Item 4

Update on Air Systems Planning Activities

Briefing to the Travel Forecasting Subcommittee
Timothy Canan, AICP

July 18, 2008

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COG has conducted metropolitan airport systems planning for 30 years through the Continuous Airport Systems Planning (CASP) Program.

- **Purpose:** provide a regional process that supports planning, development and operation of airport and airport-serving facilities in a systematic framework for the Washington-Baltimore region
- CASP planning activities are carried out in cooperation with (**1**) Federal Aviation Administration (FAA), (**2**) Maryland Aviation Administration (MAA), (**3**) Virginia Department of Aviation (VDOA), (**4**) District of Columbia Office of Planning (DCOP), (**5**) District Department of Transportation (DDOT), and (**6**) Metropolitan Washington Airports Authority (MWAA).
- The Transportation Planning Board's **Aviation Technical Subcommittee** develops, implements and monitors CASP Program activities.

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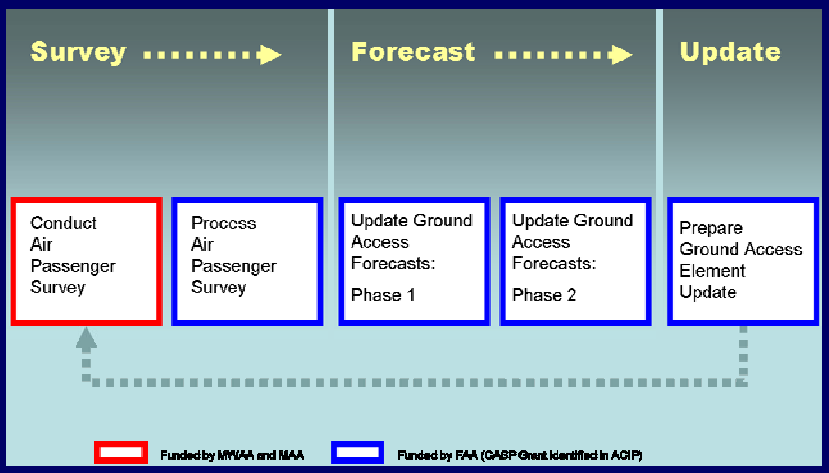
The CASP Process occurs in three (3) distinct phases, each containing specific projects and milestones.



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Recent accomplishments of the CASP Program

- 2007 Washington-Baltimore Regional Air Passenger Survey
- Washington-Baltimore Origin-Destination Forecasts (based on 2005 AP Survey)
- 2008 Washington-Baltimore Region Air Cargo Study

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2007 Washington-Baltimore Regional Air Passenger Survey

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Survey Background

- 685 flights composed randomly-selected sample

606 domestic	227 at BWI
79 international	212 at DCA
	246 at IAD

- Survey conducted early October through early November 2007

33 Airlines	114 Destinations
17 domestic	82 Domestic
16 international	32 International

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The 2007 air passenger survey yielded a favorable 49 percent response rate.

	BWI	DCA	IAD	Total
Actual No. of Completed Surveys	6,987	4,718	7,312	19,017
Mail-back				157
Total				19,174
No. Survey Completed (With Passenger Factor)	10,042	6,745	10,526	27,313
Revenue Passenger Count	21,277	14,825	19,422	55,524
Response Rate	**47%**	**45%**	**54%**	**49%**

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The 2007 regional air passenger survey examined 10 major factors.

- Airport use
- Airport preference
- Trip purpose
- Trip origin
- Mode of access
- Air travel characteristics
- Resident status
- Age
- Income
- Ticket purchase method

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Annual air passenger enplanements increased 5 percent to 32 million between 2005 and 2007.

- 8.4 million connecting passengers
  - Increased by 3.8 million from 2002
- 23.6 million local originating passengers
  - Increased by 4 million from 2002

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Airport shares of passengers

Airport	Share of locally-originating passengers (change from 2005)	Share of connecting passengers (change from 2005)
BWI	37% (-1)	20% (+3)
DCA	35% (+3)	11% (+0)
IAD	27% (-3)	69% (-3)

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Status of project and Next Steps

- Geocoding using Google Earth completed
- Draft report reviewed by Aviation Technical Subcommittee
- Final report due in September
- Geographic findings report due later in fall

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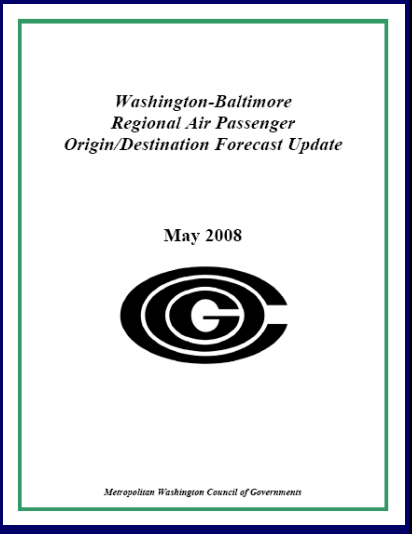
Washington-Baltimore Regional Air Passenger Origin/Destination Forecast Update



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Purpose – develop base and forecast years of local originating internal annual air passenger trips from each Aviation Analysis Zone (AAZ) to the three regional commercial airports

- Incorporate into the regional travel model
- 161 AAZs composed of aggregated TAZs
- Enplanement control totals provided by airports

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Three (3) principal datasets involved

- 2005 Air Passenger Survey
  - % local originating trips
  - % local originating internal trips
  - % home and non-home local originating trips
- Enplanement forecasts through 2030 for BWI, DCA and IAD provided by airports
- MWCOG (R7.1) and BMC (R7) forecasts of households and employment by TAZ

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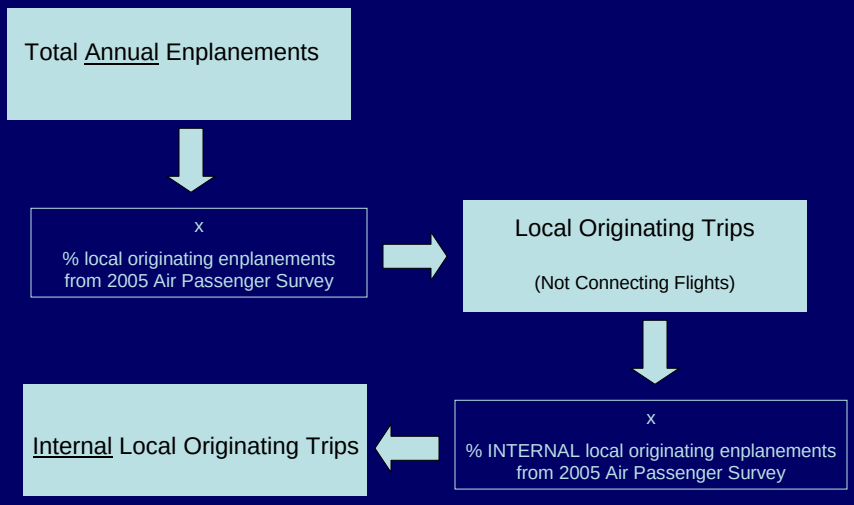
Step 1: Estimate internal local originating trips for each airport.



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Completing Step 1 results in annual control totals by airport by forecast year.

Enplanements

Year	BWI	DCA	IAD	Total
2005	9,865,928	8,227,000	13,795,311	31,888,239
2010	12			
2015	13			
2020	15			
2025	16			
2030	18			

Local Oringinations

Year	BWI	DCA	IAD	Total
2005	8,561,530	7,412,114	7,644,048	23,617,692
2010	10			
2015	11			
2020	13			
2025	14			
2030	15			

Internal Local Oringinations

Year	BWI	DCA	IAD	Total
2005	7,350,101	7,262,445	7,047,500	21,660,046
2010	9,200,805	7,816,199	7,603,678	24,620,681
2015	10,260,267	8,373,219	9,532,431	28,165,916
2020	11,365,249	8,936,859	11,559,274	31,861,383
2025	12,480,511	9,441,796	13,545,505	35,467,812
2030	13,636,823	9,888,030	15,523,303	39,048,156

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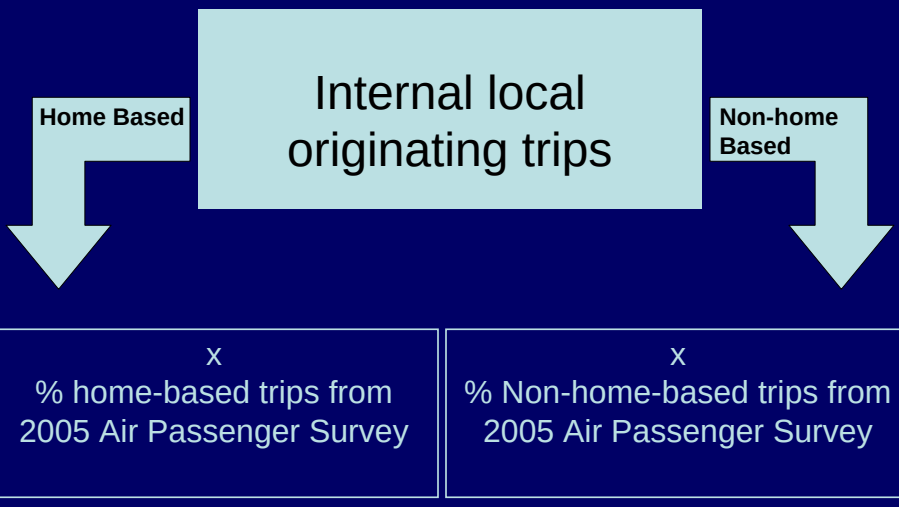
Step 2: Estimate annual home and non-home internal local originating trips for every AAZ.



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Step 3: Estimate annual home and non-home trip rates for trips from each AAZ to each airport.

$$\text{Home Based Trip Origin Rate for Airport}_A \text{ from AAZ}_X = \frac{\text{AAZ}_X \text{ Origin Home Trip}_{2005}}{\text{AAZ}_X \text{ Households}_{2005}}$$

$$\text{Non-Home Based Trip Origin Rate for Airport}_A \text{ from AAZ}_X = \frac{\text{AAZ}_X \text{ Origin Non-Home Trip}_{2005}}{\text{AAZ}_X \text{ Employment}_{2005}}$$

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Step 4: Estimate annual home and non-home trips from each AAZ to each airport.

Home Based Trips for Airport$_A$ from AAZ$_X$ =

Home-based Trip Origin Rate for Airport$_A$ AAZ$_X$ *

Household AAZ$_X$ Year$_Y$

Non-Home Based Trips for Airport$_A$ from AAZ$_X$ =

Non-home-based Trip Origin Rate for Airport$_A$ AAZ$_X$ *

Employment AAZ$_X$ Year$_Y$

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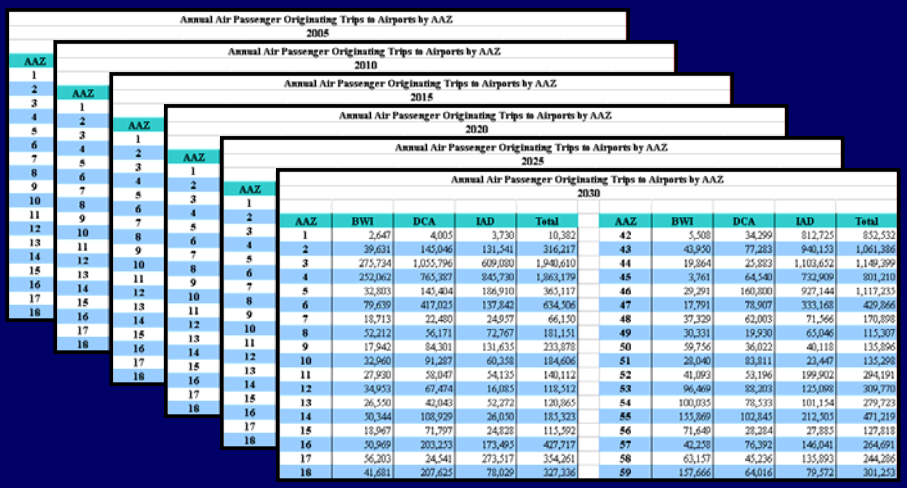
Completing Step 4 results in trip tables of internal local originating annual trips from each AAZ to each airport.



Annual Air Passenger Originating Trips to Airports by AAZ
2005

AAZ
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Annual Air Passenger Originating Trips to Airports by AAZ
2010

AAZ
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Annual Air Passenger Originating Trips to Airports by AAZ
2015

AAZ
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Annual Air Passenger Originating Trips to Airports by AAZ
2020

AAZ
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Annual Air Passenger Originating Trips to Airports by AAZ
2025

AAZ
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Annual Air Passenger Originating Trips to Airports by AAZ
2030

AAZ	BWI	DCA	IAD	Total	AAZ	BWI	DCA	IAD	Total
1	2,647	4,005	3,730	10,382	42	5,508	34,299	812,725	852,532
2	39,631	145,046	131,541	316,217	43	43,950	77,283	940,153	1,061,386
3	275,734	1,055,796	609,080	1,940,610	44	19,864	25,883	1,103,652	1,149,399
4	252,062	765,287	845,730	1,863,179	45	3,761	64,540	732,909	801,210
5	32,803	143,404	186,910	365,117	46	29,291	160,800	927,144	1,117,235
6	79,639	417,025	137,842	634,506	47	17,791	78,907	333,168	429,866
7	18,713	22,480	24,957	66,150	48	37,329	62,003	71,566	170,898
8	52,212	56,171	72,767	181,151	49	30,331	19,930	65,046	115,307
9	17,942	84,301	131,635	233,878	50	59,756	36,022	40,118	135,896
10	32,960	91,287	60,358	184,606	51	28,040	83,811	23,447	135,298
11	27,930	58,047	54,135	140,112	52	41,093	53,196	199,902	294,191
12	34,953	67,474	16,085	118,512	53	96,469	88,203	125,099	309,770
13	26,550	42,043	52,272	120,865	54	100,035	78,533	101,154	279,723
14	50,344	108,929	26,050	185,323	55	155,869	102,845	212,505	471,219
15	18,967	71,797	24,828	115,592	56	71,649	28,284	27,885	127,818
16	50,969	203,253	173,495	427,717	57	42,258	76,392	146,041	264,691
17	56,203	24,541	273,517	354,261	58	63,157	45,236	135,893	244,286
18	41,681	207,625	78,029	327,336	59	157,666	64,016	79,572	301,253

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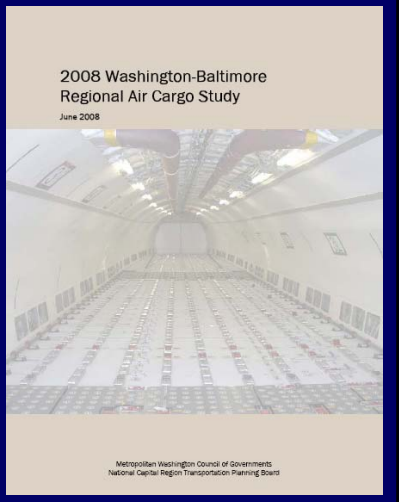
2008 Washington-Baltimore Regional Air Cargo Study



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2008 Washington-Baltimore Regional Air Cargo Study

- Updates the *Washington-Baltimore Regional Air System Plan: Volume III – Air Cargo*, last completed in 1997
- Focuses primarily on BWI and IAD
- Provides updated demand information
- Highlights air cargo facilities at BWI and IAD and describes capital improvement projects that support all air operations, including air cargo
- Contains accessibility analysis and maps identifying travel times from the airports to areas in the air system planning region
- Recommendations

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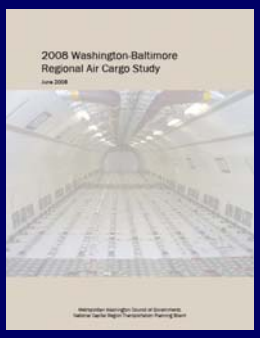
Washington-Baltimore Regional Air Passenger Origin/Destination Forecast Report

AND

2008 Washington-Baltimore Regional Air Cargo Study, are accessible from:

http://www.mwcog.org/transportation/committee/committee/documents.asp?COMMITTEE_ID=102



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