APPENDIX A: SURVEY METHODOLOGY

The following is a summary of the methodology used to conduct the Washington-Baltimore Regional Air Passenger Survey 2019.

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).

Sample Selection

For the 2019 sample selection there were 367 strata or subsets – 290 for domestic and 77 for international destinations, respectively, for all three airports combined. All flights selected for surveying were scheduled during a two-week period beginning Wednesday, October 16th and extending through Tuesday October 29th, 2019. Flights that were missed and those that required resurveying due to insufficient response rates were surveyed again during the subsequent two-week period, ending November 12th, 2019

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 the Maryland Airports Authority (MAA). 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 673 flights were drawn. The domestic flight distribution consisted of 229 at BWI, 217 at DCA, and 143 at IAD, for a total of 589 domestic flights. An additional 84 international flights were drawn and distributed among the airports as follows: 15 at BWI, 10 at DCA, and 59 at IAD.

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 2019 air passenger survey took place during the two-week period from Wednesday, October 16th to Tuesday, October 29th. Flights requiring resurveying occurred between October 30th and November 12th. Field staff collected completed surveys from 23,858 out of a total of 90,964 enplaning passengers on 673 randomly selected flights (589 domestic and 84 international), an overall response rate of 28.6 percent. All 23,858 completed survey questionnaires have been processed and tabulated.[3]

Survey managers were appointed for each of the airports from COG 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 2019 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 2019 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 2019, 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.

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3 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.

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.