
- ₀₃ Ronald Reagan Washington National
- ₉₅ Other airport (Specify: _____)
- ₉₉ Did not consider another airport

4. What was your **MAIN** reason for choosing your primary means of transportation to this airport today? (Please check **ONE** answer)

- ₀₁ Cost
- ₀₂ Reliability
- ₀₃ Travel Time
- ₀₄ Ease of Use
- ₀₅ Comfort
- ₉₅ Other (Specify: _____)

D. ABOUT YOURSELF

1. Please indicate the location of your current residence:

_____|_____|_____
City/County State Zip Code

Country

2. How many people live in your household?

_____ People (Enter '1' if you live alone)

3. Please check your age bracket:

- ₀₁ 18 or younger ₀₄ 35-49
- ₀₂ 19-24 ₀₅ 50-64
- ₀₃ 25-34 ₀₆ 65 or older

4. Please check the category that includes the total annual income of all persons in your household:

- ₀₁ Less than \$15,000 ₀₅ \$80,000-\$119,999
- ₀₂ \$15,000-\$24,999 ₀₆ \$120,000-\$159,999
- ₀₃ \$25,000-\$44,999 ₀₇ \$160,000-\$199,999
- ₀₄ \$45,000-\$79,999 ₀₈ \$200,000 or more

If you were visiting the Washington-Baltimore area, please answer questions 5 and 6, then proceed directly to section E.

5. How many nights did you stay in the area?

_____ Nights (Enter '0' if you are leaving the same day you arrived)

6. Approximately how much did you spend **PER DAY** while you were in the area?

(Include expenses which are meals, hotels, rental cars, etc. Do not include airfare. Please check **ONE** answer)

- ₀₁ Less than \$100 ₀₅ \$400-\$499
- ₀₂ \$100-\$199 ₀₆ \$500-\$749
- ₀₃ \$200-\$299 ₀₇ \$750-\$999
- ₀₄ \$300-\$399 ₀₈ \$1,000 or more

If your air travel begins from this airport please answer question 7, then proceed to section E.


7. How many nights will you spend away on this trip?

_____ Nights (Enter '0' if you are returning today)

E. PLEASE WRITE ANY COMMENTS YOU MAY WISH TO BRING TO OUR ATTENTION BELOW

Thanks for Your Help!





**2017
WASHINGTON – BALTIMORE
REGIONAL AIR PASSENGER
SURVEY**

**TO DETERMINE LOCAL AIRPORT NEEDS
BWI**


This survey concerns your trip today. Please complete this form, even if you have received a form on other days.

All answers are confidential. Personal identification is not required. Thank you for your cooperation.

You can take this survey online by visiting

<http://tinyurl.com/oop9u62>

or scan the QR code below.



ID number below is required to access online survey.

This survey is being conducted by:
Metropolitan Washington Council of Governments
Metropolitan Washington Airports Authority
Maryland Aviation Administration
in cooperation with the airlines
serving the region's airports.

ID NUMBER (PASSWORD)

APPENDIX C: SURVEY PROCEDURES MANUAL



**2017 Washington-Baltimore
Regional Air Passenger Survey**



SURVEY PROCEDURES MANUAL



OCTOBER 2017

Metropolitan Washington Council of Governments



PERSONNEL REQUIREMENTS

While working on this survey, you will be representing the [Metropolitan Washington Council of Governments](#), the [Maryland Aviation Administration](#) of the Maryland Department of Transportation, the [Metropolitan Washington Airports Authority](#), and to some extent, the airlines themselves. Your appearance must be business-like. It will be easier to conduct the interviews if you present yourself in this manner. Casual attire is not acceptable.

You are expected to engage only in activities or discussions that are directly related to the work of obtaining the information required for the survey.

-
-
-
-
-

The success or failure of this survey will be due in large part to your efforts. COG, MAA, and MWAA would like to thank you in advance for your participation in this survey. We are looking forward to conducting a survey that encounters fewer problems and produces even better results than the surveys done in the past.

MAKE SURE YOU HAVE THE FOLLOWING

BWI**B100417WN490**

GATE ATTENDANTS: PLEASE READ THE FOLLOWING ANNOUNCEMENT TWICE PRIOR TO THE INITIAL BOARDING ANNOUNCEMENT FOR THIS FLIGHT.

(Valid for Flights between October 4, 2017, and October 17, 2017)

LADIES AND GENTLEMEN,

THE PASSENGERS ON Southwest Airlines, Flight Number 490 TO Providence RI HAVE BEEN SELECTED TO PARTICIPATE IN AN AIR PASSENGER SURVEY BEING CONDUCTED IN THE WASHINGTON-BALTIMORE REGION.

YOUR PARTICIPATION IN THE SURVEY IS COMPLETELY VOLUNTARY; IT WILL ONLY TAKE A FEW MINUTES TO COMPLETE THE QUESTIONNAIRE.

A SURVEY REPRESENTATIVE IS HERE TO DISTRIBUTE THE QUESTIONNAIRES AND COLLECT THEM WHEN YOU ARE FINISHED.

Southwest Airlines AND BWI MARSHALL AIRPORT WOULD LIKE TO THANK YOU FOR YOUR COOPERATION.”

WED 10/4/2017

**2017 WASHINGTON / BALTIMORE REGIONAL AIR
PASSENGER SURVEY FLIGHT RECORD**

SAMPLE: **B100417WN490**

AIRPORT: **BWI** DESTINATION CITY: **Providence RI**

DAY: **WED** CARRIER: **Southwest Airlines**

DATE: **10/4/2017** FLIGHT #: **490**

DEPARTURE TIME: **6:05:00 AM**

AIRCRAFT: **73W** NO. SEATS: **143** OAG CODE: **WN**

QUESTIONNAIRES:

IN PACKET: BEGINNING # **B00001** ENDING # **B000143**

ADDITIONAL: BEGINNING # _____ ENDING# _____

ADDITIONAL: BEGINNING # _____ ENDING# _____

NO. OF NON-MAILBACK FORMS DISTRIBUTED: **X**

NO. OF MAILBACKS DISTRIBUTED: **X**

TOTAL NO. OF FORMS DISTRIBUTED: **X**

NO. OF COMPLETED QUESTIONNAIRES; **X**

NO. OF REVENUE PASSENGERS: **X**

RESPONSE RATE: _____ SUCCESSFUL FLIGHT? **YES/NO**

RESURVEY DATE #1: _____ RESURVEY DATE #2: _____

REMARKS: _____

SURVEYING PROCEDURES FOR SURVEY INTERVIEWERS

Upon arriving at the airport each day, surveyors are to go to the field office and check in with the lead assistant on duty. Lead assistants will also be assigned to survey flights.

1. The lead assistant will supply each surveyor with the following:
 - All necessary identification badges;
 - the flight package for the flight(s) to be surveyed. ***It is important that each surveyor double check that you have the correct flight package, and that it contains the correct materials.*** (NOTE: All attempts will be made to group flights to be surveyed that are in the same general areas of the airport. Surveyors, therefore, may not be returning to the field office between flights. When this is the case, the surveyor is to make sure you have all materials needed to survey all flights that have been selected); and,
 - any additional supplies, such as extra questionnaires, pencils, rubber bands, extra mail-back envelopes, etc., and any special instructions for the day.

2. Lead assistants will check the airport schedule monitors and identify the gates at which the selected flights will board, and make sure the surveyors know how to get to those gates. In general, the surveyor should be at the gate at least one hour prior to the flight's scheduled departure time (for international flights, the surveyors should arrive up to an hour and a half early).

3. When you reach the gate, introduce yourself to the gate attendant on duty, and tell them that the flight has been selected to be surveyed. If there are any problems with the gate personnel, leave the gate area immediately and contact the field office. Otherwise, present the gate announcement to the attendant and ask that it be read over the PA system two times during the passenger check-in period. In some instances, the surveyor will make the announcement, if the gate attendants are extremely busy.

4. Once the announcement is first read, approach the passengers who have already checked-in. One suggested introduction would be:

“Good morning (afternoon, evening), we are conducting an air passenger survey at Dulles (BWI, Ronald Reagan National) Airport. Are you waiting to board (flight number) to (flight

destination) (for example, United Flight number 127 to Los Angeles)? Would you mind taking a few minutes to fill out this brief questionnaire?

5. If the passenger agrees, hand him/her a questionnaire and thank them. Inform them that you will be collecting the completed questionnaires before the flight is called for boarding.
6. *If the passenger does not want to participate, thank them anyway and go to the next passenger.*
7. If the passenger identifies him/herself as an airline employee or other non-revenue passenger, **DO NOT GIVE THEM A QUESTIONNAIRE. Thank them too**
8. Move around the waiting room in an organized fashion, remembering to smile and be as polite as possible.
9. Although we are interested in obtaining information from as many passengers on a flight as possible, there may be situations in which a single passenger can fill out a single questionnaire for more than one passenger:
 - a tour group that is traveling to and from the same destination, especially if the group is non-English speaking.

The passenger who fills out the questionnaire should indicate that the information provided counts for (X) number of passengers. This can be done by placing the number in the box located at the bottom of the comments section. However the passenger who fills out the questionnaire should fill out Section D, [About Yourself](#)

10. After you have distributed questionnaires to the passengers waiting in the boarding area, move toward the check-in desk. Position yourself near the check-in desk, and, as passengers leave the desk, briefly explain the survey and hand them a questionnaire.

IT IS EXTREMELY IMPORTANT THAT YOU DO NOT INTERFERE WITH THE CHECK-IN PROCESS.

11. If the flight package does not contain a sufficient number of questionnaires, use the extra forms that you should be carrying.

Be sure to note the sequence numbers of the extra questionnaires on the survey log sheet.

12. Approximately ten minutes after the first announcement was read, ask the gate attendant to read it a second time, if possible.

13. As boarding time approaches, begin to hand out mail-back envelopes with the questionnaires to all late-arriving passengers, and any others who may not have time to complete the form.
14. At boarding time, the surveyor needs to collect all completed questionnaires while watching for additional late-arriving passengers. Your goal is to try and reach every passenger on that selected flight. If you miss some, it will be acceptable.
ABOVE ALL ELSE, DO NOT INTERFERE WITH THE AIRLINES' BOARDING PROCESSES.
15. After the flight boards, there are two things the surveyors need to do:
 - Organize the flight package for the return to the office. Separate completed questionnaires from undistributed ones (and any that were not completed fully). Write down the number of mail-backs you distributed on the flight log; and,
 - Obtain the total number of revenue passengers who boarded that flight from the airline gate attendant. Make sure the attendant gives you the **revenue** count. Record this number on the flight log sheet.
16. If the boarding process is delayed, try to stay at the gate so you can survey any late-arriving passengers.
17. When you have the chance, return to the field office and transfer your notes to the Flight Log.
18. When you are not surveying a flight or on a break, help the lead assistant maintain records and prepare for the upcoming flights.
19. Before leaving for the day, be sure to verify when your next shift will be, and what flights you are expected to survey.



National Capital Region
Transportation Planning Board

Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002

mwcog.org/tpb