

The Economic Impact of Memphis International Airport

Prepared for the
Memphis-Shelby County Airport Authority

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Table of Contents

<u>Section</u>	<u>Page</u>
List of Tables	iii
List of Charts	v
Acknowledgments	vi
Executive Summary	vii
Introduction	1
A Brief Review of Memphis International Airport, FY 1995-FY 2004	2
The Economic Impact of the Memphis International Airport	5
Methodology	5
Data Sources	6
I. The Impact of Cargo Operations	6
II. The Impact of Passenger Operations	7
III. The Impact of Construction at Memphis International Airport	11
IV. Total Impact of Memphis International Airport	12
V. Historical Comparison	13
VI. Comparisons with Other Airports	14
VII. The Economic Impact of Tourism and Business Visitors from Memphis International Airport	15
Memphis' Connection to the World—Memphis to Amsterdam Flight's First Decade	17
2005 Local Business Airport Usage Survey	24
Compared with the 1998 Local Business Usage Survey	28
Airport Transit Survey	30
Appendix	33
A Brief Overview of Other Airport Impact Studies	34

List of Tables

<u>Table</u>	<u>Title</u>	<u>Page</u>
1	Aircraft Operations, 1995-2004	3
2	Cargo Enplaned (in Thousands of Pounds), 1995-2004	3
3	Domestic and International Passenger Enplanements, 1995-2004	4
4	Passenger Enplanements and Cargo Volume, Comparison of Selected Cities, 2003	5
5	Estimated Air Cargo Revenue/Sales (in 2004 Dollars), FY 2004	6
6	Estimated Air Cargo Revenue/Sales (in 2000 Dollars), FY 2004	7
7	Multiplier Impacts of Air Cargo Operations at Memphis International Airport (in 2000 Dollars)	8
8	Multiplier Impacts of Air Cargo Operations at Memphis International Airport (in 2004 Dollars)	8
9	Estimated Air Passenger Revenue/Sales (in 2004 Dollars), FY 2004	9
10	Estimated Air Passenger Revenue/Sales (in 2000 Dollars), FY 2000	9
11	Multiplier Impacts of Air Passenger Operations at Memphis International Airport (in 2000 Dollars)	10
12	Multiplier Impacts of Air Passenger Operations at Memphis International Airport (in 2004 Dollars)	10
13	Construction Expenditures at Memphis International Airport, FY 2000–FY 2004	11
14	Conversion of Memphis International Airport FY 2004 Construction Expenditures to 2000 Dollars	11
15	Multiplier Impacts of Construction Expenditures at Memphis International Airport (in 2000 Dollars)	12
16	Multiplier Impacts of Construction Expenditures at Memphis International Airport (in 2004 Dollars)	12
17	Total Impact of Memphis International Airport, 2004	12
18	Comparison of Cargo and Passenger Operations, 1997 and 2004	13
19	Comparison of Direct Expenditures, 1997 and 2004	14
20	Comparison of Total Impacts, 1997 and 2004	14

List of Tables (Continued)

<u>Table</u>	<u>Title</u>	<u>Page</u>
21	Comparison of Economic Impacts, Selected Airports, Selected Years	15
22	Total Spending by Visitors to Memphis via Memphis International Airport (in 2004 Dollars)	16
23	Total Spending by Visitors to Memphis via Memphis International Airport (in 2000 Dollars)	17
24	Multiplier Impacts of Memphis International Airport Visitor Spending (in 2000 Dollars)	18
25	Multiplier Impacts of Memphis International Airport Visitor Spending (in 2004 Dollars)	18
26	Memphis to Europe/Middle East/Africa Passenger Traffic, 1994-2004	19
27	Memphis International Airport/Amsterdam Load Factors, Second Quarter 1995-Third Quarter 2004	20
28	Memphis Total International Enplanement And Deplanement, 1995-2004	22
29	Memphis/Amsterdam Passenger Arrivals and Departures, 2003 (Calendar Year)	23
30	Amsterdam/Memphis International Airport Visitor Spending (in 2004 Dollars)	24
31	Amsterdam/Memphis International Airport Visitor Spending (in 2000 Dollars)	24
32	Multiplier Impacts of Amsterdam/Memphis International Airport Visitor Spending (in 2000 Dollars), 1995-2004 (Calendar Year)	25
33	Multiplier Impacts of Amsterdam/Memphis International Airport Visitor Spending (in 2004 Dollars), 1995-2004 (Calendar Year)	26
34	Distribution by Industry of Unique Businesses in the Memphis Area, Business Airport Usage Survey	27
35	Response Comparison Between 1998 and 2005 Business Surveys (in Percent)	29
A-1	Comparison of Economic Impacts, Selected Airports	34
A-2	Memphis International Airport Tenant Survey Responses	37
A-3	Memphis International Airport Local Business Usage Survey Responses	40

List of Charts

<u>Chart</u>	<u>Title</u>	<u>Page</u>
1	Memphis International Airport to Europe/Middle East/ Africa Combined Passenger Traffic, First Quarter 2000- Third Quarter 2004	20
2	Memphis International Airport to Amsterdam Load Factors, Second Quarter 1993-Third Quarter 2004	21



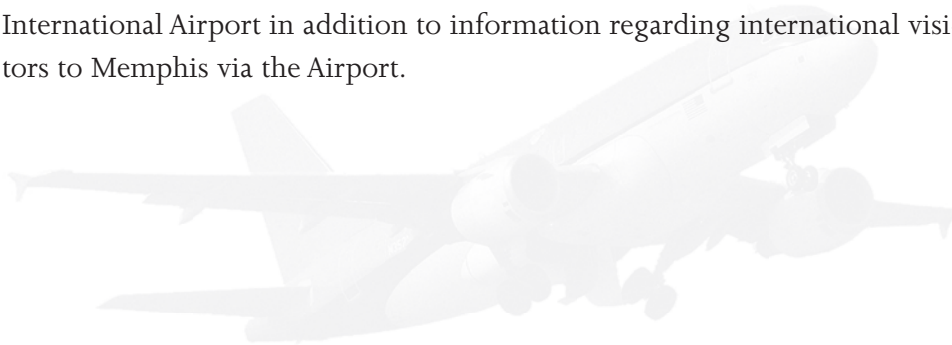
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Executive Summary

The Total Impact of Memphis International Airport

- † Total combined direct expenditures (may be thought of as sales or revenue) of FY 2004 cargo and passenger operations and construction projects and expenditures at Memphis International Airport (MEM) totaled nearly \$10.7 billion, resulting in total output in the Memphis MSA of over \$20.7 billion, earnings of nearly \$6.0 billion, and the generation of nearly 166,000 jobs.
- † The impact of MEM accounted for 27.0 percent of total MSA employment in 2004, or just over 1 in 4 jobs. Both air cargo operations and air passenger operations have a substantial impact on the local economy, but the largest share of that impact comes from air cargo.

The Impact of Cargo Operations

- † The continued development of a powerful value-added air-cargo, logistics, and distribution industry in Memphis depends heavily upon air services. In 2003, Memphis International Airport ranked 37th of all U.S. airports in passenger enplanements and number 1 in cargo volume. Memphis International Airport has been the world's busiest cargo airport since 1992, and operations at the FedEx Super Hub accounted for 93.6 percent of all cargo at MEM.
- † In 2004, cargo operations at MEM had a total impact of more than \$19.5 billion in output (the production of goods and services), while supporting a total of 155,872 jobs and total earnings of nearly \$5.6 billion.

The Impact of Passenger Operations

- † Passenger operations of just over \$611 million in value in 2004 are estimated to have resulted in an impact of over \$577 million in indirect expenditures. The direct and indirect impacts of passenger operations were nearly \$1.2 billion in output (the production of goods and services), a total of 9,487 jobs, and total earnings of more than \$340.1 million.

The Impact of Construction

- ✦ In addition to the impact on the Memphis MSA economy from passenger and cargo operations, Memphis International Airport is continuously undergoing improvements and expansions.
- ✦ Direct construction and capital improvement expenditures of nearly \$31 million in 2004 were estimated to have resulted in an impact of over \$29 million in indirect expenditures, for a total impact of nearly \$60 million in output, 542 jobs, and total earnings of more than \$16.3 million.

The Impact of Visitors

- ✦ Memphis International Airport also strongly impacts the local tourism and hospitality sectors. Without this vital connection, many of the area's tourists and business visitors might not come to Memphis. In 2004, it was estimated that 1,197,912 of the 5,193,060 enplanements at MEM were visitors to the Memphis area, both foreign and domestic. It is estimated that visitors who came to the Memphis area via MEM spent a total of over \$400 million in 2004.
- ✦ Visitors to the Memphis area who came via MEM had a total impact of nearly \$779 million on output (the production and sales of goods and services) and over \$232 million in earnings, while supporting almost 11,000 jobs.

The Impact of the Memphis to Amsterdam Link

- ✦ Based on an alliance between Northwest Airlines and KLM, the Memphis/Amsterdam flight changed the image of Memphis and created a positive incentive for the subsequent growth of trade-related business and tourism activities in Memphis. The economic impact of the Memphis/Amsterdam flight over the last ten years was estimated to have directly and indirectly generated \$159,412,413 in output, \$47,588,986 of earnings, and supported 2,232 jobs.
- ✦ Attracting new information-age and health-care researchers from other cities may depend on the success of the community's efforts to maintain and build on the success of the Memphis/Amsterdam flight. The Memphis/Amsterdam flight is an essential first step and one that should set the stage for future flight opportunities from the Airport.

As industry conditions change, building our international flight connections would be a world-class opportunity to have a positive impact on the growth of the Memphis area.

Local Business Usage Survey

- ✦ A 2005 survey of Memphis area businesses revealed that Memphis International Airport plays a critical role in the business activities of a majority of the respondents. Over 80.0 percent of business survey respondents used Memphis International Airport to transport company personnel, while more than 59.0 percent used it to transport customers and business associates. Most local business survey respondents rated the quality of passenger and cargo services at MEM as high to very high—70.9 percent for passenger services and 75.6 percent for cargo services—both probably a reflection of the benefits of MEM being home to both a passenger and a cargo hub.



Introduction

The single largest economic engine in Memphis starts and stops with the Memphis International Airport (MEM). Long-term investments in the Airport have generated billions in output and earnings and thousands of job opportunities for Memphis-area residents. No single investment or series of investments has had a greater impact on the community. The Airport not only defines Memphis' present, but it sets the stage for its future. The Airport always ranks as one of the community's top assets for both businesses and residents. Consequently, it should come as no surprise that the economic impact of the Airport on the economy of the Memphis area is enormous.

The largest businesses in Memphis depend on the Airport either directly or indirectly. The growth to world prominence of Memphis' largest employer, FedEx, is directly tied to the availability of high-quality services at the Airport. The presence of other international logistics, health-care and medical device businesses, and corporate headquarters of all types depend upon the quantity and quality of services available at the Airport. The continued development of a powerful value-added air-cargo, logistics, and distribution industry in Memphis depends heavily upon air services. As the world economic explosion took place in the 1990s, Memphis was prepared to be an active participant in the new economy because it had a high-quality airport. Current investments at the Airport will provide the City with an opportunity to play an important role in the next great wave of world economic growth.

The purpose of this analysis was to develop estimates of both the direct and indirect impacts of the Airport on the economy of the Memphis area. The analysis measures the dollar benefits that result from aviation-related activities at the Airport, from Airport tenants, and from businesses that use or are affected by Airport activities and services. This report examines the changing mix of services and focuses on the role of MEM as the world's number one air-cargo hub. In addition, the report develops economic impact estimates based on the pattern of expenditures at the Airport. The impact analysis includes an examination of the impact of both domestic and international passengers and cargo. One section highlights the important role of the NWA/KLM flight between Memphis and Amsterdam and examines the role of Memphis in an expanding world economy. Finally, an analysis of the results of a 2005 user survey is presented and compared to the outcome of a 1998 Airport survey. Over 400 individual businesses responded to the current survey and provided not only useful data, but also opinions about the quality of air services provided at the Airport.

As the world economic explosion took place in the 1990s, Memphis was prepared to be an active participant in the new economy because it had a high-quality airport. Current investments at the Airport will provide the City with an opportunity to play an important role in the next great wave of world economic growth.

A Brief Review of Memphis International Airport, FY 1995–FY 2004

During the past ten years (FY 1995–FY 2004), there has been dramatic change at Memphis International Airport (MEM) and throughout the aviation world. The aftermath of September 11, 2001, is reflected throughout nearly all statistics on aviation and related services at MEM, but so too are the effects of rising energy prices coupled with deteriorating profit margins for major/national passenger airlines. The statistics on aircraft movements in Table 1 reflect many of the changes seen nationally. Total aircraft movements during the ten-year period increased by 11.1 percent, from 354,448 to 393,690.

But, the biggest story was not in the change in total movements but instead in the composition of total movements. In particular, there has been a marked downward trend in movements/flights by major/national passenger airlines and a dramatic increase in movements/flights by regional passenger carriers. This reflects a national trend brought about substantially by major airlines' cost reduction efforts. For a variety of reasons, it is cheaper to fly and operate regional jets than the larger jets of major carriers. This trend has increased since the last recession, especially with the dramatically higher fuel prices that have put a squeeze on airline profits.

Military operations have also decreased substantially over the past ten years. During 2003 and 2004, the drop-off in military operations coincided with a change of aircraft type operated by the 164th Airlift Wing stationed at Memphis International Airport. From April 1992 through May 2004, the 164th conducted missions using the C-141 Starlifter aircraft. The Starlifters were retired in May 2004 and are being replaced with the substantially larger C-5. To accommodate the larger aircraft, the Airlift Wing will be moving to a new facility that is being built on the southeast corner of the Airport property. The total investment in the new facility is expected to be \$211.75 million to be spent over three years, from FY 2005 to FY 2007. The larger aircraft and expanded mission of the 164th Airlift Wing are also expected to bring even more employment than was generated for the C-141 operations.

The data in Table 1 also show a substantial increase in cargo movements, up 54.7 percent during the ten-year period. This growth was largely reflective of the growth trends in MEM's largest tenant, FedEx. An increase in the number of international cargo flights brought about by the opening of the World Runway in 2000 also increased cargo movements.

Table 1. Aircraft Operations,¹ 1995-2004

Fiscal Year	Majors/ Nationals	Regional	Cargo	General Aviation	Military	Total	Total Percent Change
1995	104,704	79,734	85,194	78,556	6,260	354,448	—
1996	104,044	82,492	87,640	81,243	5,928	361,347	1.9%
1997	102,384	85,646	94,028	76,079	4,899	363,036	0.5%
1998	102,120	86,390	103,256	75,748	4,635	372,149	2.5%
1999	99,786	75,162	103,046	79,573	5,588	363,155	-2.4%
2000	103,704	88,962	104,456	76,237	4,651	378,010	4.1%
2001	114,156	118,916	103,170	59,897	4,488	400,627	6.0%
2002	96,144	101,778	129,586	59,011	3,617	390,136	-2.6%
2003	94,738	119,824	133,030	55,111	1,712	404,415	3.7%
2004	77,942	132,236	131,766	49,994	1,752	393,690	-2.7%

¹Takeoffs and landings.

Source: Memphis-Shelby County Airport Authority, Activity Reports.

The data in Table 2 show the dramatic rise in total pounds of cargo enplaned at MEM over the past ten years. Total pounds were up 109.6 percent, from just over 1.9 billion pounds in 1995 to over 4.0 billion pounds in 2004. The bulk of this increase occurred in domestic freight, with cargo enplaned rising 118.7 percent from 1995 to 2004. International freight movements also rose significantly, up 42.9 percent from 1995 to 2004.

Table 2. Cargo Enplaned (in Thousands of Pounds), 1995-2004

Fiscal Year	Domestic Freight	Domestic Percent Change	International Freight	International Percent Change	Air Mail	Air Mail Percent Change	Total	Total Percent Change
1995	1,750,935	—	114,640	—	43,167	—	1,908,742	—
1996	1,842,995	5.3%	123,887	8.1%	44,150	2.3%	2,011,032	5.4%
1997	2,082,677	13.0%	145,287	17.3%	54,778	24.1%	2,282,742	13.5%
1998	2,393,790	14.9%	151,484	4.3%	56,219	2.6%	2,601,493	14.0%
1999	2,454,583	2.5%	131,221	-13.4%	36,122	-35.7%	2,621,926	0.8%
2000	2,546,210	3.7%	139,112	6.0%	39,696	9.9%	2,725,018	3.9%
2001	2,476,361	-2.7%	151,115	8.6%	44,662	12.5%	2,672,138	-1.9%
2002	3,478,616	40.5%	138,325	-8.5%	24,417	-45.3%	3,641,358	36.3%
2003	3,746,808	7.7%	148,950	7.7%	14,806	-39.4%	3,910,564	7.4%
2004	3,829,523	2.2%	163,837	10.0%	6,659	-55.0%	4,000,019	2.3%

Source: Memphis-Shelby County Airport Authority, Activity Reports.

Passenger enplanements have also increased substantially over the past ten years (see Table 3). Enplanements rose steadily from 1995 to 2001 and peaked in 2001 at just over 6.0 million, an increase of over 46.0 percent. The late 1990s were a time of relatively low fuel prices and a booming economy. Passenger aviation was hit hard by the events of September 11. Several days of zero air traffic nationwide was followed by public fear of flying. Passenger enplanements at MEM have not returned to the peak level of 2001.

Table 3. Domestic and International Passenger Enplanements, 1995-2004

Fiscal Year	Domestic Enplanements	Domestic Percent Change	International Enplanements	International Percent Change	Total	Total Percent Change
1995	4,137,629	—	38,863	—	4,176,492	—
1996	4,471,607	8.1%	90,879	133.8%	4,562,486	9.2%
1997	4,713,443	5.4%	132,775	46.1%	4,846,218	6.2%
1998	4,828,748	2.4%	130,819	- 1.5%	4,959,567	2.3%
1999	4,757,510	- 1.5%	127,163	- 2.8%	4,884,673	- 1.5%
2000	5,118,067	7.6%	144,306	13.5%	5,262,373	7.7%
2001	6,043,671	18.1%	137,243	- 4.9%	6,180,914	17.5%
2002	4,925,240	-18.5%	146,687	6.9%	5,071,927	-17.9%
2003	5,336,752	8.4%	162,979	11.1%	5,499,731	8.4%
2004	5,036,222	- 5.6%	156,838	- 3.8%	5,193,060	- 5.6%

Source: Memphis-Shelby County Airport Authority Activity Reports and U.S. Bureau of Transportation statistics.

Interestingly, international enplanements declined only marginally in 2001 and resumed strong growth in 2003. From 1995 (the time of the inception of the Memphis/Amsterdam route) to 2004, international enplanements increased by more than 303 percent, from 38,863 in 1995 to 156,838 in 2004.

Table 4 presents comparisons of MEM passenger enplanements and cargo volume with those of other cities during 2003. Memphis International Airport ranked 37th of all U.S. airports in passenger enplanements and number 1 in cargo volume. While Atlanta's airport had over seven times more passenger enplanements than did MEM, it had less than one quarter of MEM's cargo volume. Louisville's airport, home of UPS' major air cargo hub, ranked 6th nationally in landed weight, but its total was still less than half of MEM's 2003 total.

Table 4. Passenger Enplanements and Cargo Volume, Comparison of Selected Cities, 2003

Airport	City	Passenger Enplanements	U.S. Rank	Percent of Memphis	Cargo (Metric Tons)	North American Rank	Percent of Memphis
Memphis (MEM)	Memphis	5,411,496	37	100.0%	3,390,515	1	100.0%
Atlanta (ATL)	Atlanta	38,893,670	1	718.7%	798,501	10	23.6%
Birmingham (BHM)	Birmingham	1,376,152	76	25.4%	34,184	79	1.0%
Charlotte (CLT)	Charlotte	11,465,366	19	211.9%	142,563	35	4.2%
Dallas/Fort Worth (DFW)	Fort Worth	24,976,881	5	461.6%	667,574	11	19.7%
Indianapolis (IND)	Indianapolis	3,673,648	48	67.9%	889,163	8	26.2%
Louisville (SDF)	Louisville	1,656,609	70	30.6%	1,618,336	6	47.7%
Nashville (BNA)	Nashville	3,943,236	45	72.9%	39,453	76	1.2%

Sources: Federal Aviation Administration and Airports Council International-North America.

The Economic Impact of the Memphis International Airport

Similar to other public and private investments, one measure of the success of an airport is its contribution to the local economy. Like many other airports, Memphis International Airport generates positive economic returns in employment, earnings, and economic output. These benefits are widespread and substantial. The remainder of this study focuses on developing quantitative estimates of the Airport's economic impact.

Methodology

The methodology used in this analysis involved estimating the direct and indirect economic impact of the operations of MEM on the Memphis Metropolitan Statistical Area (MSA), primarily through the use of U.S. Bureau of Economic Analysis (BEA) RIMS II¹ output (i.e., goods and services produced as a result of the economic activity in question), earnings, and employment for the Memphis MSA.

Estimating total dollar impacts was a two-step process. First, because the multipliers used in this analysis were calculated from 2000 data, all dollar

¹See U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*, 3rd Ed. (Washington, D.C.: U.S. Government Printing Office, 1997).

amounts used with the multipliers were converted from 2004 dollars (the year in which the expenditures occurred) to 2000 dollars to avoid overstating employment impacts. Second, after establishing the initial dollar and employment impact estimates, the dollar impact estimates were then converted back to 2004 dollars.

Data Sources

The major sources of data utilized in this report are listed below:

- ✦ *Memphis-Shelby County Airport Authority Comprehensive Annual Financial Report*, for fiscal years 1995 to 2004.
- ✦ *Output, Earnings, and Employment Multipliers*. Multipliers from the Regional Input-Output Modeling System (RIMS II) developed by the U.S. Bureau of Economic Analysis were used to measure the direct linkages between expenditures, output, job creation, and payroll generation.

I. The Impact of Cargo Operations

Memphis International Airport has been the world's busiest cargo airport since 1992, and operations at the FedEx Super Hub accounted for 93.6 percent of all cargo at MEM. MEM's number one ranking in air cargo operations generates a very large impact on the Memphis MSA's economy. MEM had over 4.0 billion pounds of cargo enplaned during FY 2004 (Table 5). At an average revenue per pound of \$2.51, this equates to over \$10.0 billion in revenue associated with cargo enplaned in Memphis.

**Table 5. Estimated Air Cargo Revenue/Sales
(in 2004 Dollars), FY 2004**

2004 Total Pounds Of Cargo Enplaned:	4,000,019,000
2004 Average Revenue Per Pound:	x \$2.51
Total Cargo Revenue in 2004 Dollars:	\$10,040,047,690.00

Note: The 2004 average revenue per pound is from FedEx Corporation's Financial highlights at: <http://www.fedex.com/us/investorrelations/downloads/history/expressfinancialhistory.xls?link=4>

To use the RIMS II multipliers, the revenue total presented in Table 5 had to be converted into 2000 dollars because the revenue per pound figure is stated in 2004 dollars, and the multipliers are based on 2000 dollars. If the conversion had not been done, the impact estimate would have been overstated in the final analysis. Consumer Price Index data from the U.S. Bureau of Labor Statistics for the southern U.S. indicate that an 8.73 percent difference existed between the price level in 2000 and the one in 2004. This percentage

was used to deflate the revenue per pound figures in Table 5, with the results presented in Table 6. Thus, with average revenue per pound of \$2.31 in 2000 dollars, the total cargo revenue for FY 2004 was just over \$9.2 billion.

**Table 6. Estimated Air Cargo Revenue/Sales
(in 2000 Dollars), FY 2004**

2004 Total Pounds Of Cargo Enplaned:	4,000,019,000
Average Revenue Per Pound in 2000 Dollars:	x \$2.31
Total Cargo Revenue in 2000 Dollars:	\$9,240,043,890.00

Total cargo revenue from Table 6 was then used to determine the economic impact shown in Table 7. Since the Output and Earnings multiplier impacts are stated in 2000 dollars, the numbers in Table 7 cannot be used until converted back to 2004 dollars.

As shown in Table 8, direct expenditures (total cargo revenue) of just over \$10 billion are estimated to have resulted in an impact of almost \$9.5 billion in indirect expenditures. **A total impact of more than \$19.5 billion in output (the production of goods and services), while supporting a total of 155,872 jobs and total earnings of nearly \$5.6 billion, was generated from air cargo operations at the Airport.** The indirect impact is a result of the businesses and individuals spending their earnings and gross receipts in the local community.

II. The Impact of Passenger Operations

In addition to the large volume of cargo operations at MEM, the Airport also has significant passenger operations, ranking 37th nationally in passenger enplanements and serving as one of Northwest Airlines’ three U.S. hubs. Combining data from the U.S. Department of Transportation, Federal Aviation Administration’s FAA Aerospace Forecasts: Fiscal Years 2005–2016 (March 2005) and MEM’s domestic and international enplanements from FY 2004, an estimate of total domestic and international passenger revenue is presented in Table 9. The FAA estimated that for the 2004 fiscal year the average domestic passenger trip length was 972.6 miles, while the average international trip length was 3,068.3 miles. Using the average trip length estimates and enplanements (5,036,222 for domestic and 156,838 for international), a total of over 4.8 billion domestic passenger miles and over 481.0 million international passenger miles were attributed to the Airport. Multiplying these estimates by the revenue per passenger mile of 11.46 cents domestic and

Table 7. Multiplier Impacts of Air Cargo Operations at Memphis International Airport (in 2000 Dollars)

RIMS Category	Direct Expenditures	Multiplier			Impacts		
		Output(1)	Earnings(2)	Employment(3)	Output	Earnings	Employment
Air Transportation	\$9,240,043,890	1.9437	0.5563	16.8692	\$17,959,873,309	\$5,140,236,416	155,872

(1) The entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(2) The entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(3) The entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional one million dollars of output delivered to final demand by the industry corresponding to the entry.

Source of Multipliers: U.S. Bureau of Economic Analysis, Regional Economic Analysis Division.

Table 8. Multiplier Impacts of Air Cargo Operations at Memphis International Airport (in 2004 Dollars)

RIMS Category	Direct Expenditures	Impacts		
		Output	Earnings	Employment
Air Transportation	\$10,040,047,690	\$19,527,770,249	\$5,588,979,055	155,872

**Table 9. Estimated Air Passenger Revenue/Sales (in 2004 Dollars),
FY 2004**

	Domestic	International
Enplanements	5,036,222.00	156,838.00
Average Passenger Trip Length	x 972.60	x 3,068.30
Estimated Total Passenger Miles	4,898,229,517	481,226,035
Revenue Per Passenger Mile (in cents)	x 11.46	x 10.42
Total Revenue/Sales	\$561,337,103	\$50,143,753
Total Passenger Mile Revenue/Sales Combined	\$611,480,856	

10.42 cents international, resulted in an estimate of domestic passenger revenue/sales of over \$561 million and international passenger revenue/sales of over \$50 million, for a combined total of \$611,480,856.

Again, Consumer Price Index data were used to deflate the revenue per passenger mile numbers in Table 9, with the results presented in Table 10. Thus, with revenue per passenger mile of 10.54 cents domestic and 9.58 cents international (in 2000 dollars), the total passenger revenue for FY 2004 was just over \$562 million. Total passenger mile revenue/sales from Table 10 were then used to derive the economic impact. The dollar values shown in Table 11 were converted back to 2004 dollars in Table 12.

Table 10. Estimated Air Passenger Revenue/Sales (in 2000 Dollars), FY 2004

	Domestic	International
Enplanements	5,036,222.00	156,838.00
Average Passenger Trip Length	972.60	3068.30
Estimated Total Passenger Miles	4,898,229,517.00	481,226,035.00
Revenue Per Passenger Mile (in cents)	10.54	9.58
Total Revenue/Sales	\$516,266,994.00	\$46,117,679.00
Total Passenger Mile Revenue/Sales Combined	\$562,384,674.00	

As shown in Table 12, direct expenditures (total passenger mile revenue) of just over \$611 million are estimated to have resulted in an impact of over \$577 million in indirect expenditures. **The direct and indirect impacts of passenger operations were nearly \$1.2 billion in output (the production of goods and services), a total of 9,487 jobs, and total earnings of more than \$340.1 million.**

Table 11. Multiplier Impacts of Air Passenger Operations at Memphis International Airport (in 2000 Dollars)

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output(1)	Earnings(2)	Employment(3)	Output	Earnings	Employment
Air Transportation	\$562,384,674	1.9437	0.5563	16.8692	\$1,093,107,090	\$312,854,594	9,487

(1) The entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(2) The entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(3) The entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional one million dollars of output delivered to final demand by the industry corresponding to the entry.

Source of Multipliers: U.S. Bureau of Economic Analysis, Regional Economic Analysis Division.

Table 12. Multiplier Impacts of Air Passenger Operations at Memphis International Airport (in 2004 Dollars)

RIMS Category	Direct Expenditures	Impacts		
		Output	Earnings	Employment
Air Transportation	\$611,480,856	\$1,188,535,339	\$340,166,800	9,487

III. The Impact of Construction at Memphis International Airport

In addition to the impact on the Memphis MSA economy from passenger and cargo operations, Memphis International Airport is continuously undergoing improvements or expansions. Table 13 shows that construction expenditures made by MEM over the past five fiscal years (FY 2000–FY 2004) have totaled nearly \$333 million. Projects have included everything from taxiway improvements to passenger facility improvements. Construction will continue at MEM at a brisk pace over the next few years, with expenditures totaling nearly \$213.4 million between FY 2005 and FY 2008.

Table 13. Construction Expenditures at Memphis International Airport, FY 2000–FY 2004

Fiscal Year	Expenditures
2000	\$125,387,090
2001	\$ 84,589,585
2002	\$ 65,454,557
2003	\$ 26,676,567
2004	\$ 30,776,221
2005*	\$ 50,400,000
2006*	\$ 72,300,000
2007*	\$ 48,700,000
2008*	\$ 42,000,000

*Planned capital improvement expenditures.

Source: Memphis-Shelby County Airport Authority.

Table 14 presents FY 2004 construction expenditures in 2004 dollars converted to 2000 dollars for use with the RIMS II multipliers. Thus, \$30,776,221 in 2004 dollars converts to \$28,305,179 in 2000 dollars, the number that was used with RIMS II construction multipliers in Table 15. After being converted to 2004 dollars, **direct construction expenditures of**

Table 14. Conversion of Memphis International Airport FY 2004 Construction Expenditures to 2000 Dollars

MEM Construction Expenditures in 2004 Dollars	\$30,776,221
Inflation Adjustment Factor	1.0873
MEM Construction Expenditures in 2000 Dollars	\$28,305,179

Note: The conversion to 2000 dollars was arrived at by dividing 2004 expenditures by the inflation adjustment factor of 1.0873.

Table 15. Multiplier Impacts of Construction Expenditures at Memphis International Airport (in 2000 Dollars)

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output(1)	Earnings(2)	Employment(3)	Output	Earnings	Employment
Construction	\$28,305,179	1.945	0.5312	19.1566	\$55,053,573	\$15,035,711	542

(1) The entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(2) The entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(3) The entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional one million dollars of output delivered to final demand by the industry corresponding to the entry.

Source of Multipliers: U.S. Bureau of Economic Analysis, Regional Economic Analysis Division.

nearly \$31 million in 2004 were estimated to have resulted in an impact of over \$29 million in indirect expenditures, for a total impact of nearly \$60 million in output, 542 jobs, and total earnings of more than \$16.3 million (Table 16).

Table 16. Multiplier Impacts of Construction Expenditures at Memphis International Airport (in 2004 Dollars)

RIMS Category	Direct Expenditures	Impacts		
		Output	Earnings	Employment
Construction	\$30,776,221	\$59,859,750	\$16,348,329	542

IV. Total Impact of Memphis International Airport

The total impacts of cargo operations, passenger operations, and construction expenditures at MEM are presented in Table 17. As shown in Table 17, combined direct expenditures (may be thought of as sales or revenue) of cargo and passenger operations and construction projects and expenditures at Memphis International Airport totaled nearly \$10.7 billion, resulting in total output in the Memphis MSA of over \$20.7 billion, earnings of nearly \$6.0 billion, and the generation of nearly 166,000 jobs.

Table 17. Total Impact of Memphis International Airport, 2004

Category	Direct Expenditures	Impacts		
		Output	Earnings	Employment
Cargo Operations	\$10,040,047,690	\$19,527,770,249	\$5,588,979,055	155,872
Passenger Operations	\$ 611,480,856	\$ 1,188,535,339	\$ 340,166,800	9,487
Construction Expenditures	\$ 30,776,221	\$ 59,859,750	\$ 16,348,329	542
Total	\$10,682,304,767	\$20,776,165,338	\$5,945,494,184	165,901

V. Historical Comparison

The following tables present a comparison of the results of this study with one done in 1998. The impact study in 1998 focused on MEM operations in 1997, while the current study focuses on 2004. Table 18 shows the differences between 1997 and 2004 in terms of passenger enplanements and pounds of cargo enplaned. Domestic passenger enplanements were nearly 7.0 percent larger in 2004 than in 1997, while international passenger enplanements were over 18.0 percent larger. Total passenger enplanements were up 7.2 percent.

Table 18. Comparison of Cargo and Passenger Operations, 1997 and 2004

Passenger Operations				
	Domestic	International	Total	
2004 Enplanements	5,036,222	156,838	5,193,060	
1997 Enplanements	4,713,443	132,775	4,846,218	
Difference	322,779	24,063	346,842	
Percent Difference	6.8%	18.1%	7.2%	
Cargo Operations (in Pounds)				
	Domestic	International	Air Mail	Total
2004 Enplanements	3,829,523,000	163,837,000	6,659,000	4,000,019,000
1997 Enplanements	2,082,677,000	145,287,000	54,778,000	2,282,742,000
Difference	1,746,846,000	18,550,000	- 48,119,000	1,717,277,000
Percent Difference	83.9%	12.8%	-87.8%	75.2%

Similarly, pounds of domestic cargo enplaned were up almost 84.0 percent from 1997 to 2004, while pounds of international cargo enplaned rose nearly 13.0 percent. Pounds of air mail enplaned dropped substantially during this time period, falling almost 88.0 percent. Some of the decrease may be accounted for by FedEx's contract with the Postal Service to carry air mail. In total, pounds of cargo enplaned were up 75.2 percent from 1997 to 2004.

The differences in passenger and cargo volumes between 1997 and 2004 are reflected in the dollar estimates shown in Table 19. In 1997, there were direct cargo operation expenditures of \$5,251,450,152 and passenger operation expenditures of \$660,139,121, totaling \$5,911,589,273. For comparison purposes, the 1997 numbers had to be converted to 2004 dollars. This was done and is shown in Table 19. The direct impact (expenditures) from cargo operations in 2004 was over 91 percent greater than in 1997, in real terms. The direct impact from passenger operations was 7.4 percent less than in 1997. Finally, the total direct impact of MEM in 2004 was 80.7 percent greater than it was in 1997, in real terms.

Table 19. Comparison of Direct Expenditures, 1997 and 2004

Category	2004 Direct Expenditures	Inflation Adjusted 1997 Direct Expenditures	Difference	Percent Difference
Cargo Operations	\$10,040,047,690	\$5,251,450,152	\$4,788,597,538	91.2%
Passenger Operations	\$ 611,480,856	\$ 660,139,121	-\$ 48,658,265	- 7.4%
Construction Expenditures	\$ 30,776,221	n/a	n/a	n/a
Total	\$10,682,304,767	\$5,911,589,273	\$4,770,715,495	80.7%

Note: Construction expenditures were not included in the 1998 study. The economic impact of construction, while important, accounts for only about 0.3 percent of the 2004 total economic impact.

Table 20 examines the differences between the total impact of 2004 operations at MEM versus the total impact of 1997 operations at MEM. Memphis International Airport's total impact on output and earnings in 2004 was more than double that of 1997. The total impact on employment was almost 1.5 times greater than it was in 1997. As shown in Tables 18 and 19, this difference is primarily attributable to the large increases in cargo volume at MEM between 1997 and 2004, although average revenue per pound also increased during this time frame.

Table 20. Comparison of Total Impacts, 1997 and 2004

Year	Output	Earnings	Employment
2004	\$20,776,165,338	\$5,945,494,184	165,901
1997	\$ 9,766,618,756	\$2,696,684,425	110,683
Difference	\$11,009,546,582	\$3,248,809,759	55,218
Percent Difference	112.7%	120.5%	49.9%

With an impact of over \$20 billion on the Memphis MSA's economy and an employment impact of nearly 166,000 jobs, Memphis International Airport is the primary driver of the local economy. In FY 2004 (July to June), the Memphis MSA had an average of 614,500 non-farm jobs. Thus, **the impact of MEM accounted for 27.0 percent of total MSA employment, or just over 1 in 4 jobs. Both air cargo operations and air passenger operations have a substantial impact on the local economy, but the largest share of that impact comes from air cargo.**

VI. Comparisons with Other Airports

Table 21 presents a comparison of the economic impacts of some selected airports around the country. In terms of employment impacts, Denver's airport exceeds MEM by nearly 28,000 jobs but has a total output impact that is nearly \$4 billion less than MEM's. Along with the higher employment

Table 21. Comparison of Economic Impacts, Selected Airports, Selected Years

Airport/City	Year	Output	Earnings	Employment
Memphis, TN	2004	\$20,776,165,338	\$5,945,494,184	165,901
Anchorage, AK	2000	n/a	\$ 515,000,000	14,750
Columbus, OH	2004	\$ 2,188,485,700	\$ 624,895,000	23,520
Denver, CO	2002	\$16,784,212,000	\$6,928,301,000	193,229
Minneapolis, MN	2004	\$10,688,700,000	\$5,964,900,000	153,376
Nashville, TN	1999	\$ 3,644,600,000	\$1,319,800,000	56,884
Phoenix, AZ	2003	\$14,308,894,000	\$4,747,563,000	122,767

Source: See Appendix for sources and summaries of each listed airport's impacts.

numbers, Denver's airport also has a greater impact on earnings. Minneapolis' airport comes close to MEM in terms of employment but has an output impact that is just over half that of MEM. Anchorage was included in the list since it ranks as the number 2 air cargo airport in the U.S. and North America, but in 2000, it had an employment impact of less than 15,000. With the exception of Anchorage, the other airports' impacts were driven primarily by passenger operations.

VII. The Economic Impact of Tourism and Business Visitors from Memphis International Airport

This section presents an overview of the impact that MEM has on tourism in the Memphis MSA. While the Airport is not a tourist destination, MEM does provide a way to get to Memphis. Without this vital connection, many of the area's tourists and business visitors would not come to Memphis. To that extent, MEM can claim to help bring tourists to the Memphis area and generates the economic impact that they bring with them. While it is local businesses and the area's tourist attractions (e.g., Graceland, Beale Street, and Tunica) that spark tourists' interest in coming to Memphis, it is MEM that actually provides a way for a substantial number of visitors to get here.

The method for estimating the number of visitors who come to the Memphis MSA via Memphis International Airport was to use the DB1B Database from the U.S. Department of Transportation.² The database is a 10.0 percent sample of all flight itineraries of passenger flights within the United States. Within this database, it is possible to determine the percentage of passengers boarding flights at MEM who began their journey at MEM or some other city.

²This database was also used in *A Study of the Current Economic Impact of the Blue Grass Airport on the Lexington-Central Kentucky Area* (2001), by Center for Business and Economic Research, Gatton College of Business and Economics, University of Kentucky.

The 2004 DB1B data for MEM indicate that 76.9 percent of passengers boarding planes in Memphis were round-trippers, meaning they started and ended their trips in Memphis. Thus, 23.1 percent of passengers boarding flights in Memphis originated their trips elsewhere and could be considered visitors to the area.

Using the DB1B survey data, 1,197,912 of the 5,193,060 enplanements were visitors to the Memphis area, both foreign and domestic. According to the Memphis Convention and Visitors Bureau,³ Memphis receives over nine million visitors per year; therefore, about 13.3 percent of visitors to the Memphis area arrive by air at MEM.

Table 22 presents estimates of visitor spending attributable to the 1,197,912 guests who came to the Memphis area via MEM using spending estimates from the Memphis Convention and Visitors Bureau (CVB). The CVB has estimated that out-of-town guests spend an average of \$279 per day per average party of 2.75 persons (roughly \$101 per person) while in the Memphis area and stay an average of 3.35 days. To be conservative, \$100 per person per day was assumed for this analysis. Thus, it is estimated that visitors who came to the Memphis area via MEM spent a total of over \$400 million in 2004. Allocations across sectors indicate that air travelers spent over \$200 million on lodging, \$92 million on food and beverages, and \$106 million at retail shopping locations in Memphis.

To determine the total economic impact of these expenditures, the figures presented in Table 22 must first be converted to 2000 dollars (Table 23), used with the RIMS II multipliers (Table 24), and reconverted to 2004 dollars (Table 25).

Table 22. Total Spending by Visitors to Memphis Via Memphis International Airport (in 2004 Dollars)

Category	Daily Average Per Guest	Total for 1,197,912 Visitors
Lodging	\$ 50.26	\$ 201,691,379.47
Food and Drinks	23.10	\$ 92,696,378.13
Retail Shopping	26.64	\$ 106,912,762.40
Total	\$100.00	\$ 401,300,520.00

Note: The total average per guest is from Memphis Convention and Visitors Bureau. The breakdown of spending amounts came from survey responses collected in an analysis of the economic impact of the Southern Festival of Books conducted in Memphis in September 2004.

³See <http://memphistravel.com/downloads/Economic2005.pdf>. The figures used here came from a Convention and Visitors Bureau survey of 236 registered web site users (memphistravel.com) and do not distinguish between leisure, corporate, and convention visitors.

Table 23. Total Spending by Visitors to Memphis via Memphis International Airport (in 2000 Dollars)

Category	Average Per Guest	Total for 1,197,912 Visitors
Lodging	\$ 46.22	\$ 185,497,451.92
Food and Drinks	21.24	\$ 85,253,727.70
Retail Shopping	24.50	\$ 98,328,669.55
Total	\$ 91.97	\$ 369,079,849.17

As shown in Table 25, visitors to the Memphis area who came via MEM had a total impact of nearly \$779 million on output (the production and sales of goods and services) and over \$232 million in earnings while supporting almost 11,000 jobs. Based on the comparisons to the economic impact assessments provided by the Memphis Convention and Visitors Bureau, approximately one-third of the tourism impact results from tourists that arrive at Memphis International Airport.

Memphis' Connection to the World— Memphis to Amsterdam Flight's First Decade

In the last two decades, there has been a dramatic expansion in the economic interdependence of nations throughout the world. A multitude of economically-isolated countries have become major players in the new world economy. Countries and communities that have participated in the expansion have grown and prospered, while those that concentrated on internal growth have not been as successful. The historically-dominant U.S./European trade patterns have been modified to take advantage of the tremendous economic explosion taking place in Asia and other parts of the world. Coastal cities throughout the world have taken advantage of the expansion of international trade using deep-water ports as their natural asset base.

But, traditional land-locked cities have also benefited from the explosion of international trade opportunities by providing a mix of new-age services linked most notably to the growth of world-class air passenger and logistics services. Memphis and Atlanta are two examples of interior cities that have taken advantage of the growth of international travel, tourism, and the trade-related movement of goods and services. While uniquely positioned, both cities have benefited from the growth of the world economy. The economic

Table 24. Multiplier Impacts of Memphis International Airport Visitor Spending (in 2000 Dollars)

RIMS Category	Direct			Multipliers			Impacts		
	Expenditures	Output (1)	Earning (2)	Employment (3)	Output	Earnings	Employment		
Hotels and Other Lodging Places	\$ 185,497,452	1.9572	0.5890	26.8465	\$ 363,055,613	\$ 109,257,999	4,980		
Eating and Drinking Places	\$ 85,253,728	1.9739	0.5811	36.8677	\$ 168,282,333	\$ 49,540,941	3,143		
Miscellaneous Retail and Services*	\$ 98,328,670	1.8810	0.5597	28.2706	\$ 184,956,227	\$ 55,034,556	2,780		
Totals	\$ 369,079,849				\$ 716,294,173	\$ 213,833,497	10,903		

(1) Each entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(2) Each entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(3) Each entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional one million dollars of output delivered to final demand by the industry corresponding to the entry.

*These numbers are an average of the multipliers for Retail Trade, Personal Services, and Miscellaneous Services.

Source of Multipliers: U.S. Bureau of Economic Analysis, Regional Economic Analysis Division.

Table 25. Multiplier Impacts of Memphis International Airport Visitor Spending (in 2004 Dollars)

RIMS Category	Direct		Impacts	
	Expenditures	Output	Earnings	Employment
Hotels and Other Lodging Places	\$ 201,691,379	\$ 394,750,368	\$ 118,796,223	4,980
Eating and Drinking Places	\$ 92,696,378	\$ 182,973,381	\$ 53,865,865	3,143
Miscellaneous Retail and Services	\$ 106,912,762	\$ 201,102,906	\$ 59,839,073	2,780
Totals	\$ 401,300,520	\$ 778,826,655	\$ 232,501,161	10,903

significance of the Memphis International Airport cannot be underestimated because it provides the key link between Memphis and the world economy.

The KLM-Royal Dutch Airlines non-stop service between Amsterdam and Memphis started in 1995 and remains the only regularly-scheduled, non-stop, international air service from Memphis to Europe. Based on an alliance between Northwest Airlines and KLM, the flight changed the image of Memphis and created a positive incentive for the subsequent growth of trade-related business and tourism activities in Memphis. Since the first two years of operation, the flight has consistently experienced load factors in excess of 80 percent and has provided daily service to and from destinations in Europe and beyond. The proven success of the flight was demonstrated in the solid recovery it experienced following the post-9/11 period. The steady growth in Memphis traffic on the flight has demonstrated that Memphis has a demand for international air service.

The tables and charts that follow clearly demonstrate the success of the Amsterdam/Memphis air route. Analysis of the calendar year data in Table 26 and Chart 1 shows that the Memphis demand for travel on the non-stop flight has doubled since the flight started in 1995. The growth in locally-generated demand for non-stop service to Amsterdam and other destinations beyond Amsterdam is a positive sign that the economic and cultural linkages to the rest of the world are increasing. The expansion of travel opportunities is an essential component in the community’s efforts to improve the quality of life for all Memphians. Attracting new information-age and health-care researchers from other cities may depend on the success of the community’s efforts to maintain and build on the success of the Memphis/Amsterdam flight.

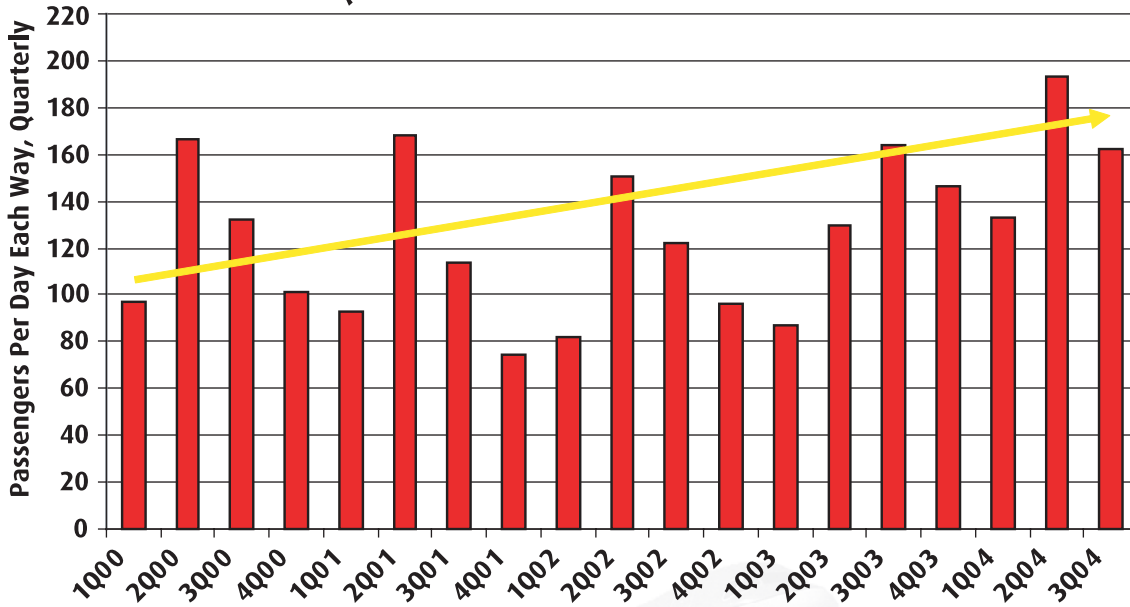
Table 26. Memphis to Europe/Middle East/Africa Passenger Traffic, 1994-2004

	Annual Average of Passengers Per Day Each Way (Calendar Year)										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Europe	69.2	75.1	73.6	82.8	89.1	106.3	110.9	101.2	101.9	114.2	139.7
Middle East	3.2	4.1	3.0	4.0	5.0	6.0	7.5	6.8	6.3	11.5	14.6
Africa	0.9	1.6	1.5	2.4	2.2	3.7	6.2	4.2	4.4	6.6	9.1

Source: Department of Transportation Origin and Destination International Survey through 3Q2004, provided by InterVISTAS, Washington, D.C..

The load factors in Table 27 and Chart 2 are clear demonstrations that the flight between Amsterdam and Memphis has been successful. With load factors in excess of 80 percent, and nearing 90 percent in some quarters, the Memphis/Amsterdam flight has been a major success for Northwest Airlines

Chart 1. Memphis International Airport to Europe/Middle East/Africa Combined Passenger Traffic, First Quarter 2000-Third Quarter 2004



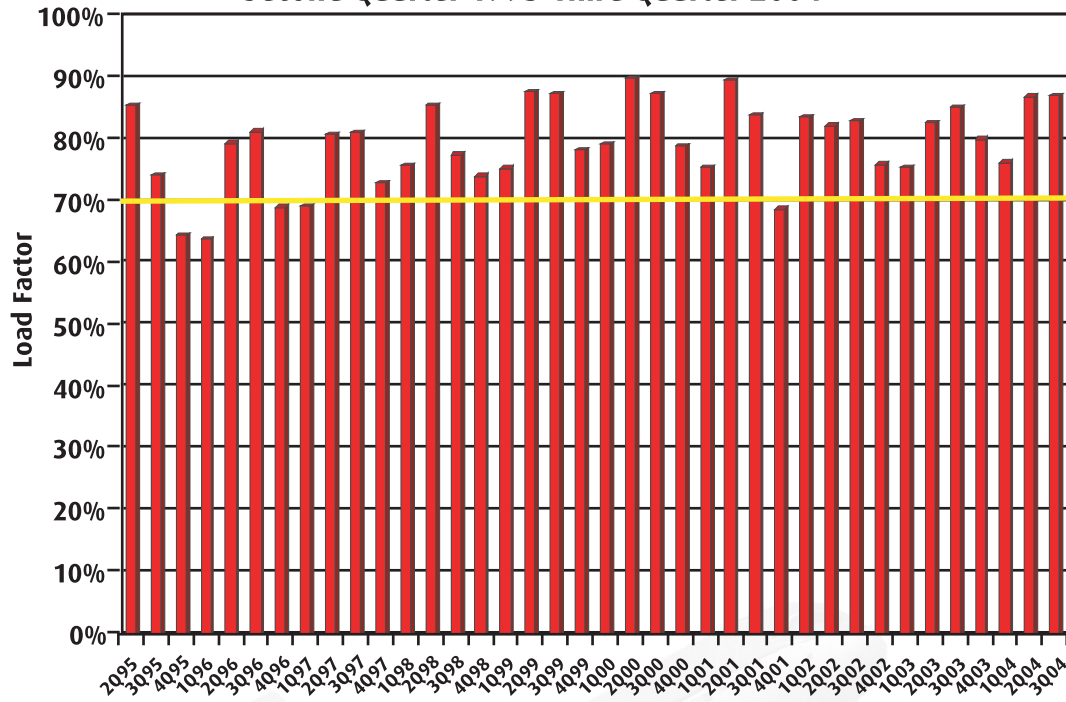
Source: U.S. Department of Transportation Origin and Destination International Survey, provided by InterVISTAS, Washington, D.C..

Table 27. Memphis International Airport/Amsterdam Load Factors, Second Quarter 1993-Third Quarter 2004

Period	Load Factor	Period	Load Factor	Period	Load Factor
2Q95	85.6%	3Q98	77.6%	4Q01	68.9%
3Q95	74.3%	4Q98	74.1%	1Q02	83.8%
4Q95	64.5%	1Q99	75.5%	2Q02	82.3%
1Q96	64.0%	2Q99	87.8%	3Q02	83.1%
2Q96	79.5%	3Q99	87.6%	4Q02	76.0%
3Q96	81.4%	4Q99	78.5%	1Q03	75.6%
4Q96	69.2%	1Q00	79.4%	2Q03	82.8%
1Q97	69.3%	2Q00	90.1%	3Q03	85.4%
2Q97	81.0%	3Q00	3Q00	4Q03	80.2%
3Q97	81.2%	4Q00	79.0%	1Q04	76.4%
4Q97	73.1%	1Q01	75.6%	2Q04	87.0%
1Q98	76.0%	2Q01	89.7%	3Q04	87.3%
2Q98	85.6%	3Q01	84.0%		

Source: U.S. Department of Transportation T-100, provided by InterVISTAS, Washington, D.C..

Chart 2. Memphis International Airport to Amsterdam Load Factors, Second Quarter 1995-Third Quarter 2004



Note: Includes figures through July 2004.

Source: U.S. Department of Transportation T-100, provided by InterVISTAS, Washington, D.C..

and KLM. Even after the post-9/11 recession, the flight was near capacity. Traditionally weaker first quarters have been followed by stronger second and third quarters as the tourism loads increase. The growth in both business and tourism travel has had a positive impact on both the quality of life in Memphis and the economic opportunities that exist in the community.

Tourism is a major industry in Memphis as more than nine million tourists visit the city annually. While only a small portion of those tourists arrive or depart on the Memphis/Amsterdam flight, European tourists spend an average of \$174 per day (\$555 for a three-night stay) while in Memphis. According to data from the Memphis Convention and Visitors Bureau, the tourism industry supports 50,700 jobs and a payroll of \$1.8 billion each year in the Memphis community. The \$2.4 billion in visitor-based spending generates \$174.2 million in state and local taxes. So, it is easy to see that the addition of tourists to the Memphis economy means new employment and income opportunities.

In the case of European tourists, most had a port of entry outside Memphis, and less than one-third arrived at the Memphis International Airport.

Clearly, opportunities exist for expanding world European service from Memphis International Airport. **The Memphis/Amsterdam flight is an essential first step and one that should set the stage for future flight opportunities from the Airport. As industry conditions change, building our international flight connections would be a world-class opportunity to have a positive impact on the growth of the Memphis area.** It would also position Memphis in the middle of expanding world economic activity.

The impact of the Memphis/Amsterdam air connection is difficult to single out from the overall growth of tourism and the international economic activities based in Memphis. Table 28 shows international departures and arrivals at Memphis International Airport between 1995-2004. Because passengers, goods, and services move both ways, the gains for Memphis from the flight are offset in a general way by the movement of Memphis travelers to Europe and other destinations. With the balance of payments and trade tilting toward other countries in recent years, the gains have been generally stronger for our trading partners. But, the positive impact of the Memphis/Amsterdam flight goes a long way toward offsetting the losses we would have experienced from Memphis tourists traveling to Europe.

Table 28. Memphis Total International Enplanement And Deplanement, 1995-2004

Calendar Year	Enplanements/Departures	Deplanements/Arrivals	Total
2004	152,170	159,954	312,124
2003	176,181	168,765	344,946
2002	150,985	148,069	299,054
2001	134,481	131,843	266,324
2000	146,220	143,976	290,196
1999	130,314	128,396	258,710
1998	130,208	132,050	262,258
1997	130,370	130,430	260,800
1996	111,998	114,114	226,112
1995	65,149	66,938	132,087
Total	1,328,076	1,324,535	2,652,611

Note: Data in this table are presented on a calendar year basis, while the same data are presented on a fiscal year basis in other tables and are, therefore, different.

Source: Memphis International Airport, Annual Activity Reports.

In the impact analysis, the 1,324,535 international arrivals in Memphis are assumed to be of the following composition (Table 29):⁴

- ✦ Fifty-four percent (715,249) were from Europe.
- ✦ Forty-four percent (314,710) of the arrivals from Europe were not citizens of the U.S.

⁴Based on 2003 data from the Department of Commerce, I-92 tables for Memphis.

Table 29. Memphis/Amsterdam Passenger* Arrivals and Departures, 2003 (Calendar Year)

	Total		Citizens		Aliens	
	Number	Percent	Number	Percent	Number	Percent
Arrivals	158,748	100%	115,798	73%	42,955	27%
%	100%		100%		100%	
Europe	85,269	100%	47,754	56%	37,515	44%
%	54%		41%		87%	
Other	73,479	100%	68,039	93%	5,440	7%
%	46%		59%		13%	

*Note: Includes passengers and crew.

Source: U.S. Department of Commerce, U.S. International Air Travel Statistics Report, I-92.

- ‡ Fifty percent (157,355) of the non-U.S. arrivals were assumed to visit Memphis, for an average 15,736 European tourists arriving via MEM each year.
- ‡ Europeans stay an average of three nights when visiting Memphis and spend an average of \$174 per day.

Using these data for the impact analysis, the 157,355 visitors spent \$82,139,310 in Memphis. **The economic impact of the Memphis/Amsterdam flight over the last ten years (shown in Tables 30-33) was estimated to directly and indirectly generate \$159,412,413 in output, \$47,588,986 in earnings, and support 2,232 jobs.**

Expanding the number of visitors and increasing their length of stay will have a large positive impact on the local economy. The impact of an expansion in the number of tourists who visit Memphis and their length of stay causes the impact of the Memphis/Amsterdam flight to increase. To the extent that the current flight is at or near capacity many times in the year, the ability to increase the number of travelers on the flight is limited by the size of the airplane. Additional non-stop flights or a larger aircraft or both will be necessary before a large increase can be generated from an expansion of international travel.

The nature and size of the aircraft used to serve the Memphis/Amsterdam flight have varied over the last decade. KLM primarily flew 276-seat MD-11 and 228-seat Boeing 767 aircraft, and Northwest Airlines (NWA) served the flight with 269-seat DC-10 aircraft.

Becoming a destination city for world travelers will depend on our ability to market and build upon the image of the city. The economic advantages are

Table 30. Amsterdam/Memphis International Airport Visitor Spending (in 2004 Dollars)

Category	Daily Average Per Guest	Total for 157,355 Visitors
Lodging	\$ 87.45	\$41,282,754.24
Food and Drinks	40.19	\$18,973,353.28
Retail Shopping	46.36	\$21,883,202.48
Total	\$174.00	\$82,139,310.00

Note: Total average per guest is from Memphis Convention and Visitors Bureau. The breakdown of spending amounts came from survey responses collected in an analysis of the economic impact of the Southern Festival of Books conducted in Memphis in September 2004.

Table 31. Amsterdam/Memphis International Airport Visitor Spending (in 2000 Dollars)

Category	Daily Average Per Guest	Total for 157,355 Visitors
Lodging	\$ 80.43	\$37,968,135.97
Food and Drinks	36.97	\$17,449,970.83
Retail Shopping	42.63	\$20,126,186.41
Total	\$160.03	\$75,544,293.20

Note: Total average per guest is from Memphis Convention and Visitors Bureau. The breakdown of spending amounts came from survey responses collected in an analysis of the economic impact of the Southern Festival of Books conducted in Memphis in September, 2004.

easy to demonstrate and simply require that we take advantage of the community's investment in a world-class airport. **Clearly, Memphis International Airport is a world leader in the air-based freight and logistics business. The community needs to make a similar effort to become a world-class hub and destination for international passenger service.**

Local Business Airport Usage Survey

A web-based survey of Memphis area businesses was conducted in an effort to gauge the business community's perception of Memphis International Airport's impact on their own operations. Contact information for the business survey was provided by the Memphis Regional Chamber of Commerce and consisted of their membership list. The list contained 2,965 total

**Table 32. Multiplier Impacts of Amsterdam/Memphis International Airport Visitor Spending
(in 2000 Dollars), 1995-2004 (Calendar Year)**

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output (1)	Earning (2)	Employment (3)	Output	Earnings	Employment
Hotels and Other Lodging Places	\$37,968,136	1.9572	0.5890	26.8465	\$ 74,311,236	\$22,363,232	1,019
Eating and Drinking Places	\$17,449,971	1.9739	0.5811	36.8677	\$ 34,444,497	\$10,140,178	643
Miscellaneous Retail and Services*	\$20,126,186	1.8810	0.5597	28.2706	\$ 37,857,357	\$11,264,627	569
Totals	\$75,544,293				\$146,613,090	\$43,768,037	2,232

(1) Each entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(2) Each entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.

(3) Each entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional one million dollars of output delivered to final demand by the industry corresponding to the entry.

*These numbers are an average of the multipliers for Retail Trade, Personal Services, and Miscellaneous Services.

Source of Multipliers: U.S. Bureau of Economic Analysis, Regional Economic Analysis Division.

Table 33. Multiplier Impacts of Amsterdam/Memphis International Airport Visitor Spending (in 2004 Dollars), 1995-2004 (Calendar Year)

RIMS Category	Direct Expenditures	Impacts		
		Output	Earnings	Employment
Hotels and Other Lodging Places	\$41,282,754	\$ 80,798,607	\$24,315,542	1,019
Eating and Drinking Places	\$18,973,353	\$ 37,451,502	\$11,025,416	643
Miscellaneous Retail and Services	\$21,883,202	\$ 41,162,304	\$12,248,028	569
Totals	\$82,139,310	\$159,412,413	\$47,588,986	2,232

contacts, with 1,631 unique businesses (there were multiple contacts for the same businesses within the original data set).

Table 34 presents a distribution by industry of unique businesses within the contact list. In total, the sample represented approximately 35.9 percent of all Memphis MSA employment (based upon 2004 annual average employment of 616,400). The survey was conducted via an e-mail invitation to participate in the survey that included a web-link to the survey. The e-mail follow-up contained a request to participate from the Sparks Bureau of Business and Economic Research (SBBER).

One of the advantages of conducting the survey via the Internet was that dozens of responses were received within the first 24 hours after the initial e-mail invitation was sent (162 within the first 7 hours). Further, the personal appeal seems to have helped generate the favorable response rate, with more than 80 replies containing personal greetings. Additionally, instant feedback was received on bad contact information (about 330 e-mail addresses or 11.1 percent of the 2,965 original addresses were incorrect).

Collected over a two-week period, 420 unique businesses responded, for a total of 25.8 percent of all unique businesses within the contact list. The SBBER received 482 responses in total. Of these, 9 were Airport tenants, and 53 were multiple responses from the same firm. There were 420 unique responses left after filtering out Airport tenants and multiple responses. Tenant responses were included within the tabulations of the Airport tenant survey. Highlights of the survey are included in this section. Complete results can be

Table 34. Distribution by Industry of Unique Businesses in the Memphis Area, Business Airport Usage Survey

NAICS 2-Digit Code and Description	Number of Companies	Total Employees
11. Agriculture, Forestry, Fishing, and Hunting	20	60
22. Utilities	2	2,957
23. Construction	111	6,278
31-33. Manufacturing	162	22,657
42. Wholesale Trade	144	27,907
44-45. Retail Trade	109	8,125
48-49. Transportation and Warehousing	83	34,030
51. Information	77	5,093
52. Finance and Insurance	113	12,029
53. Real Estate and Rental and Leasing	119	4,269
54. Professional, Scientific, and Technical Services	256	12,676
56. Administrative and Support and Waste Management and Remediation Services	105	5,682
61. Educational Services	50	29,396
62. Health Care and Social Assistance	76	26,804
71. Arts, Entertainment, and Recreation	34	5,837
72. Accommodation and Food Services	67	7,895
81. Other Services (Except Public Administration)	89	8,753
92. Public Administration	7	465
Not Disclosed Due to Privacy Considerations or No Code Listed	7	275
Totals	1,631	221,188

Source: Memphis Regional Chamber of Commerce.

found in the Appendix. Airport tenants were also surveyed and are reported in a separate section of this report.

Most non-tenant respondents to the business survey employed fewer than 30 persons full-time, although several had more than 1,000 full-time employees, with the average being about 184. Approximately 14.4 percent of the respondents had more than 100 full-time employees.

Memphis International Airport plays a critical role in the business activities of a majority of the non-tenant respondents. While just 24.3 percent used the Airport to ship in supplies and 21.2 percent used it to ship out products, over 80.0 percent used it to transport company personnel, and 59.3 percent used it to transport customers and business associates. Products and supplies shipped via MEM ranged from time-sensitive critical documents, to blood and urine specimens for drug screening services, to check processing services.

Over 54.0 percent of the respondents ranked as important or very important the economic impact of MEM on their overall level of business activity. In somewhat of a surprise, only 28.1 percent ranked as important or very important their firm's ability to get supplies via MEM. Similarly, only 33.8 percent said the Airport was important for selling their product or service. This is in stark contrast to the fact that air cargo is the most significant economic factor at the Airport. Clearly, for many Memphis businesses, passenger service still has a more significant impact on their business operations.

In further evidence of the link between Memphis International Airport and the local economy, a majority of respondents (54.7 percent) agreed or strongly agreed that growth at MEM would automatically cause their businesses to grow. Forty-four percent agreed or strongly agreed that a growing airport facility would provide an incentive for their company to move more activities to Memphis. Forty-four percent agreed or strongly agreed that their company's future decisions to invest in their Memphis facilities will be partially based upon the services offered by Memphis International Airport.

Finally, most respondents rated the quality of passenger and cargo services at MEM as high to very high—70.9 percent for passenger services and 75.6 percent for cargo services, both probably a reflection of the benefits of MEM being home to both a passenger and a cargo hub.

The cost-relative-to-quality ratio of cargo and passenger services ratio was perceived differently. For passenger service, more businesses rated the cost relative to quality as high, 45.8 percent rated it high to very high, and 42.3 percent rated it low to very low. For cargo service, a majority of the respondents (50.8 percent) rated costs as high to very high relative to quality.

Comparison with the 1998 Local Business Usage Survey

A survey of the local business community's Airport usage was also conducted in 1998. Some of the questions asked in the 2005 survey were also asked in the 1998 survey. A comparison of the responses between the two years is presented in Table 35.

There was almost no change in Airport usage by companies' employees or customers, clients, and suppliers, as shown in the first question in Table 35. However, there was a large increase in businesses claiming that the Airport was very important in terms of the economic impact on their overall level of business activity—39.3 percent claimed it was very important in 2005

Table 35. Response Comparison Between 1998 and 2005 Business Surveys (in Percent)

During an average month, how often is Memphis Airport used for business travel?

	Year	Not at All	-->	Occasionally	-->	Frequently
By your company's employees?	1998	9.6	16.9	28.2	14.7	30.5
	2005	6.5	14.0	34.4	15.0	30.2
By customers, clients, or suppliers visiting your firm?	1998	7.9	19.8	33.3	13.6	24.4
	2005	8.6	17.6	36.6	11.5	25.7

Please rate the economic impact of Memphis International Airport on your company in the following areas:

	Year	Not Very Important	-->	Somewhat Important	-->	Very Important
Overall level of business activity	1998	21.7	31.4	28.2	6.2	11.9
	2005	12.8	10.3	22.6	15.0	39.3
Obtaining supplies for your company	1998	24.9	13.6	31.1	14.7	15.3
	2005	30.9	19.6	21.5	11.8	16.3
Selling your business' product or service	1998	36.7	14.1	21.5	11.9	15.8
	2005	28.1	18.9	19.2	9.7	24.1

To what extent do you agree with the following statements about the future impact of Memphis International Airport?

	Year	Strongly Disagree	-->	Agree	-->	Strongly Agree
Growth at Memphis International Airport would automatically cause your business to grow	1998	26.6	34.5	25.4	4.5	9.0
	2005	12.2	33.1	26.3	11.1	17.3
Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport	1998	27.1	13.6	33.9	19.2	11.0
	2005	24.4	33.9	23.9	8.3	9.5
A growing airport facility could provide an incentive for your company to move more activities to Memphis	1998	26.6	8.5	46.3	14.7	3.4
	2005	28.8	26.9	23.3	9.4	11.7

How would you rank the following at Memphis International Airport?

	Year	Very Low	-->	No Opinion	-->	Very High
The quality of passenger air services?	1998	7.3	20.3	19.0	45.8	5.6
	2005	6.2	15.8	7.2	53.1	17.8
The quality of cargo air services?	1998	0.0	5.6	42.4	25.8	21.5
	2005	1.1	2.0	21.2	22.9	52.7
The cost relative to quality of passenger air services?	1998	17.5	13.6	17.5	17.6	33.9
	2005	14.5	27.8	12.0	29.5	16.3
The cost relative to quality of cargo air services?	1998	1.1	9.0	63.3	19.2	6.2
	2005	4.8	9.4	35.0	27.8	23.0

Note: Percentages may not add to 100.0 due to rounding or multiple responses to the same question (1998 data).

versus just 11.9 percent in 1998. Clearly, the Airport has become more important to the overall level of business activity. Further, there was also a substantial increase in the percentage of businesses either agreeing or strongly agreeing that growth at Memphis International Airport would automatically cause their business to grow, up to 54.7 percent in 2005 from 38.9 percent in 1998. In contrast to these increases, there was a decrease in the percentage of businesses agreeing or strongly agreeing that their company's future decisions to invest in their Memphis facilities would be partially based upon services offered by MEM—41.7 percent in 2005 versus 64.1 percent in 1998. There was also a decrease in the percentage of businesses agreeing or strongly agreeing that a growing Airport facility would provide an incentive for their company to move more activities to Memphis, 44.4 percent in 2005 versus 64.4 percent in 1998.

There was a strong increase in the perception of the quality of passenger services and air cargo services between 1998 and 2005. The percentage of businesses that ranked the quality of passenger services at MEM as high or very high increased from 51.4 percent in 1998 to 70.9 percent in 2005. The percentage of businesses that ranked the quality of cargo services as high or very high increased from 47.3 percent in 1998 to 75.6 percent in 2005.

Changes in business perceptions of the cost of cargo and passenger services relative to the quality of these services were mixed. There was an improvement in the percentage of businesses that ranked the cost of passenger services as high or very high relative to quality—45.8 percent in 2005 versus 51.5 percent in 1998. On the other hand, there was a strong increase in the percentage of businesses that ranked the cost of cargo services high or very high relative to quality—50.8 percent in 2005 versus 25.4 percent in 1998.

Airport Tenant Survey

A survey was also done of Airport tenants. Examples of Airport tenants included passenger airlines, the Tennessee Air National Guard, restaurants, and car rental agencies. The same questions used in the local business survey were also used for the Airport tenant survey. The tenant survey was also conducted electronically. Highlights of the survey of Airport tenants are covered in this section, while detailed responses from the survey can be found in the Appendix.

Contact data were provided by the Memphis-Shelby County Airport Authority and contained telephone numbers, addresses, and e-mail addresses, although not all tenants had e-mail addresses. Twenty-three of the 109 contacts on the initial tenant contact list were duplicates, which left 86 unique Airport tenants. Out of 86 contacts contained on the tenant list provided by the Airport, there were 44 usable e-mail addresses.

An e-mail invitation to participate in the survey was sent with a request to participate by Larry Cox, President and Chief Executive Officer of the Memphis-Shelby County Airport Authority. Thirteen of the 44 e-mail addresses were invalid. The entities for which the e-mails were incorrect and the remaining 42 contacts on the tenant list were mailed hard copies of the survey, along with a postage-paid return envelope.

The survey was initially closed two weeks after the first mailing. At this point in time, the SBBER had received only 10 responses via the web-link and 5 responses via land mail. Consequently, the SBBER turned to telephone interviews in an effort to increase the number of responses. After four days of telephone interviews, the SBBER was able to obtain an additional 20 responses. There were nine other tenant responses that came in via the local business survey, for a total of 44 responses out of the 86 contacts listed, or 51.2 percent. After removing duplicates, there were 38 remaining responses, or 44.2 percent.

Average full-time employment of the 33 Airport tenant businesses that responded to the full-time employment question was 1,159, including FedEx's total employment of 30,000. However, the FedEx number included an undisclosed number of part-time workers. Excluding FedEx, the average number of full-time employees per Airport tenant was 258. On average, the 86 unique Airport tenants (excluding FedEx) should have about 21,930 full-time employees.

Twenty-two tenants responded to the question of how many part-time workers were employed. The businesses had an average of 69.18 part-time workers. If representative of all tenants (again, excluding FedEx), this equates to a total of 5,880, or about 21.1 percent of total employment.

Assuming that FedEx uses the same percentage of part-time workers as other employers, the total part-time workers including FedEx rises to 12,210, while full-time employment including FedEx employment rises to 45,600. Thus, 57,810 full- and part-time jobs in the Memphis MSA are directly tied to tenant operations at Memphis International Airport.

Eighteen of the 38 respondents answered the question about how much they spent locally on wages and salaries for an average of \$11,121,771, or \$956,472,306 over the 86 unique Airport tenants. However, this figure includes the 30,000-plus-employee FedEx, so it is likely that this number is overstated since the next largest tenant had only 5,000 total employees.

Ten of the 38 respondents answered the question about how much their company spent locally on non-wage expenditures for an average of \$16,784,558, or a total of \$1,443,471,988.

Ten of the 38 respondents answered the question about how much their company spent locally on capital expenditures for an average of \$3,039,945. Two of the 10 responses involved capital expenditures in excess of \$10,000,000, but most were substantially less than \$1,000,000. The largest capital expenditure was \$15,000,000, while the smallest was \$10,000.

With several airlines operating as Airport tenants, it is not surprising that over 84.0 percent of the tenants rated the economic impact of Memphis International Airport as very important to their overall level of business activity, while almost 74.0 percent rated MEM as very important to selling their firm's product or service. Additionally, over 71.0 percent of Airport tenants strongly agreed that growth at MEM would automatically cause their business to grow.

Over 88.0 percent of Airport tenants agreed or strongly agreed that their company's future decisions to invest in their Memphis facilities will be partially based upon the services offered by MEM. Further, almost 84.0 percent of Airport tenants agreed or strongly agreed that a growing Airport facility could provide an incentive for their company to move more activities to Memphis.

Appendix



A Brief Overview of Other Airport Impact Studies

Six airport studies were reviewed and compared to the Memphis International Airport. These studies reflect a variety of methodologies. However, they are consistent in emphasizing the impact of the airport on the regional transportation grid, their importance to the growth of the regional economy, and the relevance of using multiplier analysis to estimate economic impacts. An effort was made to include recent airport impact studies of relatively large airports for comparison, but two of the studies, Nashville and Anchorage, were decidedly older and pre-September 11, 2001. The Nashville airport study was included to have a point of reference within Tennessee. The Anchorage airport study was included since it is the only other airport with cargo activity that comes near the level of activity at Memphis International Airport. Table A-1 presents a summary of the impacts of each airport included in the analysis.

Table A-1. Comparison of Economic Impacts, Selected Airports

Airport/City	Year	Output	Earnings	Employment
Anchorage, AK	2000	n/a	\$ 515,000,000	14,750
Columbus, OH	2004	\$ 2,188,485,700	\$ 624,895,000	23,520
Denver, CO	2002	\$16,784,212,000	\$6,928,301,000	193,229
Minneapolis, MN	2004	\$10,688,700,000	\$5,964,900,000	153,376
Nashville, TN	1999	\$ 3,644,600,000	\$1,319,800,000	56,884
Phoenix, AZ	2003	\$14,308,894,000	\$4,747,563,000	122,767

1. **Ted Stevens Anchorage International Airport: Economic Significance 2000.** Scott Goldsmith, Institute of Social Science and Economic Research, University of Alaska, Anchorage. Available at: <http://www.iser.uaa.alaska.edu>.

Some of the more significant findings were:

- ✦ On-site annual average employment was estimated at 9,119 for 2000, generating a payroll of \$367 million.
- ✦ Off-site employment added an additional 5,631 jobs and \$148 million to payroll.
- ✦ The airport had a significant effect on the workforce activities in Anchorage, accounting for about 7% of all wage and salary jobs and 8% of total payroll locally.
- ✦ The combined effect of on-site and off-site jobs and associated payroll in 2000 was estimated at 14,750 jobs and payroll/earnings of \$515,000,000.

2. **The Columbus Regional Airport Authority Regional Airports Economic Impact Study, January 2005.** Wilbur Smith Associates in conjunction with The Ohio State University. Available at: <http://www.osuairport.org/about/Economic/EconomicImpact2004.pdf>

This study estimated the economic impact of Port Columbus International Airport on the Columbus MSA and included output, earnings, and employment impacts. These effects are shown in terms of direct, indirect, and multiplier effects associated with spending.

- ✦ Port Columbus International Airport generated a local impact of \$2,188,485,700 in output, \$624,895,000 in earnings, and created 23,520 jobs.
- ✦ Airport-generated employment represented 2.1% of all the jobs in Columbus' MSA.
- ✦ Port Columbus International Airport is the twelfth largest employer in the Columbus MSA, and total economic impact comprises 3.1% of the Gross Metropolitan Product of Columbus.

3. **The Economic Impact of Airports in Colorado, 2003. Colorado Aeronautics Division.** Available at: <http://www.colorado-aeronautics.org/aeroecono2003.htm>.

The Colorado Division of Aeronautics conducted an economic impact study in 2002 of all public-use airports within Colorado, quantifying the economic benefits yielded by each airport at a state and local level. Of particular interest were the impacts of Denver International Airport.

- ✦ Denver International Airport generated wages of \$6,928,301,000, economic activity of \$16,784,212,000, and 193,229 jobs.

4. **The Local and Regional Impacts of the Minneapolis/St. Paul International Airport, March 7, 2005.** John C. Martin Associates, LLC. Available at: http://www.msairport.com/msp/Headlines/mspimp04_FINAL.pdf

Martin Associates was assigned by the Metropolitan Airport Commission to estimate the economic impacts of passenger and air freight activity produced by the Minneapolis/St. Paul International Airport for calendar year 2004. The impact was demonstrated at state, regional, and local levels. Impacts are shown in terms of jobs created, employee earnings, business revenues, and tax revenues.

- ✦ In 2004, Minneapolis/St. Paul International Airport had a local impact of \$5,964,900,000 on personal income, \$10,688,700,000 on business revenue, and generated 153,376 jobs.
- ✦ The airport generated \$626.3 million in state and local taxes and \$391.4 million in federal government aviation-specific taxes.

- ✦ There were 6.5 million visitors to the Minneapolis/St. Paul area who arrived via Minneapolis/St. Paul International Airport. These visitors were estimated to have spent \$3.7 billion in the local area in 2004 for food, lodging, entertainment services, retail purchases, and transportation services.

5. **The Economic Role of Nashville International Airport, June 2001.** PA Consulting Services, Inc. Economic Development Research Group. Available at: <http://www.edrgroup.com/pages/pdf/Nashville-econ.pdf>

Local economic impacts of the Nashville International Airport on Nashville-Davidson County and the Middle Tennessee region were captured for the year 1999.

- ✦ Nashville International Airport had an impact of \$1.3 billion on wages, \$3.6 billion on sales, and supported 56,000 jobs.
- ✦ Nashville International Airport was a self-supporting public corporation that received no tax support from local and state governments.

6. **Economic Impact of Phoenix Sky Harbor International Airport.** The study is located at the following web site: http://phoenix.gov/AVIATION/info_stats/econ_impact/sh_impact.html

Conducted in 2003, this study estimated the economic impacts of Sky Harbor on selected cities within Arizona. The authors measured the impact in terms of output, employment, and income generated by Sky Harbor International Airport. Highlights included:

- ✦ Sky Harbor International Airport boasts the status of being the fifth busiest airport in the world, handling 36,000,000 passengers a year.
- ✦ Sky harbor had considerable impacts on the Phoenix metropolitan area of \$14,308,894 on output, \$4,747,563,000 on earnings, and 122,767 on employment.
- ✦ In fiscal year 2003, Sky Harbor was estimated to have contributed \$72 million a day to the Phoenix metropolitan economy.

Table A-2. Memphis International Airport Tenant Survey Responses

Total Respondents: 38

A. The Size of Your Company

Q1: In 2004, how many people did your business employ locally?

	Average	Respondents
Full-Time	1,159.0	33
Part-Time	69.2	22

Q2: In 2004, how much did your company spend locally on the following?

	Average	Respondents
Wages, Salaries, and Benefits	\$11,121,771.20	18
Non-Wage Operating Expenditures	\$16,784,557.50	10
Local Capital Expenditures	\$ 3,039,945.20	10

B. Airport Usage

Q1: How does your company use Memphis International Airport?

	Percent	Respondents
To Ship in Supplies, Raw Materials, and/or Intermediate Goods	47.4%	18
To Ship (Out) Your Products	34.2%	13
To Transport Company Personnel	68.4%	26
To Transport Customers and Business Associates	65.8%	25
Other (Please Specify Alongside)	21.1%	8

Q2: During an average month, how often is Memphis Airport used for business travel?

	Not at All	-->	Occasionally	-->	Frequently
By Your Company's Employees?	6	5	10	3	13
	16.2%	13.5%	27.0%	8.1%	35.1%
By Customers, Clients, or Suppliers Visiting Your Firm?	3	4	4	3	22
	8.3%	11.1%	11.1%	8.3%	61.1%

Table A-2. Memphis International Airport Tenant Survey Responses (Continued)

C. Economic Impact

Q1: Please rate the economic impact of Memphis International Airport on your company in the following areas:

	Not Very Important	-->	Somewhat Important	-->	Very Important
Overall Level of Business Activity	1	0	1	3	32
	2.6%	0.0%	2.6%	8.1%	86.5%
Obtaining Supplies for Your Company	13	1	5	3	14
	36.1%	2.8%	13.9%	8.3%	38.9%
Selling Your Business' Product or Service	5	0	1	2	28
	13.9%	0.0%	2.8%	5.6%	77.8%

Q2: To what extent do you agree with the following statements about the future impact of Memphis International Airport?

	Strongly Disagree	-->	Agree	-->	Strongly Agree
Growth At Memphis International Airport Would Automatically Cause Your Business To Grow	1	2	6	2	27
	2.6%	5.3%	15.8%	5.3%	71.1%
Your Company's Future Decisions to Invest in Your Memphis Facilities Will Be Partially Based Upon the Services Offered by the Memphis International Airport	2	2	7	6	18
	5.7%	5.7%	20%	17.1%	51.4%
A Growing Airport Facility Could Provide an Incentive for Your Company to Move More Activities to Memphis	4	2	9	6	16
	10.8%	5.4%	24.3%	16.2%	43.2%

Q3: Please rate the economic impact of Northwest Airlines' Memphis/Amsterdam flights on your company in the following areas:

	Not Very Important	-->	Somewhat Important	-->	Very Important
Overall Level of Business Activity	9	0	10	4	9
	28.1%	0.0%	31.3%	12.5%	28.1%
Obtaining Supplies for Your Company	26	2	2	1	1
	81.3%	6.3%	6.3%	3.1%	3.1%
Selling Your Business' Product or Service	11	2	6	6	7
	34.4%	6.3%	18.8%	18.8%	21.9%

Table A-2. Memphis International Airport Tenant Survey Responses (Continued)

C. Economic Impact					
Q4: To what extent do you agree with the following statements about the future impact of Northwest Airlines' Memphis/Amsterdam flights:					
	Strongly Disagree	-->	Agree	-->	Strongly Agree
Growth In Memphis/Amsterdam Flights Would Automatically Cause Your Business to Grow	9	3	7	3	8
	30.0%	10.0%	23.3%	10.0%	26.7%
Your Company's Future Decisions to Invest in Your Memphis Facilities Will Be Partially Based Upon Growth in Memphis/Amsterdam Flights	15	6	6	1	2
	50.0%	20.0%	20.0%	3.3%	6.7%
Growth in Memphis/Amsterdam Flights Could Provide an Incentive for Your Company to Move More Activities to Memphis	12	7	7	2	2
	40.0%	23.0%	23.0%	6.7%	6.7%

D. Quality and Value					
Q1: How would you rank the following at Memphis International Airport:					
	Very Low	-->	No Opinion	-->	Very High
The Quality of Passenger Air Services	0	2	7	15	11
	0.0%	5.7%	20.0%	42.9%	31.4%
The Quality of Cargo Air Services	1	0	12	8	14
	2.9%	0.0%	34.3%	22.9%	40.0%
The Cost Relative to Quality of Passenger Air Services?	3	3	11	9	9
	8.6%	8.6%	31.4%	25.7%	25.7%
The Cost Relative to Quality of Cargo Air Services	1	2	17	6	9
	2.9%	5.7%	48.6%	17.1%	25.7%

Table A-3. Memphis International Airport Local Business Usage Survey Responses

Total Respondents: 420

A. The Size of Your Company

Q1: In 2004, how many people did your business employ locally?

	Average	Respondents
Full-Time	184.0	375
Part-Time	63.0	290

Q2: In 2004, how much did your company spend locally on the following?

	Average	Respondents
Wages, Salaries, and Benefits	\$5,559,806.56	143
Non-Wage Operating Expenditures	\$6,623,976.31	145
Local Capital Expenditures	\$2,069,527.25	141

B. Airport Usage

Q1: How does your company use Memphis International Airport?

	Percent	Respondents
To Ship in Supplies, Raw Materials, and/or Intermediate Goods	24.3%	102
To Ship (Out) Your Products	21.2%	89
To Transport Company Personnel	80.5%	338
To Transport Customers and Business Associates	59.3%	249
Other (Please Specify Alongside)	11.0%	46

Q2: During an average month, how often is Memphis Airport used for business travel?

	Not at All	-->	Occasionally	-->	Frequently
By Your Company's Employees?	26	56	138	60	121
	6.5%	14.0%	34.4%	15.0%	30.2%
By Customers, Clients, or Suppliers Visiting Your Firm?	32	66	137	43	96
	8.6%	17.6%	36.6%	11.5%	25.7%

**Table A-3. Memphis International Airport Local Business Usage Survey Responses
(Continued)**

C. Economic Impact					
Q1: Please rate the economic impact of Memphis International Airport on your company in the following areas:					
	Not Very Important	-->	Somewhat Important	-->	Very Important
Overall Level of Business Activity	51	41	90	60	157
	12.8%	10.3%	22.6%	15.0%	39.3%
Obtaining Supplies for Your Company	112	71	78	43	59
	30.9%	19.6%	21.5%	11.8%	16.3%
Selling Your Business' Product or Service	104	70	71	36	89
	28.1%	18.9%	19.2%	9.7%	24.1%

Q2: To what extent do you agree with the following statements about the future impact of Memphis International Airport?					
	Strongly Disagree	-->	Agree	-->	Strongly Agree
Growth At Memphis International Airport Would Automatically Cause Your Business To Grow	45	122	97	41	64
	12.2%	33.1%	26.3%	11.1%	17.3%
Your Company's Future Decisions to Invest in Your Memphis Facilities Will Be Partially Based Upon the Services Offered by the Memphis International Airport	85	118	83	29	33
	24.4%	33.9%	23.9%	8.3%	9.5%
A Growing Airport Facility Could Provide an Incentive for Your Company to Move More Activities to Memphis	89	83	72	29	36
	28.8%	26.9%	23.3%	9.4%	11.7%

Q3: Please rate the economic impact of Northwest Airlines' Memphis/Amsterdam flights on your company in the following areas:					
	Not Very Important	-->	Somewhat Important	-->	Very Important
Overall Level of Business Activity	194	38	53	24	21
	58.8%	11.5%	16.1%	7.3%	6.4%
Obtaining Supplies for Your Company	233	31	31	7	7
	75.4%	10.0%	10.0%	2.3%	2.3%
Selling Your Business' Product or Service	210	33	42	19	11
	66.7%	10.5%	13.3%	6.0%	3.5%

**Table A-3. Memphis International Airport Local Business Usage Survey Responses
(Continued)**

C. Economic Impact					
Q4: To what extent do you agree with the following statements about the future impact of Northwest Airlines' Memphis/Amsterdam flights?					
	Strongly Disagree	-->	Agree	-->	Strongly Agree
Growth in Memphis/Amsterdam flights would automatically cause your business to grow	156	100	34	9	11
	50.3%	32.3%	11.0%	2.9%	3.5%
Your company's future decisions to invest in your Memphis facilities will be partially based upon growth in Memphis/Amsterdam flights	196	70	22	5	3
	66.2%	23.6%	7.4%	1.7%	1.0%
Growth in Memphis/Amsterdam flights could provide an incentive for your company to move more activities to Memphis	178	67	28	7	4
	62.7%	23.6%	9.9%	2.5%	1.4%
D. Quality and Value					
Q1: How would you rank the following at Memphis International Airport					
	Very Low	-->	No Opinion	-->	Very High
...the quality of passenger air services	25	64	29	215	72
	6.2%	15.8%	7.2%	53.1%	17.8%
...the quality of cargo air services	58	111	48	118	65
	14.5%	27.8%	12.0%	29.5%	16.3%
...the cost relative to quality of passenger cargo air services?	16	31	116	92	76
	4.8%	9.4%	35.0%	27.8%	23.0%