



**2005 WASHINGTON-BALTIMORE  
REGIONAL AIR PASSENGER SURVEY**

**January 26, 2006**

**NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD  
METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS  
in cooperation with  
METROPOLITAN WASHINGTON AIRPORTS AUTHORITY and  
MARYLAND AVIATION ADMINISTRATION**

ABSTRACT

<b>TITLE:</b> 2005 Washington-Baltimore Regional Air Passenger Survey	<b>DATE:</b> January 26, 2006
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<b>AGENCY:</b> The Metropolitan Washington Council of Governments is the regional organization of the Washington area's major local governments and their governing officials. COG works toward solutions to such regional problems as growth, transportation, inadequate housing, air pollution, water supply, water quality, economic development and noise, and serves as the regional planning organization for Metropolitan Washington.	
<b>REPORT ABSTRACT:</b> This report presents the findings of a survey of approximately 16,000 air passengers at Ronald Reagan Washington National, Baltimore/Washington International and Washington Dulles International Airports. Topics of analysis include airport use, airport preference, trip purpose, mode of access, and passenger characteristics.	
<b>SUBJECT:</b> 2005 Washington-Baltimore regional air passenger characteristics.	
<b>PRECEDING REPORTS:</b> Washington-Baltimore Regional Air Passenger Survey (1982) Washington-Baltimore Regional Air Passenger Survey: Analysis of Findings (1984) 1987 Washington-Baltimore Regional Air Passenger Survey, Volume I: Principal Findings 1987 Washington-Baltimore Regional Air Passenger Survey, Volume II: Geographic Findings 1987 Washington-Baltimore Regional Air Passenger Survey, Volume III: Survey Methodology 1992 Washington-Baltimore Regional Air Passenger Survey, Volume I: Principal Findings 1992 Washington-Baltimore Regional Air Passenger Survey, Volume II: Geographic Findings 1992 Washington-Baltimore Regional Air Passenger Survey, Volume III: Survey Methodology 1998 Washington-Baltimore Regional Air Passenger Survey 2000 Washington-Baltimore Regional Air Passenger Survey 2002 Washington-Baltimore Regional Air Passenger Survey	
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**- CREDITS -**

This survey was funded jointly by the Metropolitan Washington Airports Authority, and the Maryland Aviation Administration of the Maryland Department of Transportation. Thanks are due to the Airport Managers of the three airports and all members of their respective staffs who assisted in the conduct of this survey. Special appreciation is extended to the participating airlines, the airport station managers, and local representatives for their outstanding level of cooperation.

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## EXECUTIVE SUMMARY

In March, 2005 a regional air passenger survey jointly funded by the Metropolitan Washington Airports Authority (MWAA) and the Maryland Aviation Administration (MAA) of the Maryland Department of Transportation (MDOT) was conducted at the three major commercial airports in the Washington-Baltimore Region: Ronald Reagan Washington National Airport, Washington Dulles International Airport and Baltimore/Washington International Airport. Approximately 24,000 passengers out of a total of 48,000 enplaning passengers on 675 flights were interviewed as they waited to board their planes, an overall response rate of 50 percent. More than 16,000 completed survey questionnaires representing the responses of these 24,000 passengers were collected, processed and tabulated. The survey questionnaires asked about the trip that was being made, about the passenger's trip to the airport, about the passenger's choice of airport, and several questions about the passenger's demographic characteristics. The 2005 regional air passenger survey was the seventh in a series of regional air passenger surveys conducted since 1981. Prior surveys were conducted in 1981/82, 1987, 1992, 1998, 2000, and 2002. Data from the air passenger surveys will provide the basis for analysis of major changes in airport use in the region and are an essential component of the air systems planning and master planning processes.

This report summarizes the findings regarding passenger trip characteristics, and compares the 2005 data to similar data collected in 2002 and 2000. 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.

Some of the most important findings from the 2002 Washington-Baltimore Regional Air Passenger Survey, including changes in air passenger behavior and characteristics from 2000 to 2002, are summarized as follows:

## **Airport Usage:**

- Total enplanements in the region rebounded significantly between 2002 and 2005. After declining by 12 percent between 2000 and 2002, total annual air passenger enplanements at the region's three commercial airports are estimated to have increased by 25% between 2002 and 2005.
- Total annual enplanements in 2005 (30.5 million) are now 3 million greater than in 2000 (27.5 million).
- Two-thirds of the increase in total enplanements between 2000 and 2005 is because of an increase of 2 million in the number connecting passengers, from 5.6 to 7.7 million.
- One-third of the increase is because of a 1 million increase in the number of locally originating passengers from 21.8 to 22.9 million.
- The greatest increase in the number of connecting passengers between 2000 and 2005 was seen at Dulles, +1.7 million, an increase of 45%.
- Connecting passengers increased by 376,000 at National (+86%), but decreased by -68,000 at BWI (-3%).
- The largest increase in the number of local originating air passengers between 2000 and 2005 was also seen at Dulles, +730,000 passengers, an increase of 12%.
- Local originating air passengers at BWI increased by 341,000 (+4%) between 2000 and 2005.
- Local originating air passengers increased by a healthy 1.3 million between 2002 and 2005, but were still 1% below their 2000 total.
- Airport shares of locally originating air passenger trips in 2005 were:
  - 38% to BWI Airport (down from 42% in 2002)
  - 32% to National Airport (up from 31% in 2002)
  - 30% to Dulles Airport (up from 27% in 2002)

## **Primary Reason for Selecting Airport Used:**

- In 2005, closest airport and cost are the most important factors in selecting airport used:

### **Closest Airport:**

- 71% of National Airport Users (up change from 2002)
- 63% of BWI Airport Users (up from 53% in 2002)
- 51% of Dulles Airport Users (no change from 2002)

### **Lowest Airfare:**

- 22% of BWI Airport Users (down from 30% in 2002)
  - 22% of Dulles Airport Users (up from 14% in 2002)
  - 8% of National Airport Users (no change from in 2002)
- While the percentage of passengers citing closest airport as their most important reason remained virtually unchanged at Dulles and National, it increased dramatically at BWI, from 53% in 2002 to 63% in 2005.
  - Similarly, the percentage of local originating passengers at BWI citing less expensive airfare as the most important reason for their airport choice dropped from 30% to 22%.
  - The percentage of air passengers at Dulles citing less expensive airfares as their most important reason is the same percentage citing this reason at BWI. This finding suggests that because of greater airline competition on airfares and convenience of flight times, these “quality of air service” factors have become less important than accessibility conditions in terms of overall airport choice.

### **Airport Preference:**

- Overall airport preferences expressed by all air passengers changed little between 2002 and 2005. National was preferred by 37% of the air passengers, BWI by 31% and Dulles by 20%. About 13% of the air passenger expressed no preference for a particular airport.
- In 2005, 34% of the area residents interviewed in the survey expressed a preference for National Airport, 34% preferred BWI and 24% preferred Dulles.
- In 2005, 40% of the non-residents reported that they preferred to use National Airport, 27% preferred BWI and 15% preferred Dulles.

### **Trip Purpose:**

- In 2005, the percentage of locally originating air passengers reporting that they were traveling for non-business related reasons increased significantly, from 52% in 2002 to 58% in 2005.
- Similarly, non-business vacation travel increased from 19% in 2002 to 26% in 2005 and student/school-related travel increased from 4% to 7%.
- It is not clear yet whether this shift in the purpose of locally originating air travel is the beginning of a significant new trend or the result of transitory temporal or seasonal factors.

### **Ground Trip Origin:**

- Between 2002 and 2005 the percentage of air passengers beginning the air passenger trips from a private residence increase from 55% to 61%.
- Air passenger leaving from a hotel or motel decreased from 29% to 26 %.

### **Mode of Access:**

- The most common mode of access to the airports in 2005 continued to be the automobile (private and rental), accounting for 62 percent of all local originations.
- Metrorail usage by passengers traveling to National Airport continues to be among the highest proportions of any airport in the Nation, at 13 percent. However, access by private car increased to 35 percent from 31 percent in 2002 and slightly exceeded the percentage arriving by taxi, 34 percent.
- The percentage air passenger arriving by rental car at National dropped from to 7% from 11% in 2002.

### **Air Traveler Characteristics:**

- For the first time in any of the Washington-Baltimore regional air passenger surveys, a 50/50 split between resident and non-resident air passengers is seen. In practically all prior surveys, a 60% non-resident/40% resident split has been observed.
- In 2005, the percentage of local originating passengers under the age of 25 doubled from 8% in 2002 to 16% in 2005, while the percentage of passengers age 35 and older decreased from 72% to 67%.
- Air travelers in the Washington-Baltimore region continue to be affluent. In 2005, 53% of the region's passengers had household incomes of a least \$100,000. At all airports about half the air passengers had incomes of \$100,000 or more.

This survey was a joint venture, conducted by the National Capital Region Transportation Planning Board (TPB), the Maryland Aviation Administration and the Metropolitan Washington Airports Authority, in cooperation with the airlines serving the region. The project was guided by the Aviation Technical Subcommittee of the TPB Technical Committee, composed of a broad range of Federal, State, Local, and private aviation interests.

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## I. INTRODUCTION

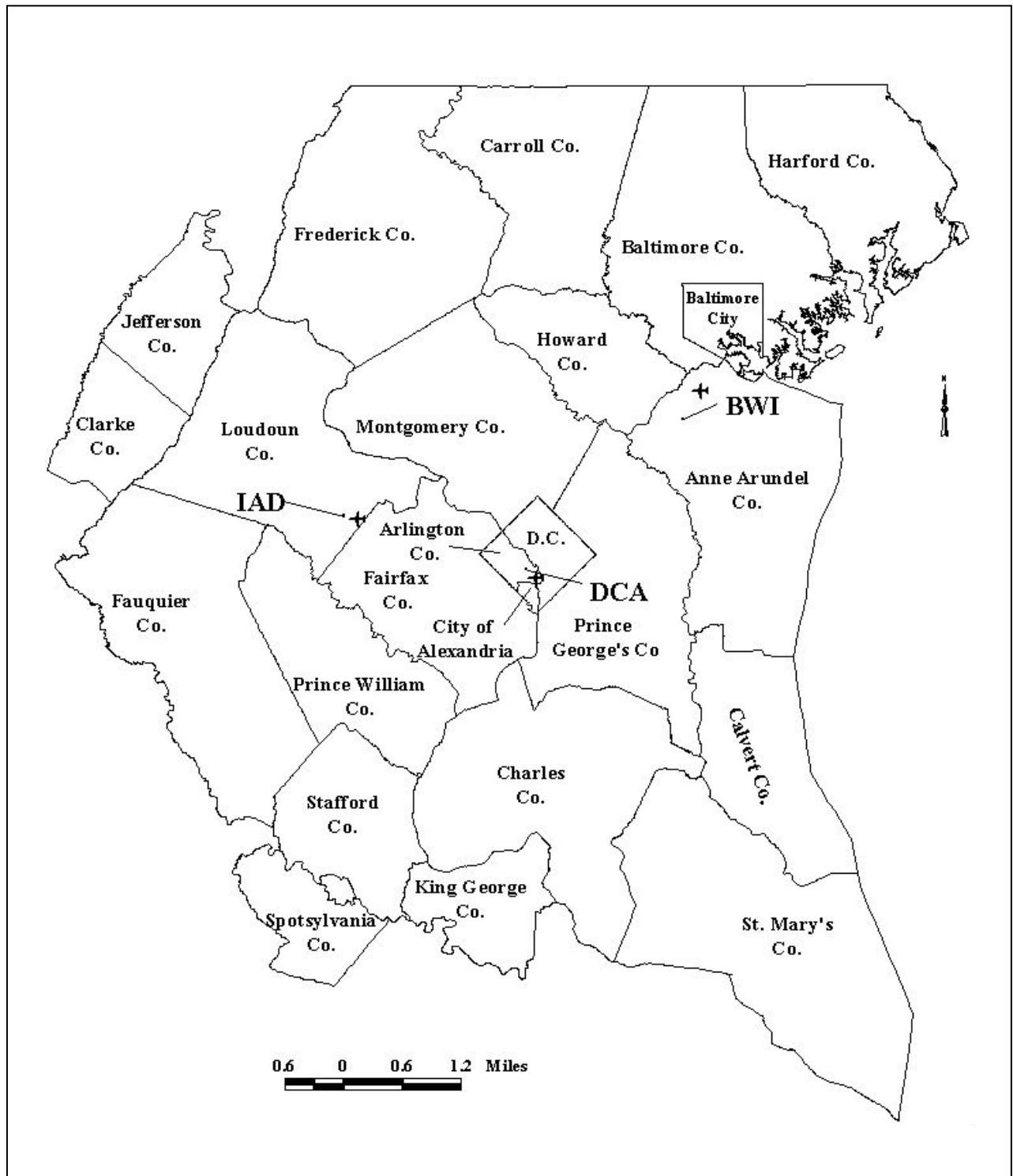
This report summarizes the findings from the 2005 Washington-Baltimore Regional Air Passenger Survey, conducted concurrently at Baltimore/Washington International Airport (BWI), Washington Dulles International Airport (Dulles) and Ronald Reagan Washington National Airport (National). The survey was conducted as part of the Metropolitan Washington Council of Governments' Continuous Airport System Planning (CASP) program. One of the goals of this program is to continue the rational development of aviation facilities and services at the three major commercial airports serving the Washington-Baltimore region. Figure 1 represents the jurisdictions that combine to make up this region, and locates the three airports.

The 2005 air passenger survey was conducted during two weeks in the spring of 2005: the week of March 6<sup>th</sup> through March 12<sup>th</sup> and the week of March 13<sup>th</sup> through March 19<sup>th</sup>. A small number of flights that were either missed or required resurveying were done during the week of March 20<sup>th</sup> to March 26<sup>th</sup>. Approximately two hundred domestic flights were surveyed at each airport, plus an additional forty international flights each at BWI and Dulles Airports. Approximately 24,000 passengers out of a total of 48,000 enplaning passengers on 675 flights were interviewed as they waited to board their planes, an overall response rate of 50 percent. More than 16,000 completed survey questionnaires representing the responses of these 24,000 passengers were collected, processed and tabulated.

The 2005 regional air passenger survey was the seventh in a series of regional air passenger surveys conducted since 1981. Prior surveys were conducted in 1981/82, 1987, 1992, 1998, 2000, and 2002. Data from the air passenger surveys will provide the basis for analysis of major changes in airport use in 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 improvements are planned for the future. The data produced by these air passenger surveys will be invaluable in further planning for these improvements. Several over areas in which the survey data will be particularly useful are as follows:

- Market analyses, using demographic and air service quality data, such as passenger trip 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 future 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, and,
- Air passenger demand and allocation forecasting for future updates of the Washington-Baltimore Regional Airport System Plan.

Figure 1: The Washington – Baltimore Study Area



In order to increase the usefulness of the data from the 2005 survey, an attempt was made to follow the same format and survey techniques used in the previous surveys.

The survey instrument contained questions regarding the passenger's trip (i.e. destination, trip purpose), about the trip to the airport (i.e. origination, mode of access), about the passengers' choice of airport (i.e. airport preference, airport usage), and several demographic questions regarding the passenger (i.e. household size, age, income). The information gathered will be useful in airport system planning, as well as in the airport master planning process. A copy of the 2005 survey questionnaire is included as Appendix A of this report.

This survey was a joint venture, conducted by the National Capital Region Transportation Planning Board (TPB), the Maryland Aviation Administration and the Metropolitan Washington Airports Authority, in cooperation with the airlines serving the region. The project was guided by the Aviation Technical Subcommittee of the TPB Technical Committee, composed of a broad range of Federal, State, Local, and private aviation interests.

## II. FINDINGS

This chapter summarizes the major results of the 2005 Washington-Baltimore Regional Air Passenger Survey. Survey results are summarized by airport as well as for the Washington-Baltimore air systems planning region as a whole. 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 discussed. These discussions generally reflect trips where passengers arrived at the airport by ground transportation. Passengers who connected with flights are included only in discussions of “total enplanements” in the “Airport Use” section of this report.

Although the data for the 2005 survey were primarily collected over a two week period in March, the survey results have been “annualized” to an estimate of annual passengers for the 12-month period from February, 2004 to March, 2005. 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 2005 survey results are compared with results from the 2000 survey and the 2002 surveys.

### Airport Use

Commercial aviation activity in the region rebounded significantly between 2002 and 2005. After declining by 12 percent between 2000 and 2002, total annual air passenger enplanements at the region’s three commercial airports are estimated to have increased by 25% between 2002 and 2005. As shown in Table 1, estimated annual enplanements in 2005 (30.5 million) are now 3 million greater than in 2000 (27.5 million).

Table 1 also shows that about two-thirds of the increase in total enplanements between 2000 and 2005 is because of an increase of 2 million in the number connecting passengers (from 5.6 to 7.7 million), and about one-third of the increase is because of a 1 million increase in the number of locally originating passengers (from 21.8 to 22.9 million).

The greatest increase in the number of connecting passengers between 2000 and 2005 was seen at Dulles, +1.7 million, an increase of 45%. Connecting passengers increased by 376,000 at National (+86%), but decreased by -68,000 at BWI (-3%).

The largest increase in the number of local originating air passengers between 2000 and 2005 was also seen at Dulles, +730,000 passengers, an increase of 12%. Local originating air passengers at BWI increased by 341,000 (+4%) between 2000 and 2005. Local originating air passengers increased by a healthy 1.3 million between 2002 and 2005, but were still 1% below their 2000 total.

Figure 2 illustrates the airport share of total enplaning passengers, connecting passengers, and originating passengers from the surveys done in the three most recent survey years. In 2005, the greatest share of the region’s total enplaning passengers departed from Dulles airport, which

**Table 1: Airport Used**

(Thousands of Passengers)

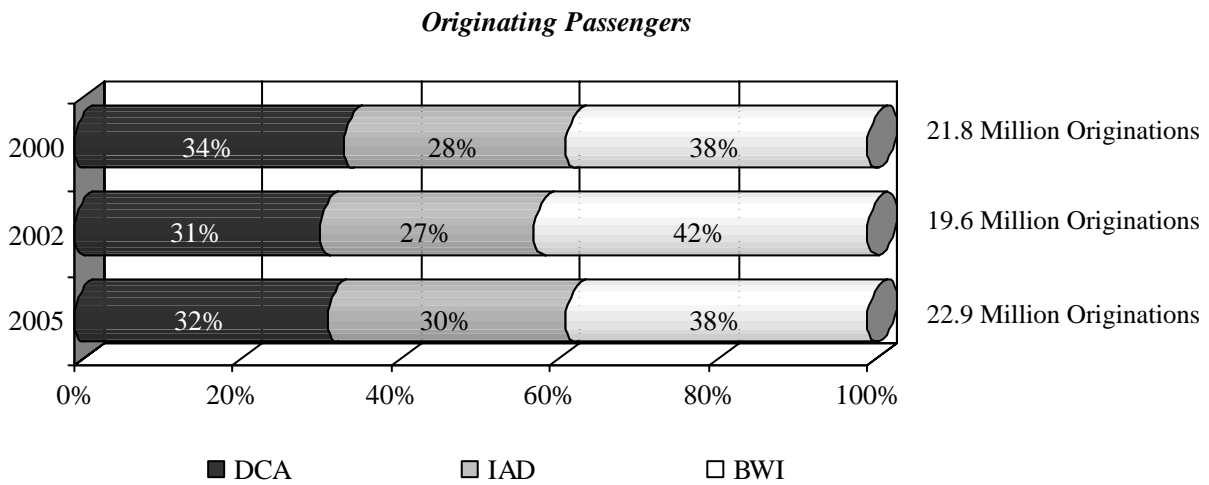
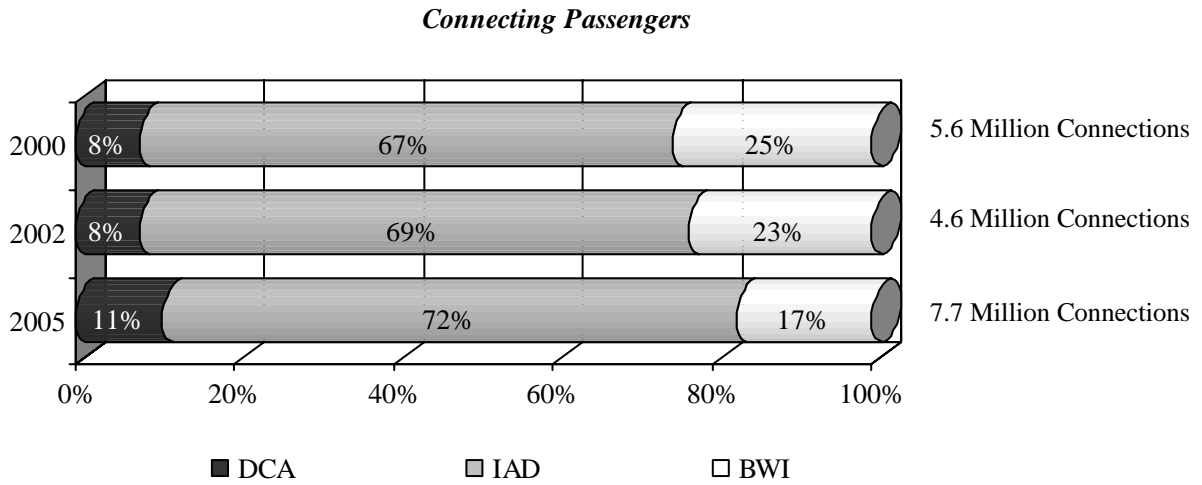
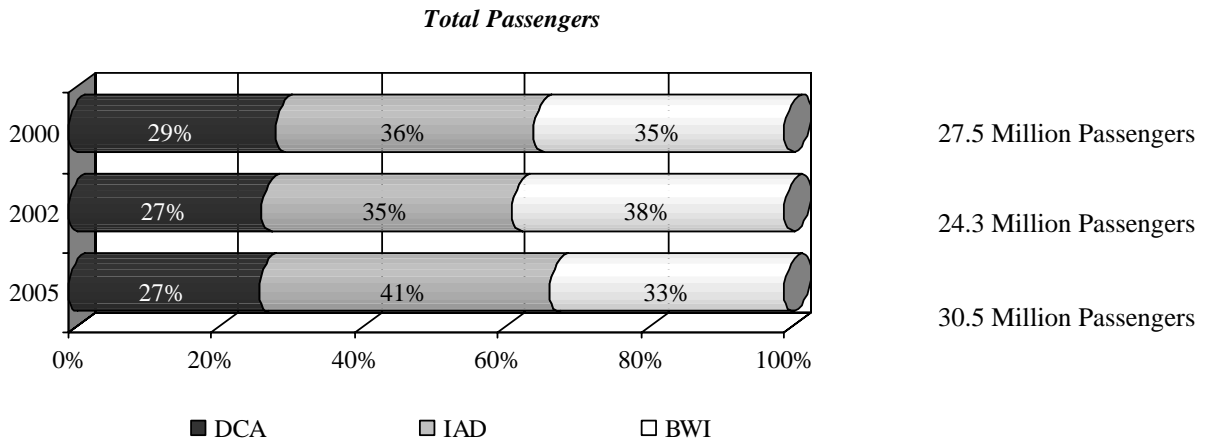
Enplanement Type		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
<b>Local origination (Came by ground transportation)</b>	<i>Number</i>	8,264	8,284	8,605	6,146	5,293	6,876	7,424	6,055	7,378	21,834	19,632	22,859
	<i>Percent</i>	86%	89%	87%	62%	62%	55%	94%	94%	90%	79%	81%	75%
<b>Connected from another flight</b>	<i>Number</i>	1,379	1,041	1,311	3,818	3,223	5,533	436	381	812	5,633	4,645	7,656
	<i>Percent</i>	14%	11%	13%	38%	38%	45%	6%	6%	10%	21%	19%	25%
<b>Total Enplanements</b>		9,643	9,325	9,916	9,964	8,516	12,409	7,860	6,436	8,190	27,467	24,277	30,515
<b>Percent of Region</b>		35%	38%	33%	36%	35%	41%	29%	27%	27%	100%	100%	100%

Notes:

\* Totals may not add due to rounding.

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

**Figure 2: Airport Share of Passengers**



accounted for 41 percent (up from 35 percent in 2002), while 33 percent (down from 38 percent in 2003) departed from BWI and 27 percent (same as in 2002) departed from National. Dulles had the greatest share of the region's connecting passengers (72%) and BWI has the greatest share of the region's local originating passengers.

### **Airport Preference**

Survey respondents were asked to rank the three most important reasons for choosing the airport from which they were flying, out of a list of nine possible reasons. Table 2 summarizes the most important reasons cited by air passengers for choosing the airport they used. The possible reasons have been categorized as either 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).

The percentage of local originating passengers citing accessibility conditions as the most important reason for choosing the airport they used increased from 64 percent in 2002 to 68 percent in 2005. While the percentage of passengers citing this reason remained virtually unchanged at Dulles and National, it increased dramatically at BWI, from 58% in 2002 to 66% in 2005. Similarly, the percentage of local originating passengers at BWI citing less expensive airfare as the most important reason for their airport choice dropped from 30% to 22%. This finding suggests that because of greater airline competition on airfares and convenience of flight times, these "quality of air service" factors have become less important in terms of overall airport choice. Air passengers can now find less expensive airfares on airlines at National and Dulles, as well airlines at BWI. It is instructive to note that the percentage of air passengers at Dulles citing less expensive airfares as their most important reason is the same percentage citing this reason at BWI.

Quality of air service, as an important reason for selecting the airport used decreased from 34 percent in 2002 to 30 percent in 2005. Of the quality of air service characteristics, the percentage of passengers citing lower airfares as the primary reason for choosing an airport decreased slightly from 19 percent in 2002 to 17 percent in 2005. The percentage of passengers citing more convenient flight times as the most important reason declined from 7% in 2002 to 5% in 2005.

Passengers were also asked which airport they would have preferred to use for their trip (due to some travel restrictions and service availability, passengers may not be able to fly from their preferred airport). Table 3 shows the percentages for preferred airport, by airport, for locally originating passengers for each of the survey years.

For the region, in 2005, 36 percent (up from 35 percent in 2002), of locally originating passengers preferred to use National, 20 percent (same as in 2002 preferred to fly out of Dulles, while 30 percent (down from 31 percent in 2002) preferred to travel from BWI. Fourteen percent of the passengers expressed no particular preference for one of the region's three commercial airports, same as in 2002.



**Table 2: Most Important Reason for Choosing Airport Used**

(Percent of Originations)

Primary reason for choosing airport used	B.W.I.			DULLES			NATIONAL			REGION		
	2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
<u>Accessibility</u>												
Closest airport	51%	53%	63%	51%	51%	51%	70%	70%	71%	58%	58%	62%
Better public ground transportation	1%	1%	0%	1%	1%	2%	4%	5%	5%	2%	2%	3%
Better access roads and parking	6%	4%	3%	7%	6%	5%	3%	2%	3%	5%	4%	3%
<b>SUBTOTAL -- Accessibility</b>	<b>58%</b>	<b>58%</b>	<b>66%</b>	<b>59%</b>	<b>58%</b>	<b>57%</b>	<b>77%</b>	<b>77%</b>	<b>78%</b>	<b>65%</b>	<b>64%</b>	<b>68%</b>
<u>Quality of Air Service</u>												
More convenient flight times	4%	5%	4%	7%	9%	7%	8%	8%	6%	6%	7%	5%
Only airport with direct/nonstop flight	2%	2%	2%	9%	9%	7%	3%	2%	3%	4%	4%	4%
Less expensive airfare	32%	30%	22%	16%	14%	22%	6%	8%	8%	18%	19%	17%
Frequent flyer with specific airline	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Only airport serving market	1%	2%	2%	4%	3%	3%	2%	1%	1%	2%	2%	2%
<b>SUBTOTAL -- Quality of Air Service</b>	<b>41%</b>	<b>41%</b>	<b>32%</b>	<b>39%</b>	<b>38%</b>	<b>41%</b>	<b>21%</b>	<b>21%</b>	<b>20%</b>	<b>32%</b>	<b>34%</b>	<b>30%</b>
<b>OTHER</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

\* Totals may not add due to rounding.

**Table 3: Preferred Airport**

(Thousands of Originations)

Preferred Airport		B.W.I.			DULLES			NATIONAL		
		2000	2002	2005	2000	2002	2005	2000	2002	2005
B.W.I.	<i>Number</i>	5,013	5,319	5,880	607	318	437	325	227	290
	<i>Percent</i>	65%	67%	70%	10%	6%	7%	5%	4%	4%
DULLES	<i>Number</i>	610	491	479	3,117	2,914	3,356	506	452	579
	<i>Percent</i>	8%	6%	6%	52%	57%	52%	7%	8%	8%
NATIONAL	<i>Number</i>	1,078	1,092	950	1,217	1,129	1,593	5,268	4,431	5,261
	<i>Percent</i>	14%	14%	11%	21%	22%	25%	73%	76%	74%
No Preference	<i>Number</i>	1,051	1,063	1,079	975	800	1,054	1,111	728	974
	<i>Percent</i>	14%	13%	13%	16%	16%	16%	15%	13%	14%
TOTAL	<i>Number</i>	7,752	7,965	8,388	5,916	5,161	6,440	7,210	5,838	7,104
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		513	319	217	230	132	436	213	217	274
Total Originations		8,265	8,284	8,605	6,146	5,293	6,876	7,423	6,055	7,378

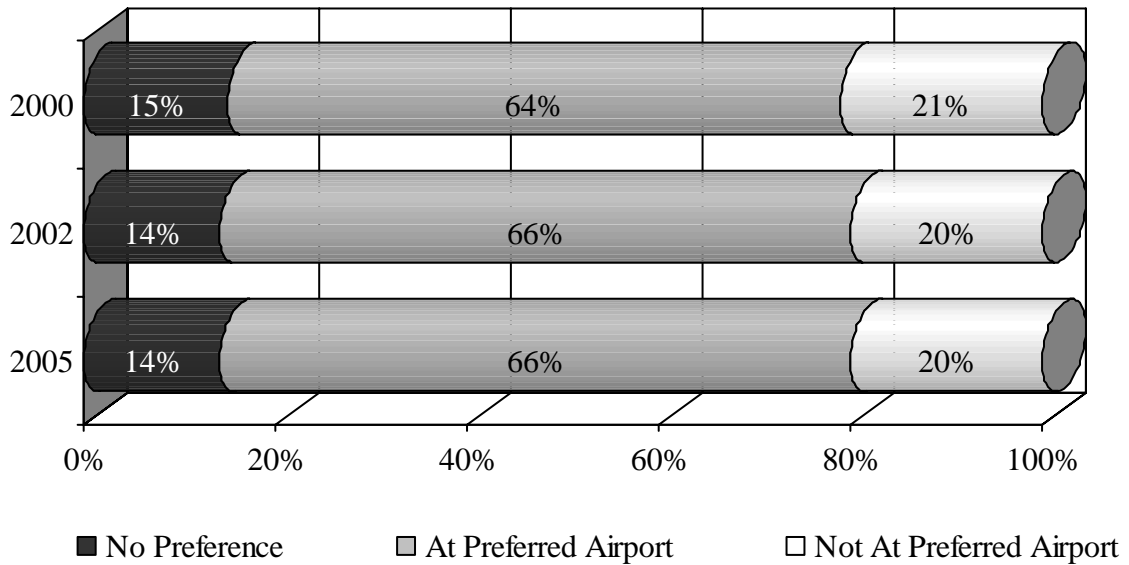
Notes:

\* Totals may not add due to rounding.

Between 2002 and 2005, there was no change in the number of passengers flying out of their preferred airport. In 2005, 66 percent of the local originating air passenger reported that they flew out of their preferred airport, same as in 2002. Figure 3 illustrates these percentages for the three most recent survey years.

**Figure 3: Satisfaction with Airport Used**

(Originating Passengers Only)



The difference in airport preference between residents and non-residents is summarized in Table 4. In 2005, local originating passengers who were visiting the region (non-residents) accounted for 50 percent of local originating passengers. Of these visitors, 40 percent listed National as their preferred airport compared with 34 percent of resident air passengers who preferred National. Preference rates for non-residents were 27 and 15 percent for BWI and Dulles respectively, compared to 34 percent and 24 percent for residents. Non-residents continued to be least likely to express a preference for a particular airport, 17%, compared to residents, 9%.

**Table 4: Preferred Airport by Resident Status**

(Thousands of Originations)

Preferred Airport		NON-RESIDENTS			RESIDENTS			TOTAL		
		2000	2002	2005	2000	2002	2005	2000	2002	2005
B.W.I.	<i>Number</i>	2,890	3,019	2,656	2,387	2,189	3,307	5,277	5,208	5,963
	<i>Percent</i>	26%	29%	27%	32%	33%	34%	28%	31%	31%
DULLES	<i>Number</i>	1,777	1,772	1,508	1,971	1,679	2,348	3,748	3,451	3,856
	<i>Percent</i>	16%	17%	15%	26%	25%	24%	20%	20%	20%
NATIONAL	<i>Number</i>	4,283	3,669	3,905	2,657	2,463	3,270	6,940	6,132	7,175
	<i>Percent</i>	39%	36%	40%	35%	37%	34%	37%	36%	37%
No Preference	<i>Number</i>	2,146	1,890	1,689	527	389	389	2,673	2,279	2,520
	<i>Percent</i>	19%	18%	17%	7%	6%	9%	14%	14%	13%
Total	<i>Number</i>	11,096	10,350	9,758	7,542	6,720	9,756	18,638	17,070	19,514
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

\* Totals do not include non-respondents

## **Trip Purpose**

In 2005, the percentage of locally originating air passengers reporting that they were traveling for non-business related reasons increased significantly, compared to previous surveys. In past surveys business-related travel accounted for roughly half of all reported travel. As shown in Table 5, this percentage dropped to 42%. Similarly, non-business vacation travel increased from 19% in 2002 to 26% in 2005 and student/school-related travel increased from 4% to 7%.

It is not clear yet whether this shift in the purpose of locally originating air travel is the beginning of a significant new trend in air travel after 9/11 or the result of transitory temporal or seasonal factors. Past air passenger surveys have been typically conducted in the fall of the year (mid-October/ early-November), but the 2005 survey was conducted in the early spring (March 6<sup>th</sup> to March 19<sup>th</sup>). Though the 2005 survey was specifically scheduled to avoid to the “Cherry Blossom Festival,” the Easter holiday/recess and public school spring-break holidays, this early March time period did coincide with some college semester spring breaks. The extent to which college student air travel during the survey period may have influenced these results needs to be examined further. Nonetheless, even in the last several fall air passenger surveys, a slow shift from business-related to non-business related air travel had been observed. With lower airfares and a large selection of available flights, also spurring more non-business related travel, this is a trend that needs to be watched further.

Figure 4 depicts the breakdown of air travel by trip purpose at each of the three airports in 2005. This figure shows that National generally has the greatest percentage of business-related air travel, Dulles has the greatest percentage of vacation-related travel and BWI has the greatest percentage of personal or family-related travel.

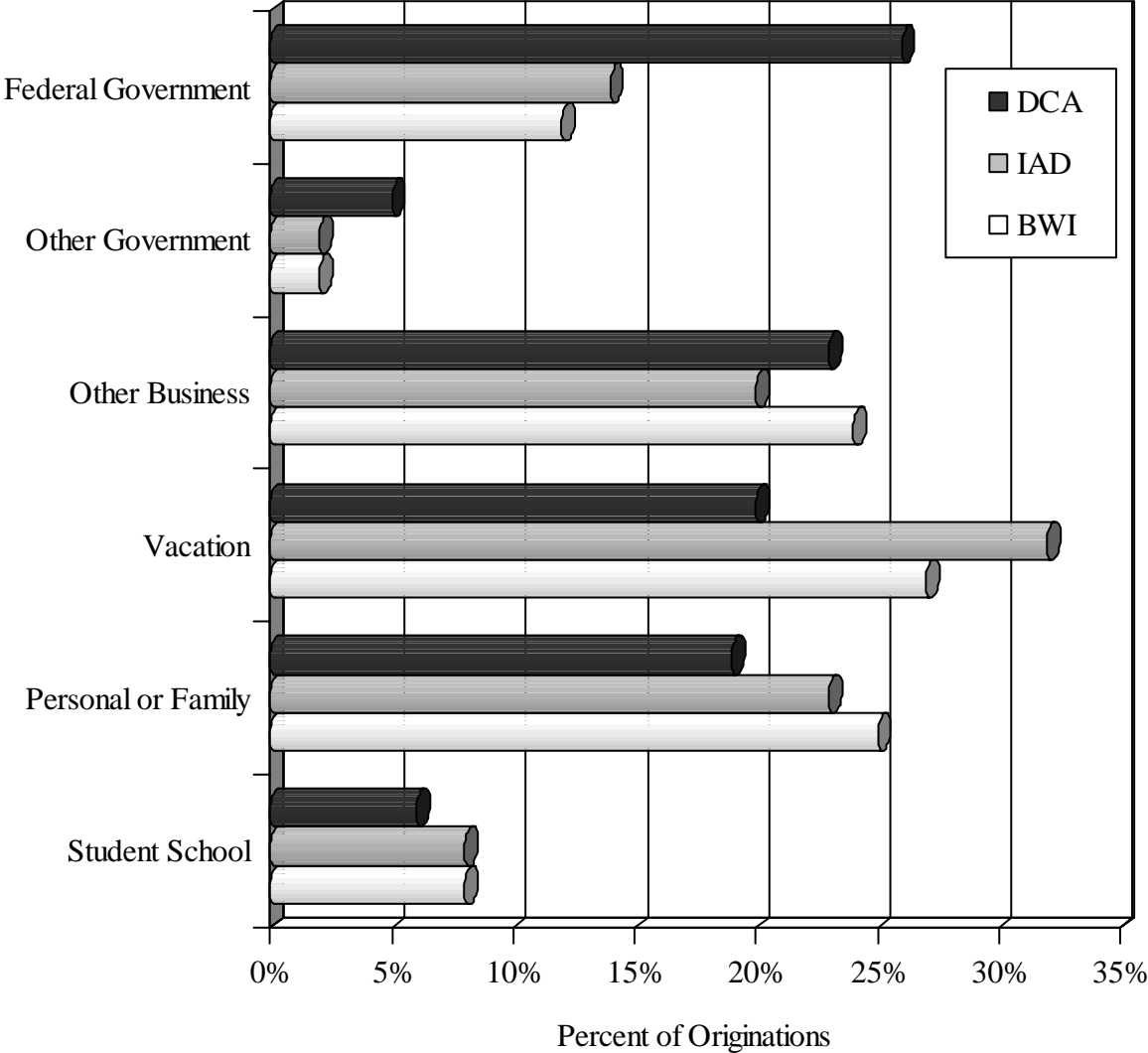
**Table 5: Trip Purpose**

(Thousands of Originations)

Trip Purpose		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
<b>Business Related</b>													
Business related to federal government (including military)	<i>Number</i>	919	1,037	1,007	794	1,041	978	1,842	1,483	1,893	3,555	3,561	3,878
	<i>Percent</i>	11%	13%	12%	13%	20%	14%	25%	25%	26%	16%	18%	17%
Other government-related business	<i>Number</i>	159	177	150	88	67	152	195	186	350	442	430	652
	<i>Percent</i>	2%	2%	2%	1%	1%	2%	3%	3%	5%	2%	2%	3%
Other Business	<i>Number</i>	2,449	2,323	2,073	2,003	1,302	1,350	2,317	1,752	1,700	6,769	5,377	5,123
	<i>Percent</i>	30%	28%	24%	33%	25%	20%	31%	29%	23%	31%	28%	23%
<b>SUBTOTAL--Business</b>	<i>Number</i>	<b>3,527</b>	<b>3,537</b>	<b>3,230</b>	<b>2,885</b>	<b>2,410</b>	<b>2,480</b>	<b>4,354</b>	<b>3,421</b>	<b>3,943</b>	<b>10,766</b>	<b>9,368</b>	<b>9,653</b>
	<i>Percent</i>	<b>43%</b>	<b>43%</b>	<b>38%</b>	<b>47%</b>	<b>46%</b>	<b>36%</b>	<b>59%</b>	<b>57%</b>	<b>54%</b>	<b>49%</b>	<b>48%</b>	<b>42%</b>
<b>Non-Business Related</b>													
Vacation	<i>Number</i>	1,790	1,694	2,328	1,712	1,152	2,189	1,061	892	1482	4,563	3,738	5,999
	<i>Percent</i>	22%	21%	27%	28%	22%	32%	14%	15%	20%	21%	19%	26%
Personal or family affairs	<i>Number</i>	2,534	2,611	2,165	1,440	1,353	1,580	1,612	1,409	1,359	5,586	5,373	5,104
	<i>Percent</i>	31%	32%	25%	23%	26%	23%	22%	23%	19%	26%	28%	22%
Student or school related	<i>Number</i>	357	266	646	98	249	524	330	199	438	785	714	1608
	<i>Percent</i>	4%	3%	8%	2%	5%	8%	4%	3%	6%	4%	4%	7%
Other	<i>Number</i>	34	114	174	0	87	82	21	82	99	55	283	355
	<i>Percent</i>	0%	1%	2%	0%	2%	1%	0%	1%	1%	0%	2%	2%
<b>SUBOTOTAL--Non-Business</b>	<i>Number</i>	<b>4,715</b>	<b>4685</b>	<b>5,313</b>	<b>3,250</b>	<b>2,841</b>	<b>4,375</b>	<b>3,024</b>	<b>2,582</b>	<b>3,378</b>	<b>10,989</b>	<b>10,108</b>	<b>13,066</b>
	<i>Percent</i>	<b>57%</b>	<b>57%</b>	<b>62%</b>	<b>53%</b>	<b>54%</b>	<b>64%</b>	<b>40%</b>	<b>43%</b>	<b>47%</b>	<b>51%</b>	<b>52%</b>	<b>58%</b>
<b>TOTAL</b>	<i>Number</i>	<b>8,242</b>	<b>8,222</b>	<b>8,543</b>	<b>6,135</b>	<b>5,251</b>	<b>6,855</b>	<b>7,378</b>	<b>6,003</b>	<b>7,321</b>	<b>21,755</b>	<b>19,476</b>	<b>22,719</b>
	<i>Percent</i>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Non-Respondents		22	62	62	12	42	21	46	52	57	80	156	140
Total Originations		8,264	8,284	8,605	6,147	5,293	6,876	7,424	6,055	7,378	21,835	19,632	22,859

\* Totals may not add due to rounding.

Figure 4: Trip Purpose



### **Trip Origin Activities**

Table 6 summarizes the ground trip origin questions for the last three survey years. In all three survey years, the highest percentage of local passengers left for the airport from a private residence. Between 2002 and 2005 the percentage of air passengers beginning the air passenger trips from a private residence increase from 55% to 61%. Those leaving from a hotel or motel decreased from 29 percent to 26 percent. National Airport continued to have the greatest percentage of passengers originating from a hotel or motel at 38. For the region, there was slight decrease in the percentage of passengers who reported beginning their trip to the airport from either their regular place of employment (down to 5 percent from 6 percent in 2002) along with slight decreases in those passengers beginning their trip from another place of business (down to 6 percent from 7 percent in 2002).

### **Mode of Access**

Table 7 provides a summary of mode of access to each airport and for the region. Regionally, as in previous surveys, the most common mode of access to the airports in 2005 was the automobile (both private autos and rental cars), accounting for 62 percent of all local originations. Although between 2002 and 2005, the percentage of passengers arriving by private car increased and the percentage arriving by rental declined at all airports. Taxicabs were used by 18 percent of the passengers, and public transportation (including Metrorail, BWI rail and airport buses and limousines) carried 14 percent. Courtesy buses provided by hotels and motels accounted for only 5 percent of all local originations.

Metrorail usage by passengers traveling to National Airport continues to be among the highest proportions of any airport in the Nation, at 13 percent. However, access by private car increased to 35 percent from 31 percent in 2002 and slightly exceeded the percentage arriving by taxi, 34 percent. The percentage air passenger arriving by rental car at National dropped from to 7% from 11% in 2002.



**Table 6: Ground Trip Origin**

(Thousands of Originations)

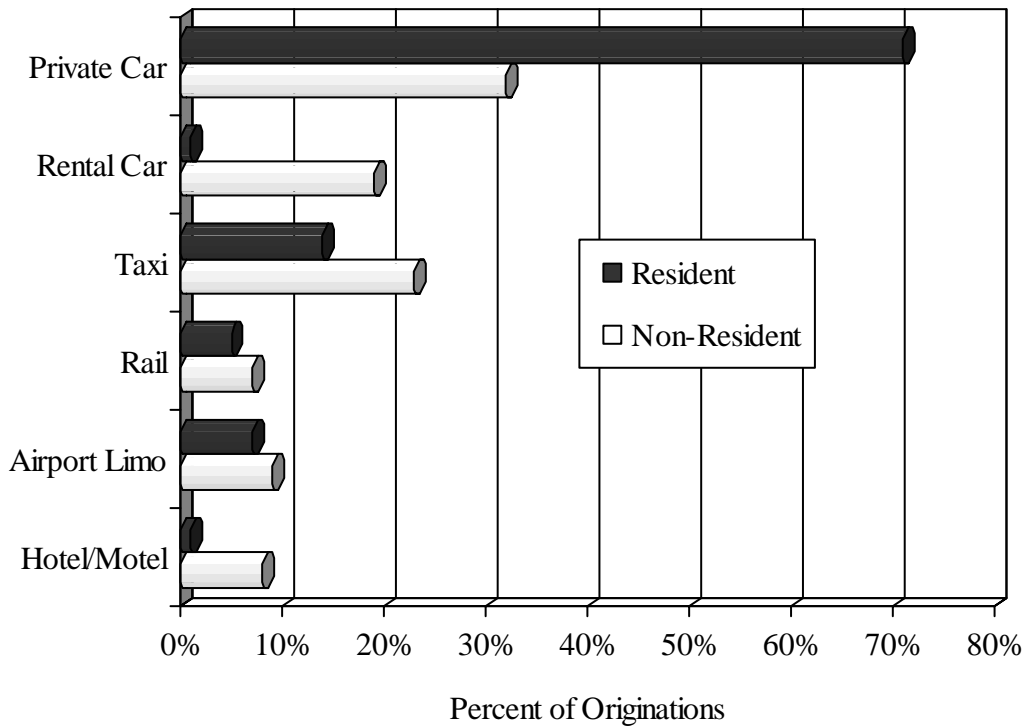
Ground Trip Origin		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
Private residence	<i>Number</i>	5,118	5,101	5,586	4,018	3,233	4,693	3,148	2,429	3,415	12,284	10,763	13,694
	<i>Percent</i>	62%	62%	65%	66%	62%	69%	42%	41%	47%	57%	55%	61%
Hotel/motel	<i>Number</i>	1,925	1,907	1,708	1,396	1,309	1,296	2,809	2,400	2,804	6,130	5,616	5,808
	<i>Percent</i>	23%	23%	20%	23%	25%	19%	38%	40%	38%	28%	29%	26%
Passenger's regular place of employment	<i>Number</i>	376	462	430	256	274	298	442	509	360	1,074	1,245	1,088
	<i>Percent</i>	5%	6%	5%	4%	5%	4%	38%	9%	5%	5%	6%	5%
Another place of business	<i>Number</i>	513	520	481	379	304	313	909	568	624	1,801	1,392	1,418
	<i>Percent</i>	6%	6%	6%	6%	6%	5%	12%	10%	9%	8%	7%	6%
Other	<i>Number</i>	274	185	333	72	132	176	101	85	104	447	402	613
	<i>Percent</i>	3%	2%	4%	1%	3%	3%	1%	1%	1%	2%	2%	3%
TOTAL	<i>Number</i>	8,206	8,175	8,538	6,121	5,252	6,776	7,409	5,991	7,307	21,736	19,418	22,621
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		57	109	67	26	41	100	15	64	71	98	214	238
Total Originations		8,263	8,284	8,605	6,147	5,293	6,876	7,424	6,055	7,378	21,834	19,632	22,859

Notes:

\* Totals may not add due to rounding

An analysis of mode of access by resident status shows some interesting differences. Figure 5 illustrates this for the region. While residents of the region overwhelmingly used the private auto to access an airport, 71 percent in 2005, air passengers visiting the region continued to be almost evenly split among private autos ( 32%), rental cars (19%) and taxicabs (23%). This percentage split was similar to that for 1998 and 2000. Non-resident air passengers were also more likely than resident air travelers to use rail transit for there ground access to the airport. Table 8 summarizes resident versus non-resident (passengers arriving by ground transportation only) mode of access, by airport.

**Figure 5: Mode of Access by Resident Status**



**Table 7: Mode of Access**

(Thousands of Originations)

Mode of Access		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
Private car	<i>Number</i>	4,872	4,642	5,141	3,371	2,853	3,959	2,185	1,860	2,519	10,428	9,355	11,619
	<i>Percent</i>	59%	57%	60%	55%	55%	59%	30%	31%	35%	48%	48%	52%
Rental car	<i>Number</i>	1,465	1,587	1,098	892	741	660	809	639	510	3,166	2,967	2,268
	<i>Percent</i>	18%	19%	13%	15%	14%	10%	11%	11%	7%	15%	15%	10%
Taxi	<i>Number</i>	555	592	593	917	802	1,007	2,691	1,985	2,486	4,163	3,379	4,086
	<i>Percent</i>	7%	7%	7%	15%	15%	15%	36%	33%	34%	19%	18%	18%
Metrorail (DCA)	<i>Number</i>	NA	43	53	2	31	38	885	753	940	887	827	1,031
	<i>Percent</i>		1%	1%	0%	1%	1%	12%	13%	13%	4%	4%	5%
Rail service	<i>Number</i>	114	146	129	NA	NA	NA	NA	2	5	114	148	134
	<i>Percent</i>	1%	2%	2%					0%	0%	1%	1%	1%
Light rail (BWI)	<i>Number</i>	31	34	42	NA	NA	NA	NA	NA	NA	31	34	42
	<i>Percent</i>	0%	0%	0%							0%	0%	0%
Airport bus/limo	<i>Number</i>	909	705	839	685	334	552	422	237	333	2,016	1,276	1,724
	<i>Percent</i>	11%	9%	10%	11%	6%	8%	6%	4%	5%	9%	7%	8%
Hotel/motel courtesy bus	<i>Number</i>	222	246	406	257	226	282	329	326	422	808	798	1,110
	<i>Percent</i>	3%	3%	5%	4%	4%	4%	4%	6%	6%	4%	4%	5%
Other	<i>Number</i>	26	179	227	9	248	215	79	146	67	114	573	509
	<i>Percent</i>	0%	2%	3%	0%	5%	3%	1%	3%	1%	1%	3%	2%
TOTAL	<i>Number</i>	8,194	8,174	8,528	6,133	5,235	6,713	7,400	5,948	7,282	21,728	19,357	22,523
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		71	110	77	13	58	163	23	107	96	107	275	336
Total Originations		8,265	8,284	8,605	6,146	5,293	6,876	7,423	6,055	7,378	21,834	19,632	22,859

Notes:

\* Totals may not add due to rounding.

**Table 8: Mode of Access by Resident Status**  
(Thousands of Originations)

Mode of Access	B.W.I.				DULLES				NATIONAL				REGION				
	Non-Residents		Residents		Non-Residents		Residents		Non-Residents		Residents		Non-Residents		Residents		
	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	
Private car	<i>Number</i>	1,794	1,477	2,267	3,136	885	1,050	1,598	2,306	571	641	1,023	1,580	3,250	3,168	4,888	7,022
	<i>Percent</i>	40%	40%	81%	79%	34%	44%	77%	72%	16%	17%	56%	59%	31%	32%	73%	71%
Rental car	<i>Number</i>	1,448	967	26	47	652	506	25	44	566	402	18	34	2,666	1,875	69	125
	<i>Percent</i>	33%	26%	1%	1%	25%	22%	1%	1%	16%	10%	1%	1%	25%	19%	1%	1%
Taxi	<i>Number</i>	389	331	136	195	407	266	324	579	1,345	1,684	446	601	2,141	2,281	906	1,375
	<i>Percent</i>	9%	9%	5%	5%	16%	11%	16%	18%	39%	44%	24%	23%	20%	23%	14%	14%
Metrorail (DCA)	<i>Number</i>	27	28	12	23	23	20	7	8	405	513	296	359	455	561	315	390
	<i>Percent</i>	1%	1%	0%	1%	1%	1%	0%	0%	12%	13%	16%	13%	4%	6%	5%	4%
Rail service (BWI)	<i>Number</i>	102	78	39	39	NA	NA	NA	NA	1	1	1	2	103	79	40	41
	<i>Percent</i>	2%	2%	1%	1%					0%	0%	0%	0%	1%	1%	1%	0%
Light rail (BWI)	<i>Number</i>	12	21	12	14	NA	NA	NA	NA	NA	NA	NA	NA	12	21	12	14
	<i>Percent</i>	0%	1%	0%	0%									0%	0%	0%	0%
Airport bus/limo	<i>Number</i>	338	416	253	350	215	246	90	222	177	222	37	78	730	884	380	650
	<i>Percent</i>	8%	11%	9%	9%	8%	10%	4%	7%	5%	6%	2%	3%	7%	9%	6%	7%
Hotel/motel courtesy bus	<i>Number</i>	206	336	19	48	195	168	15	28	301	336	2	6	702	840	36	82
	<i>Percent</i>	5%	9%	1%	1%	8%	7%	1%	1%	9%	9%	0%	0%	7%	8%	1%	1%
Other	<i>Number</i>	122	49	35	121	226	95	17	9	114	50	9	6	462	194	61	136
	<i>Percent</i>	3%	1%	1%	3%	9%	4%	1%	0%	3%	1%	1%	0%	4%	1%	1%	1%
TOTAL	<i>Number</i>	4,438	3,703	2,799	3,973	2,603	2,351	2,076	3,196	3,480	3,849	1,832	2,666	10,521	9,903	6,707	9,835
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

\* Totals do not include non-respondents

\* Totals may not add due to rounding.

## 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 results of the responses to these questions.

### *Resident Status*

Table 9 summarizes resident status for locally originating air passengers in 2005, 2002 and 2000. It is interesting to note the significant increase in the percentage of locally originating air passengers who are area residents and the large drop in the percentage who are non-residents. For the first time in any of the Washington-Baltimore regional air passenger surveys, a 50/50 split between resident and non-resident air passengers is seen. In practically all prior surveys, a 60% non-resident/40% resident split has been observed. Again, it is not clear at this time whether this shift is the beginning of a significant new trend in air travel after 9/11 or the result of transitory temporal or seasonal factors. This is an important change that must be closely examined in future surveys.

**Table 9: Resident Status**

(Thousands of Originations)

Resident Status		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
Resident	<i>Number</i>	2,873	2,819	3,989	2,530	2,088	3,230	2,271	1,848	2,685	7,674	6,755	9,904
	<i>Percent</i>	40%	39%	52%	47%	44%	58%	34%	35%	41%	40%	39%	50%
Non-Resident	<i>Number</i>	4,331	4,465	3,732	2,809	2,619	2,377	4,367	3,508	3,881	11,507	10,592	9,990
	<i>Percent</i>	60%	61%	48%	53%	56%	42%	66%	66%	59%	60%	61%	50%
TOTAL	<i>Number</i>	7,204	7,284	7,721	5,339	4,707	5,607	6,638	5,356	6,566	19,181	17,347	19,894
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

\* Totals do not include non-respondents

\* Totals may not add due to rounding.

### *Age*

In 2005, the percentage of local originating passengers under the age of 25 doubled from 8% in 2002 to 16% in 2005, while the percentage of passengers age 35 and older decreased from 72% to 67%. Table 10 provides the detailed age distribution for passengers at the three airports and the region as a whole.

**Table 10: Respondent Age**

(Thousands of Originations)

Age Group		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
18 or Younger	<i>Number</i>	171	172	486	100	113	427	99	139	228	370	424	1,141
	<i>Percent</i>	2%	2%	6%	2%	2%	7%	1%	2%	4%	2%	2%	6%
19 to 24 Years	<i>Number</i>	425	585	847	292	243	614	610	359	505	1,327	1,187	1,966
	<i>Percent</i>	6%	7%	11%	5%	5%	10%	9%	6%	8%	6%	6%	10%
25 to 34 Years	<i>Number</i>	1,547	1,494	1,321	1,226	944	1,091	1,477	1,242	1,165	4,250	3,680	3,577
	<i>Percent</i>	20%	19%	17%	22%	19%	18%	21%	22%	18%	21%	20%	18%
35 to 49 Years	<i>Number</i>	2,744	2,651	2,674	1,995	1,922	1,923	2,849	2,102	2,213	7,588	6,675	6,810
	<i>Percent</i>	36%	34%	34%	35%	39%	32%	40%	37%	34%	37%	36%	33%
50 to 64 Years	<i>Number</i>	2,158	2,382	2,012	1,561	1,390	1,649	1,698	1,521	1,992	5,417	5,293	5,653
	<i>Percent</i>	28%	30%	26%	27%	28%	27%	24%	27%	31%	27%	29%	28%
65 to Older	<i>Number</i>	587	589	469	504	318	318	379	359	409	1,470	1,266	1,196
	<i>Percent</i>	8%	8%	6%	9%	7%	5%	5%	6%	6%	7%	7%	6%
TOTAL	<i>Number</i>	7,632	7,873	7,809	5,678	4,930	6,022	7,112	5,722	6,512	20,422	18,525	20,343
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		632	411	796	468	363	854	312	333	866	1,412	1,107	2,516
Total Originations		8,264	8,284	8,605	6,146	5,293	6,876	7,424	6,055	7,378	21,834	19,632	22,859

Notes:

\* Totals may not add due to rounding.

***Income***

Air travelers in the Washington-Baltimore region continue to be affluent. Table 11 shows the household income data at the three airports and the region. In 2005, 53 percent of the region's passengers had household incomes of a least \$100,000. At all airports about half the air passengers had incomes of \$100,000 or more. Air travelers at National had slightly higher household incomes than passengers at Dulles and BWI.

**Table 11: Respondent Household Income**

(Thousands of Originations)

Household Income		B.W.I.			DULLES			NATIONAL			REGION		
		2000	2002	2005	2000	2002	2005	2000	2002	2005	2000	2002	2005
Less than \$15,000	<i>Number</i>	182	210	338	94	104	228	134	139	175	410	453	741
	<i>Percent</i>	3%	3%	5%	2%	2%	4%	2%	3%	3%	2%	3%	4%
\$ 15,000 to 24,999	<i>Number</i>	168	211	189	151	111	147	134	78	94	453	400	430
	<i>Percent</i>	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	2%
\$ 25,000 to 34,999	<i>Number</i>	326	303	246	197	131	155	221	185	235	744	619	636
	<i>Percent</i>	5%	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%
\$ 35,000 to 49,999	<i>Number</i>	655	609	549	351	284	459	492	387	409	1,498	1,280	1,417
	<i>Percent</i>	10%	9%	8%	7%	7%	9%	8%	8%	7%	8%	8%	8%
\$ 50,000 to 74,999	<i>Number</i>	1,287	1,280	1,035	837	724	700	1,264	893	736	3,388	2,897	2,471
	<i>Percent</i>	20%	19%	15%	17%	17%	14%	20%	18%	13%	19%	18%	14%
\$ 75,000 to 99,999	<i>Number</i>	1,143	1,139	1,126	728	711	724	1,196	847	894	3,067	2,697	2,744
	<i>Percent</i>	17%	16%	16%	15%	17%	14%	19%	17%	16%	17%	17%	16%
\$ 100,000 to 149,999	<i>Number</i>	1,512	1,665	1,649	1,361	1,101	1,178	1,543	1,287	1,368	4,416	4,053	4,195
	<i>Percent</i>	23%	24%	24%	28%	26%	23%	24%	25%	24%	25%	25%	24%
\$ 150,000 and up	<i>Number</i>	1,322	1,512	1,730	1,128	1,105	1,541	1,403	1,276	1,802	3,853	3,893	5,073
	<i>Percent</i>	20%	22%	25%	23%	26%	30%	22%	25%	32%	22%	24%	29%
TOTAL	<i>Number</i>	6,595	6,929	6,862	4,847	4,271	5,132	6,387	5,092	5,713	17,829	16,292	17,707
	<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Respondents		1,668	1,355	1,743	1,299	1,022	1,744	1,038	963	1,665	4,005	3,340	5,152
Total Originations		8,263	8,284	8,605	6,146	5,293	6,876	7,425	6,055	7,378	21,834	19,632	22,859

Notes:

\* Totals may not add due to rounding.

### **III. SURVEY METHODOLOGY**

The following discussion is a brief summary of the methodology used to conduct the 2005 Washington-Baltimore Regional Air Passenger Survey.

#### **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 (Ronald Reagan Washington National, Washington Dulles International and Baltimore/Washington International Airports). It was designed to be compatible with the previous surveying efforts, done in 1981/82, 1987, 1992, 1998, 2000 and 2002.

Scheduled domestic, commuter and international flights were surveyed at each airport, where applicable. The sample for domestic flights was stratified by different regions of the United States: Northeast, New York Metropolitan Area, Mid-Atlantic, Southeast, Great Lakes, and West. For international flights, the sample was stratified into seventeen different regions of the world. All flights selected for surveying were scheduled during a two-week period beginning March 6<sup>th</sup> and extending through March 19<sup>th</sup>, 2005. Flights that were missed and those that required resurveying due to insufficient response rates were to be surveyed during the following two-week period.

#### **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 the Metropolitan Washington Airports Authority. 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.)

In order to ensure an acceptable level of confidence for parameter estimates while remaining within the budget constraints, a sample of approximately 680 flights was drawn. Since each of the three airports had approximately the same number of domestic departures, 200 domestic flights were selected at each airport. To account for increased international flight activity from the region, an additional 40 international flights were selected at BWI, and an additional 40 international flights were selected at Dulles.

The sample was then reviewed by the participating airlines. Each airline provided any corrections or changes for their respective flights, and provided a list of any new flights that were to be added during the survey period. These editions were then used to select the final flight sample. The final samples were listed by airport, date, and departure time to enable manpower requirements to be calculated and staff time to be scheduled.



The survey was conducted of departing passengers only. Arriving passengers were not surveyed, primarily due to limited resources. It would also have been difficult to hold arriving passengers' attention as they look for a connecting flight, or hurry through the airport to 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 two weeks in the spring of 2005, Sunday, March 6<sup>th</sup> through Saturday, March 19<sup>th</sup>. A small number of flights that were either missed or required resurveying were done during the following week. 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 flight that was selected, based on the size of aircraft and how many passengers were expected. Self-administered questionnaires were distributed to the passengers as they checked-in and waited for boarding, in the gate area. The questionnaires were collected as the passengers completed them, or when the flight was called for boarding. Any late arriving passengers were given a questionnaire and a self-addressed postage paid mail-back envelope and asked to complete it in route and drop it in the mail. A copy of the Survey Procedures for the 2005 Air Passenger Survey is included in this report as Appendix B.

### **Factoring the Survey Data**

It is important to note that, since the survey was conducted over two weeks in March 2005, 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 an early spring travel period. It is thought that 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 lastly, an annualized estimate of regional air travel was obtained by expanding the data from the bi-weekly survey period to an independent annual total.

### **Geocoding**

Trip origin addresses collected the 2005 Air Passenger Survey were geocoded to the COG\TPB 2191 Transportation Analysis Zone (TAZ) system as well as a revised Washington-Baltimore Aviation Analysis Zone (AAZ) System.

### **Final File**

Once the factoring and geocoding processes were completed, a final file was created. Additional information regarding the passengers destination and residence status, as well as trip TAZ and AAZ were appended to the factored records. The file format for the final data file for the 2005 Washington-Baltimore Regional Air Passenger is included in this report as Appendix C.

### **Level of Confidence**

For the region as a whole, 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, parameter 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 A: SURVEY QUESTIONNAIRE**

2005 Survey Question – Page 1

**A. ABOUT YOUR TRIP TODAY**

**1. How did you get to Baltimore/Washington International Airport for this trip ?**

*(Please circle ONE answer.)*

- a. I came to this airport by GROUND TRANSPORTATION (e.g. auto, taxi, Metro, etc.)  
*(Please proceed directly to QUESTION #2.)*
- b. I was on this flight when it arrived at this airport.  
*(STOP. That is all the information we need.)*
- c. I made a connection at this airport from a DOMESTIC FLIGHT with \_\_\_\_\_ Airlines. *(Please fill in the name of the airline and STOP. That is all we need to know.)*
- d. 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 destination of your trip today?**

_____	_____
Airport	City
_____	_____
State/Province	Country

**3. What type of trip is this?**

*(Please circle the answer for the main purpose of your travel).*

- a. Business related to the Federal government *(Including military).*
- b. Business related to state or local government
- c. Business that is not related to government
- d. Vacation.
- e. Personal or family affairs.
- f. Student or school related
- g. Other purpose  
*(Specify)* \_\_\_\_\_

**4. How did you purchase your ticket for this trip?**

*(Please circle one answer)*

- a. Ticket Counter
- b. Internet
- c. Telephone
- d. Travel Agent
- e. Corporate Office

**B. ABOUT YOUR GROUND TRIP TO BALTIMORE/ WASHINGTON INTERNATIONAL AIRPORT:**

**1. Where did you start your ground trip to Baltimore/Washington International Airport ?**

*(Please circle ONE answer.)*

- a. Private residence
- b. Hotel/Motel
- c. My regular place of employment
- d. Another Place of business
- e. 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. Did any member of your household, friends, or business associates travel to the airport with you ?**

- a. NO
- b. Yes {
  - 1. How many ? \_\_\_\_\_
  - 2. Of this group, how many came to board a plane? \_\_\_\_\_

**6. How many checked-in bags on this flight are yours ? (Enter '0' if no bags were checked.) \_\_\_\_\_**

**7. How did you arrive at this airport ?**

*(Please circle ONE answer)*

- a. Private Car
- b. Rented Car
- c. Taxi
- d. Airport bus/limo
- e. Other  
*(Specify)* \_\_\_\_\_
- f. Metrorail (National)
- g. Amtrak/MARC (BM)
- h. Light Rail (BWI)
- i. Hotel/Motel courtesy bus

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

**a. Were you dropped off at terminal curbside ?**

Yes \_\_\_\_\_ No \_\_\_\_\_

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

- 1. It was not parked
  - 2. Hourly Parking Garage
  - 3. Daily Parking Lot B
  - 4. Daily A Garage
  - 5. ESP Parking Lot
  - 6. Long Term A or B
  - 7. Overflow A or B
  - 8. B W Rail Station Garage
  - 9. Off-Airport Private Parking
- } - For How Long
- a. For a few hours or less
  - b. Until you return from this trip



**C. ABOUT YOUR AIRPORT CHOICE**

1. Please rank the three most important reasons for choosing Baltimore/Washington International 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 nonstop flights
- \_\_\_ Only airport that serves market
- \_\_\_ Frequent flyer specific airline
- \_\_\_ Other \_\_\_\_\_  
(Specify) \_\_\_\_\_

2. If you could have arranged the airline schedule for your trip today, which airport would you have PREFERRED to use? (Please circle ONE answer)

- a. Baltimore/Washington International
- b. Washington Dulles International
- c. Ronald Reagan Washington National
- d. No preference.

3. Please indicate which other airport(s) you considered using today. (Please circle ALL answers that apply.)

- a. Washington Dulles International
- b. Ronald Reagan Washington National
- c. Other airport \_\_\_\_\_  
(Specify) \_\_\_\_\_
- d. Did not consider another airport

4. During the last twelve months, how many flights did you make from each of the following airports? (Please write a number in the appropriate spaces. Count today's trip as one flight.)

- \_\_\_ Baltimore/Washington International
- \_\_\_ Washington Dulles International
- \_\_\_ Ronald Reagan Washington National

**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 circle your age bracket:

- a. 18 or younger
- b. 19-24
- c. 25-34
- d. 35-39
- e. 50-64
- f. 65 or older

4. Please circle the answer that approximates the TOTAL household annual income of all persons in your HOUSEHOLD:

- a. Less than \$15,000
- b. \$15,000-24,999
- c. \$25,000-34,999
- d. \$35,000-49,999
- e. \$50,000-74,999
- f. \$75,000-99,000
- g. \$100,000-149,999
- h. \$150,000 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 circle ONE answer.)

- a. Less than \$100
- b. \$100-199
- c. \$200-299
- d. \$300-399
- e. \$400-499
- f. \$500-599
- g. \$750-999
- h. \$1,000 or more

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

\_\_\_ Nights (Enter '0' if you are returning today.)

8. How many vehicles are usually available for use at your residence?

\_\_\_ Vehicles (Enter '0' if no vehicles are available.)

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

**WASHINGTON-  
BALTIMORE  
REGIONAL  
AIR PASSENGER  
SURVEY**

TO DETERMINE LOCAL AIRPORT NEEDS



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.

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

Again, Thanks For Your Help!

B-

# **APPENDIX B: SURVEY PROCEDURES**

**2005 WASHINGTON-BALTIMORE REGIONAL AIR PASSENGER SURVEY**  
**SURVEY PROCEDURES MANUAL**

**February 2005**

## **ABOUT THE 2005 AIR PASSENGER SURVEY**

You are about to assist in conducting an air passenger travel survey. The purpose of this survey is to collect information about ground access patterns and user characteristics of air travelers at the three major commercial airports in the Washington-Baltimore area: Ronald Reagan Washington National, Washington Dulles International and Baltimore/Washington International Airports. This is the seventh in a series of air passenger surveys. Previous surveys were conducted in 1982, 1987, 1992, 1998, 2000 and 2002.

This survey is being conducted by the Metropolitan Washington Council of Governments, in conjunction with the Maryland Aviation Administration (part of the Maryland Department of Transportation, which owns and operates BWI Airport) and the Metropolitan Washington Airports Authority (which operates Reagan National and Dulles Airports). The airlines that serve the region's airports are also cooperating in this survey effort.

**The 2005 survey will begin on SUNDAY, MARCH 6TH and continue for fourteen consecutive days, ending on SATURDAY, MARCH 19TH. Several surveyors may be required during the period from March 20th through April 2nd, to survey flights that might have been missed or under-surveyed.**

### **SURVEY ORGANIZATION**

The Metropolitan Washington Council of Governments (MWCOG) is responsible for the overall management of the survey. MWCOG has contracted with Area Wide Market Research, Inc. to conduct the survey. Area Wide will supply SURVEY SUPERVISORS, LEAD ASSISTANTS and SURVEYORS at each of the three airports.

A project manager, appointed from COG staff, will be responsible for reviewing and approving the survey contractor's work plan, coordinating the contractor's work with airport and airline personnel as appropriate, managing the involvement of other COG staff in this project, and monitoring the progress of all survey activities to ensure their successful completion.

There will be one (1) Survey Supervisor at each airport. Survey Supervisors will be responsible for the overall management of survey field operations at their assigned airport. Specific responsibilities of the Survey Supervisors will include pre-survey set up and training activities; overall supervision of survey interviewing during the main 14-day survey period and the following one-to-two week resurvey make-up period; appropriate coordination of survey interviewing operations with COG staff and airport personnel; and keeping the Area Wide



Market Research's President up-to-date on daily survey activities. It is expected that the Survey Supervisor for each airport will be "on call" at all times during survey operations and will work directly with the Lead Assistants at each airport to resolve any problems that may arise.

The Lead Assistants will work in conjunction with a Survey Supervisor to cover all airport field office functions. Specific responsibilities will include the scheduling and assignment of field staff interviewers to specific survey flights, the preparation and checking of survey questionnaire packets for each sampled flight to be surveyed during their work shift, review of the returned survey questionnaires after each flight is surveyed to determine whether or not there was an adequate number of valid completed questionnaires for that flight, and maintenance of a survey flight log book. Lead Assistants will also be expected to perform some survey interviewing in the event that not enough survey interviewers are available for a particular work shift.

A field office will be established at each airport, from which the actual survey will be conducted. The field office will be staffed by the LEAD ASSISTANTS, who will be responsible for managing the office, dispatching the SURVEYORS to the boarding gates, and maintaining the survey logbook.

The surveyors will be directly responsible to the lead assistants. The key responsibility of the surveyors will be to distribute questionnaire forms to passengers as they wait to board a selected flight, and collect the completed forms. Surveyors may also be required to explain the purpose of the survey, identify the sponsoring agencies, or explain a particular question to the passengers, if they are asked.

## **FIELD OFFICE PROCEDURES**

The basic unit of the survey is the scheduled airline flight. A random sample of all flights during the survey period will be generated. Once the survey is completed, the sample data will be factored to represent annual passenger totals at each airport. All record keeping for the survey will be based on the individual flight.

1. A SURVEY LOG BOOK will be kept in the field office at each airport. In this book there will be a listing of the flights to be surveyed each day of the survey period, as well as a FLIGHT RECORD LOG SHEET for each flight. Based on the listing of selected flights, a surveyor schedule will be prepared, indicating how the selected flights will be covered. At the beginning of each day and several times throughout the day, as necessary, the lead assistant will determine which gates the selected flights will depart from. The lead assistant is also responsible for

assigning surveyor numbers to individuals for that particular day, for assuring the surveyors are aware of the gates at which that days surveying will be done, and making sure the surveyors have the necessary materials for the survey.

2. A FLIGHT PACKAGE will be prepared in advance for each flight to be surveyed. All flight packages for each day of the survey period will be placed in a box (or two), marked specifically for that day. Each flight package will contain an appropriate number of survey questionnaires (based on the seating capacity of the scheduled aircraft), a copy of the GATE ANNOUNCEMENT to be read by airline gate personnel, and a number of MAIL-BACK ENVELOPES.
3. A copy of the FLIGHT RECORD LOG SHEET will also be included in each flight package. This will allow the surveyor to make entries on the log sheet while at the gate. The original copy of the flight record log sheet will be kept in the SURVEY LOG BOOK, which will remain in the field office.
4. After each flight is surveyed, the lead assistant will be responsible for the following:
  - determining whether there was an adequate number of completed survey responses, and whether the flight was surveyed successfully (defined as collecting valid responses from at least 20 percent of the revenue passengers on that flight); and,
  - making sure the surveyors transfer their notes from the flight record log sheet into the survey logbook.
5. If a flight is determined to have been surveyed successfully, the flight package will be placed back in the box for that particular day. If the flight was missed or not surveyed successfully, the package will be placed in a “Resurvey” box. All flights to be resurveyed will be made-up either in the second week of the survey, or the week following completion of the survey. (NOTE: if a flight is missed, the surveyor still needs to find out the number of revenue passengers on that flight, if possible.)
6. Before the surveyors leave for the day, the lead assistant will make sure that they are aware of the flights for which they will be responsible the following day.

## **SURVEYING PROCEDURES**

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, 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.*
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.

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.

### **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.