

An Economic Assessment of the Impact of the Memphis International Airport

Prepared for the
Memphis-Shelby County Airport Authority

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Executive Summary

Memphis International Airport (MEM) is the heart and soul of the regional economy and the axis upon which Memphis: America's Aerotropolis has developed. The Memphis region depends upon MEM to facilitate the growth of businesses that provide job and income opportunities for people in the local area. MEM is unique in that it is the nation's only dual-hub airport (cargo and passenger), providing an abundance of air services that are unequaled in the U.S. The following points present highlights of this latest study, detailing the economic impact of MEM.

Cargo Operations Impact

- Memphis International Airport has been the world's busiest cargo airport since 1992, and operations at the FedEx Super Hub account for over 95.0 percent of all cargo at MEM.
- In 2007, cargo operations at MEM had a total impact of more than \$27.1 billion in output (the production of goods and services) while supporting a total of 208,319 jobs and total earnings of over \$7.5 billion.
- In 2007, while ranked 2nd in cargo volume in the U.S., Anchorage, Alaska (ANC) had only three-fourths the cargo volume that MEM did. Atlanta (ATL), the nation's busiest passenger airport, ranked 10th in cargo volume.

Passenger Operations Impact

- In 2007, Memphis International Airport (MEM) ranked 36th of all U.S. airports in passenger volume and 23rd in total movements (landings and takeoffs).
- Passenger operations of almost \$631.0 million in value in 2007 are estimated to have resulted in an impact of over \$711.0 million in indirect expenditures.
- The direct and indirect impacts of passenger operations were in excess of \$1.3 billion in output (the production of goods and services), while supporting a total of 10,307 jobs and total earnings of nearly \$373.0 million.

Construction Impact

- In addition to the impact of passenger and cargo operations, Memphis International Airport is continuously undergoing construction improvements and expansion.
- Direct construction and capital improvement expenditures of over \$68.2 million in 2007 were estimated to have resulted in an impact of over \$70.0 million in indirect expenditures for a total impact of nearly \$138.3 million in output, 1,528 jobs, and total earnings of almost \$49.2 million.

The Total Impact of Cargo, Passenger, and Construction Operations

- Total combined direct expenditures (which may be thought of as sales or revenue) of FY 2007 cargo and passenger operations and construction projects and expenditures at Memphis International Airport totaled nearly \$13.5 billion, resulting in total output in the Memphis MSA of almost \$28.6 billion, earnings of nearly \$8.0 billion, and the generation of over 220,000 jobs.
- The impact of MEM accounted for 34.3 percent of total MSA employment in FY 2007, or just over one in three 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.

Tourism Impact

- 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 2007, it was estimated that 1,150,175 of the 5,546,321 enplanements at MEM were both foreign and domestic visitors to the Memphis area.
- It is estimated that visitors who came to the Memphis area via MEM spent a total of nearly \$380.0 million in 2007.
- In 2007, visitors who came via MEM to the Memphis area had a total impact of nearly \$760.0 million on output (the production and sales of goods and services) and over \$246.0 million in earnings while supporting almost 10,700 jobs.

Business Survey Highlights

- A 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 77.6 percent of business survey respondents use Memphis International Airport to transport company personnel, while more than 66.0 percent use it to transport customers and business associates.
- Significantly, 52.8 percent of the respondents ranked as important or very important the economic impact of MEM on their overall level of business activity.
- A majority of respondents (56.0 percent) agreed or strongly agreed that growth at MEM would automatically cause their businesses to grow, while 38.4 percent agreed or strongly agreed that a growing airport facility would provide an incentive for their company to move more activities to Memphis.
- A majority of respondents rated the quality of passenger and cargo services at MEM as high or very high: 76.8 percent for passenger services and 60.0 percent for cargo services, both a reflection of the benefits of MEM being home to both a passenger and cargo hub.
- One of the more intriguing questions in the survey was, “Why is your company located in the Memphis area?” Over 43.0 percent of the respondents answered “yes” to at least one response listed, including “To take advantage of the time savings of being near the FedEx Hub” (14.4 percent), “To take advantage of the Northwest Airlines* passenger hub” (16.0 percent), “To take advantage of Memphis’ rail and highway infrastructure” (12.0 percent), and “Close proximity to a large portion of the nation’s population” (30.4 percent). Significantly, 25.6 percent chose more than one of these options, a reflection of Memphis’ comparative advantages within the transportation and distribution industries.

*At the time the data was compiled for this study, a few survey questions and/or responses referred to Northwest Airlines, Inc. (NWA). However, in October 2008, NWA merged with Delta Airlines to become the world's largest passenger airline. Throughout 2009, the merged airlines will be known as Delta/Northwest until Northwest has been fully integrated into Delta Airlines.

- When asked “How important is access to air express services,” 37.6 percent responded that it was important or very important.
- Similarly, when asked “How important is access to air freight services,” 26.4 percent responded that it was important or very important.

Introduction

The vision of Memphis International Airport (MEM) is “Transforming America’s Distribution Center into America’s Aerotropolis—Changing the Region and Connecting the World.” The Airport’s vision provides a positive answer to the issues that surround the globalization of the world economy. The Memphis region is a participant in the global economy because of the numerous businesses that take advantage of one of the nation’s best airports—Memphis International Airport.

The Aerotropolis is a reality in Memphis. Because of the unique combinations of interconnected ground, rail, water, and air services available in Memphis, the Aerotropolis concept is a realistic description of the market conditions that currently exist in the Memphis area. Although the Aerotropolis concept is not new to Memphis, it is a new way to describe the conditions that exist and the opportunities for future growth and prosperity that surround the Airport.

Memphis International Airport is the heart and soul of the Memphis Aerotropolis and the regional economy. The Memphis region depends upon MEM to facilitate the growth of businesses that provide job and income opportunities for people in the local area. The leadership provided by the Airport engages the community in a broader vision of the world. New opportunities for economic growth spring forth from the globalization of numerous markets.

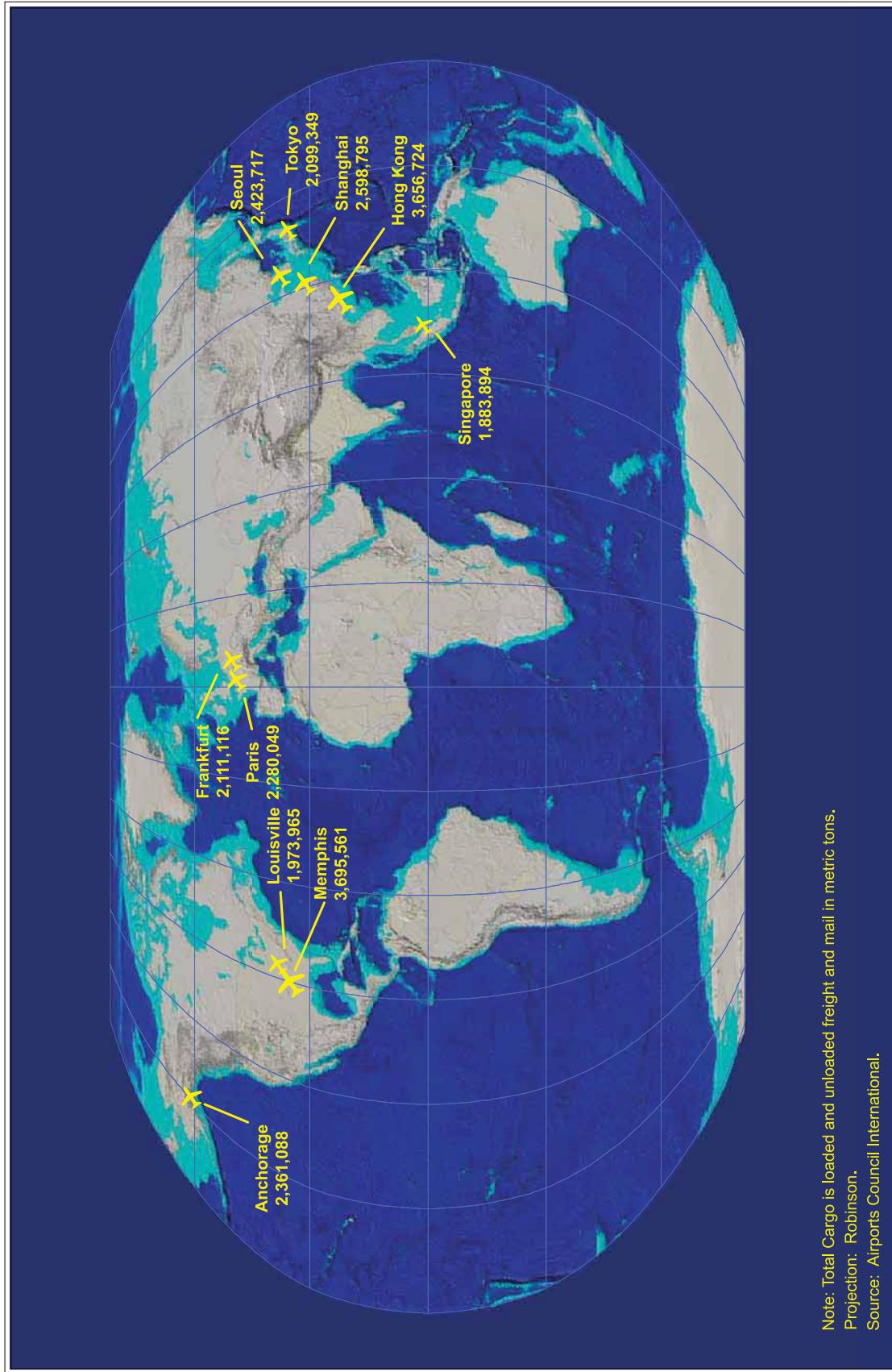
The importance of MEM increases every year. Nearly one in three jobs in the Memphis area are related in some way to MEM. The economic activity generated by FedEx and most other local businesses is an essential factor in the growth of the regional economy. In addition, the on-time departure data in Table 1 clearly demonstrate that Memphis has an advantage for passengers seeking timely air services.

For the sixteenth year in a row, Memphis International Airport has been judged to be the world’s largest cargo airport (see Map 1). The growth of FedEx and the other air-intensive businesses is dependent upon the growth of the Airport and the delivery of high-quality support services.

Even in a severe recession, the positive impact of Memphis International Airport is increasing. The Airport provides an essential ingredient in stabilizing the local economy in a downturn while creating opportunities in an expansion. Economic diversification is the spring board for competing in a global economy. Memphis International Airport provides an essential “win-

Memphis International Airport is the heart and soul of the Memphis Aerotropolis and the regional economy. The Memphis region depends upon MEM to facilitate the growth of businesses that provide job and income opportunities for people in the local area.

Map 1. Top Ten Cargo Traffic Airports, 2008



dow on the world” for Memphis and all of the businesses that are finding ways to benefit from the growth of the world’s marketplace.

Memphis simply cannot grow and prosper without the opportunities generated by the growth of Memphis International Airport. This report describes the economic importance of the Airport and all of the businesses that depend upon it for their growth. The data clearly demonstrate that Memphis International Airport is the quintessential asset that exists in the community. Investments in Memphis International Airport are investments in the future of Memphis.

Table 1. Percent of Departures On Time, Select Airports, 2008

Code	Airport	% On Time
IND	Indianapolis, IN: Indianapolis International	82.8
MEM	Memphis, TN: Memphis International	82.3
MSP	Minneapolis, MN: Minneapolis-St. Paul International	82.0
ANC	Anchorage, AK: Anchorage International	81.7
DTW	Detroit, MI: Detroit Metro Wayne County	80.3
CVG	Cincinnati, OH: Cincinnati/Northern Kentucky International	80.0
SDF	Louisville, KY: Standiford Field	79.8
BNA	Nashville, TN: Nashville Metropolitan	79.3
STL	St. Louis, MO: Lambert International	79.2
U.S. Average		79.1
IAH	Houston, TX: Houston Intercontinental	79.1
ATL	Atlanta, GA: Hartsfield-Jackson	76.9
DFW	Dallas/Ft. Worth, TX: Dallas/Ft. Worth International	73.9
ORD	Chicago, IL: O'Hare	68.5

Source: U.S. Bureau of Transportation Statistics, Research and Innovative Technology Administration.

A Brief Review of Memphis International Airport, FY 2004–FY 2007

The four years from FY 2004 through FY 2007 have seen both change and growth at Memphis International Airport (MEM) and throughout the aviation world. The effects of rising energy prices coupled with deteriorating profit margins for passenger airlines are reflected throughout nearly all statistics on aviation and related services at MEM. The statistics on aircraft movements in Table 2 reflect many of the changes seen nationally. Total aircraft movements during the four-year period decreased by 3.8 percent (from 393,690 to 378,487), but the story was not in the change in total movements, but instead within the composition of total movements.

In particular, there has been a marked downward trend in movements/flights by major/national passenger airlines (-11.8 percent), but this has been partially offset by a small increase (3.1 percent) in movements/flights by cargo carriers. The decrease in passenger movements/flights reflects a national trend that has been substantially caused by: (1) major airlines' cost reduction efforts to survive skyrocketing fuel prices brought about by Hurricane Katrina in 2005 and (2) growing demand for oil and gasoline in developing nations, including China and India. Jet fuel prices rose by 79.2 percent between 2004 and 2007 and were up another 54.8 percent through September 2008.¹

As shown in Table 2, military operations have also decreased significantly over the four-year period. The drop-off in military operations coincided with a change in 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 were replaced with the considerably larger

Table 2. MEM Aircraft Operations, FY 2004–FY 2007*

Fiscal Year	Majors/ Nationals	Regional	Cargo	General Aviation	Military	Total	Total Percent Change
2004	77,942	132,236	131,766	49,994	1,752	393,690	N/A
2005	81,854	124,394	134,486	50,523	1,454	392,711	-0.2%
2006	70,622	132,662	136,244	48,185	1,692	389,405	-0.8%
2007	68,730	129,254	135,882	42,999	1,622	378,487	-2.8%

*Takeoffs and landings.

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

¹Air Transport Association at: <http://www.airlines.org/economics/energy/>.

C-5. To accommodate the larger aircraft, the Airlift Wing moved to a new \$212 million facility that was built on the southeast corner of the Airport property specifically to accommodate the larger aircraft and to allow FedEx, MEM's largest tenant, to take over the former Air National Guard site off Democrat Road to the north.

The increase in cargo movements also brought about an increase in total pounds of cargo enplaned at MEM over the four-year period, up 9.2 percent from just over 4.0 billion pounds in 2004 to nearly 4.4 billion pounds in 2007 (Table 3). The bulk of this increase was in domestic freight, with cargo enplaned rising 9.0 percent from 3.8 billion pounds in 2004 to nearly 4.2 billion pounds in 2007. International freight also rose significantly during this time period, up 10.6 percent from 163.8 million pounds in 2004 to 181.2 million in 2007. However, international cargo did suffer a drop between 2006 and 2007, reflecting weakening economic conditions worldwide.

Table 3. Cargo Enplaned at MEM, FY 2004–FY 2007 (in Thousands of Pounds)

Fiscal Year	Domestic Freight	Domestic Percent Change	International Freight	International Percent Change	Air Mail	Air Mail Percent Change	Total	Total Percent Change
2004	3,829,523	N/A	163,837	N/A	6,659	N/A	4,000,019	N/A
2005	3,906,679	2.0%	181,520	10.8%	5,103	-23.4%	4,093,302	2.3%
2006	3,993,920	2.2%	196,342	8.2%	6,634	30.0%	4,196,896	2.5%
2007	4,174,769	4.5%	181,219	- 7.7%	10,934	64.8%	4,366,922	4.1%

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

Table 4 shows that passenger enplanements experienced modest growth over the four-year period, with most of the growth occurring during 2005 then falling slightly in 2006 and 2007. However, Table 4 also shows a substantial increase in international enplanements in 2007. As with aircraft movements, the decrease in passenger enplanements reflects a national trend brought about substantially by major airlines' cost reduction efforts (including fleet reductions and the grounding of older, less fuel-efficient planes).

Table 4. Domestic and International Passenger Enplanements, FY 2004–FY 2007

Fiscal Year	Domestic Enplanements	Domestic Percent Change	International Enplanements	International Percent Change	Total	Total Percent Change
2004	5,036,222	N/A	156,838	N/A	5,193,060	N/A
2005	5,241,682	4.1%	161,763	3.1%	5,403,445	4.1%
2006	5,193,725	-0.9%	155,382	- 3.9%	5,349,107	-1.0%
2007	5,083,466	-2.1%	180,050	15.9%	5,263,516	-1.6%

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

Table 5 shows 2007 calendar year comparisons of MEM passenger enplanements and cargo volume with those of other selected cities. As shown, MEM ranked 36th of all U.S. airports in passenger enplanements but first in cargo volume (see Maps 2 and 3). While Atlanta's airport has nearly eight times the volume of passenger enplanements than does MEM, it notably has less than one-fifth of MEM's cargo volume. Louisville International, home of UPS' major air cargo hub, ranked third nationally in landed weight but only had just over half of MEM's 2007 total.

Table 5. Passenger Enplanements and Cargo Volume Comparisons for Selected Cities, Calendar Year 2007

Airport	City	Passenger Enplanements	U.S. Rank	Percent of Memphis	Cargo (Metric Tons)	North American Rank	Percent of Memphis
Memphis (MEM)	Memphis	5,546,321	36	100.0%	3,840,491	1	100.0%
Atlanta (ATL)	Atlanta	43,236,665	1	779.6%	720,209	11	18.8%
Birmingham (BHM)	Birmingham	1,648,476	74	29.7%	28,984	86	0.8%
Charlotte (CLT)	Charlotte	16,584,780	15	299.0%	122,149	38	3.2%
Dallas/Fort Worth (DFW)	Fort Worth	28,482,417	4	513.5%	724,140	10	18.9%
Indianapolis (IND)	Indianapolis	4,097,398	46	73.9%	998,675	8	26.0%
Louisville (SDF)	Louisville	1,912,495	67	34.5%	2,078,947	3	54.1%
Nashville (BNA)	Nashville	4,887,925	42	88.1%	67,917	63	1.8%

Sources: FAA and Airports Council International.

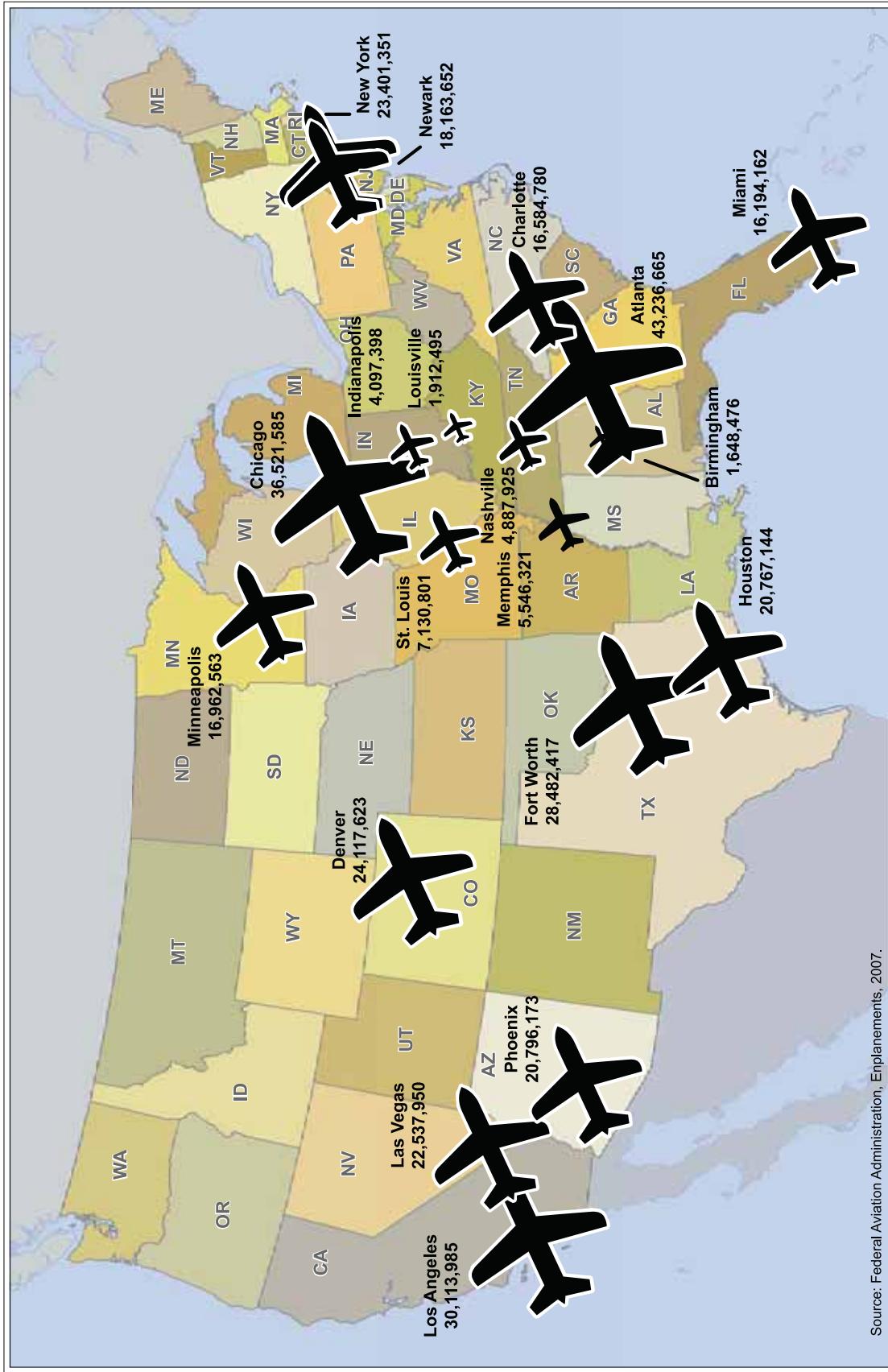
The Economic Impact of Memphis International Airport

Similar to other public and private investments, one measure of a successful major airport is its contribution to the local economy as a result of its operation. Like many other major airports, Memphis International Airport generates positive economic returns that can be measured, including employment, earnings, economic output, and tax revenues. As will be shown, these benefits are widespread and considerable. The remainder of this study focuses on developing quantitative estimates of the economic impact of Memphis International Airport.

Methodology

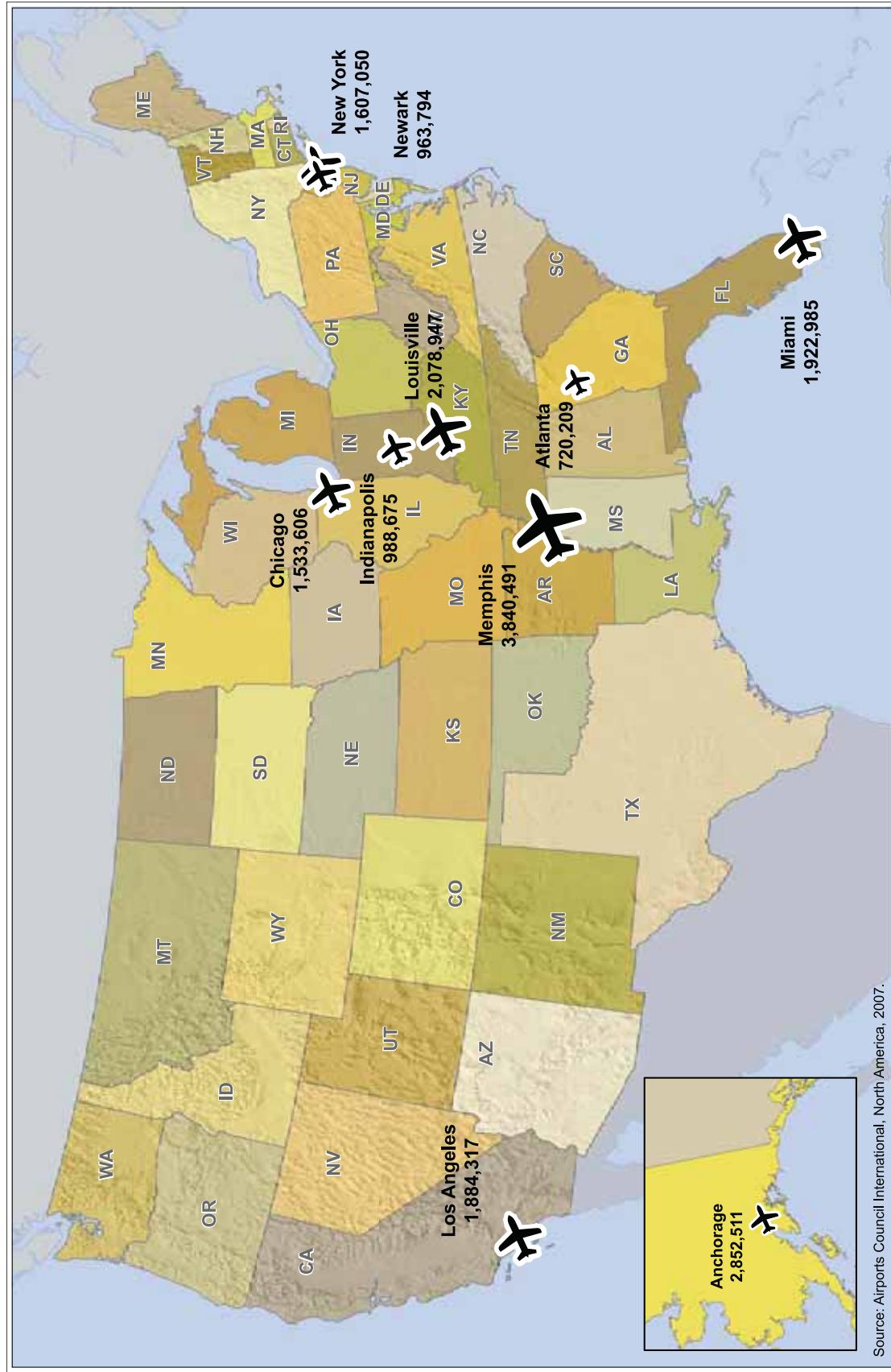
The methodology used in this analysis involves estimating the direct and indirect economic impacts of the operation of MEM on the Memphis Metropolitan Statistical Area (MSA), primarily through the use of the U.S.

Map 2. U.S. Passenger Enplanements, 2007



Source: Federal Aviation Administration, Enplanements, 2007.

Map 3. Top Ten U.S. Air Cargo, 2007 (Metric Tons)



Bureau of Economic Analysis' (BEA) RIMS II² output (i.e., goods and services produced as a result of the economic activity in question), earnings, and employment multipliers for the Memphis MSA. Specifically, the methodology examines the link between the industry in question (MEM) and other local industries and the industry's impact on local households.

Data Sources

Major sources of data are listed below:

- Memphis-Shelby County Airport Authority Comprehensive Annual Financial Reports for fiscal years 2004 to 2007.
- 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 linkages between output, job creation, and payroll generation.

The Impact of Air Cargo

As stated previously, Memphis International Airport has been the world's busiest cargo airport since 1992 in terms of cargo volume handled, with credit due mostly to the operations of FedEx Super Hub, which handles over 95.0 percent of all cargo at MEM. The number one ranking of air cargo operations at MEM also comes with a very large impact on the Memphis MSA's economy. To estimate the size of this impact, it was first necessary to estimate the dollar value of the volume of cargo enplaned at MEM, which is presented in Table 6.

As shown in Table 6, MEM had over 4.0 billion pounds of cargo enplaned during FY 2007. With revenue per pound averaging \$2.92, this equates to more than \$12.75 billion in revenue associated with cargo enplaned in Memphis.

Total cargo revenue from Table 6 was then taken and placed into Table 7 to derive the multiplier impact. As shown in Table 7, direct expenditures (total cargo revenue) of more than \$12.75 billion are estimated to have resulted in an impact of almost \$14.4 billion in indirect expenditures, for a total impact of more than \$27.1 billion in output (the production of goods and services), while supporting a total of 208,319 jobs and total earnings of over \$7.5 billion. The indirect impact is a result of the businesses and

²U.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.

Table 6. Estimated Air Cargo Revenue, FY 2007

Total Pounds of Cargo Enplaned	4,366,922,000
Average Revenue Per Pound	x \$2.92
Total Cargo Revenue	\$12,751,412,240.00

Note: The 2007 average revenue per pound is from FedEx Express Corporation's Financial Highlights at http://www.fedex.com/us/investorrelations/Q1FY09_stat_book.xls, while total pounds of cargo enplaned is from Memphis-Shelby County Airport Authority's Comprehensive Annual Financial Report (for FY 2007).

Table 7. Multiplier Impacts of Air Cargo Operations at Memphis International Airport, FY 2007

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output (1)	Earnings (2)	Employment (3)	Output	Earnings	Employment
Air Transportation	\$12,751,412,240	2.1267	0.5909	16.3369	\$27,118,428,411	\$7,534,809,493	208,319

(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.

individuals who work in the local air cargo industry spending their earnings and gross receipts in the local community and from the earnings and gross receipts of local businesses and individuals who support the air cargo industry in one fashion or another.

The Impact of Passenger Operations

In addition to the rather 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. As with cargo operations in the preceding section, it was necessary to first estimate a dollar value of passenger operations at MEM to use with the RIMS II multipliers.

As shown in Table 8, estimating the dollar value of passenger operations begins with an estimate of international passenger miles flown directly from MEM and the average international trip length. Thus for calendar year

*At the time the data was compiled for this study, a few survey questions and/or responses referred to Northwest Airlines, Inc. (NWA). However, in October 2008, NWA merged with Delta Airlines to become the world's largest passenger airline. Throughout 2009, the merged airlines will be known as Delta/Northwest until Northwest has been fully integrated into Delta Airlines.

2007, the average, non-stop international passenger trip length out of MEM was approximately 2,428 miles.

Table 8. Direct MEM International Flights, Calendar Year 2007

Airport Code	City	Distance (Miles)	Total Passenger Enplanements	International Passenger Miles	Percent of Total
AMS	Amsterdam, The Netherlands	4,544	159,090	722,904,960	38.68%
CUN	Cancun, Mexico	984	115,367	113,521,128	28.05%
MBJ	Montego Bay, Jamaica	1,359	86,512	117,569,808	21.03%
YYZ	Toronto, Canada	812	45,285	36,771,420	11.01%
YVR	Vancouver, Canada	1,943	2,801	5,442,343	0.68%
CZM	Cozumel, Mexico	1,018	2,268	2,308,824	0.55%
Totals			411,323	998,518,483	100.00%
Average International Passenger Trip Length (total passenger miles divided by total passengers)					2,427.58

Note: Some of these markets received seasonal service only.

Source: InterVISTAS-ga2 (Washington, D.C.).

Combining data from the U.S. Bureau of Transportation Statistics (T-100 Market and Segment data) and MEM's domestic and international enplanements for FY 2007, an estimate of total domestic and international passenger enplanements is presented in Table 9. It is estimated that for the 2007 fiscal year the average domestic passenger trip length was 872.2 miles, while the average international passenger trip length was 2,427.58 miles, as shown in Table 8. Multiplying these figures by their respective enplanements (5,083,466 for domestic and 180,050 for international) results in total of over 4.4 billion domestic passenger miles and over 437.0 million international passenger miles. Multiplying these two figures by the revenue per passenger mile of 12.98 cents, domestic, and 12.71 cents, international, results in an estimate of domestic passenger revenue/sales of over \$575.3

Table 9. Estimated Air Passenger Revenue/Sales, FY 2007

	Domestic	International
Enplanements	5,083,466.00	180,050.00
Average Passenger Trip Length	872.00	2,428.00
Estimated Total Passenger Miles	4,432,782,352.00	437,161,400.00
Revenue Per Passenger Mile (in Cents)	12.98	12.71
Total Revenue/Sales	\$575,375,149.29	\$55,563,213.94
Total Domestic and International Sales Combined	\$630,938,363.23	

*Takeoffs and landings.

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

million and international passenger revenue/sales of nearly \$55.6 million, for a combined total of \$630.9 million.

Total passenger mile revenue/sales from Table 9 was then taken and placed into Table 10 to derive the multiplier impact. As shown in Table 10, direct expenditures (total passenger mile revenue) of over \$630.9 million is estimated to have resulted in an impact of over \$711 million in indirect expenditures for a total impact of more than \$1.3 billion in output (the production of goods and services), while supporting a total of 10,307 jobs and total earnings of nearly \$373.0 million. The indirect impact is a result of the businesses and individuals who work in the local air passenger industry spending their earnings and gross receipts in the local community and from the earnings and gross receipts of local businesses and individuals who support the air passenger industry in one fashion or another.

Table 10. Multiplier Impacts of Air Passenger Operations at MEM, FY 2007

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output (1)	Earnings (2)	Employment (3)	Output	Earnings	Employment
Air Transportation	\$630,938,363	2.1267	0.5909	16.3369	\$1,341,816,616	\$372,821,479	10,307

(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.

The Impact of Construction at MEM

In addition to the enormous impact on the Memphis MSA economy of its passenger and cargo operations, Memphis International Airport is almost continuously undergoing improvements or expansions that bring about another large impact via construction expenditures. Table 11 shows that construction expenditures made by MEM over the past five fiscal years (FY 2004–FY 2008) have totaled nearly \$280.0 million. Projects have included everything from taxiway improvements to passenger facility improvements.

In fiscal year 2007, construction expenditures at MEM totaled \$68,252,000. As shown in Table 12, direct construction expenditures of over \$68.2 million are estimated to have resulted in an impact of over \$70.0 million in indirect expenditures for a total impact of nearly \$138.3 million in

output (the production of goods and services), while supporting 1,528 jobs and total earnings of almost \$49.2 million.

**Table 11. Construction Expenditures at MEM,
FY 2004–FY 2008 (Nominal \$)**

Fiscal Year	Expenditures
2004	\$38,536,000
2005	\$54,322,000
2006	\$48,317,000
2007	\$68,252,000
2008	\$70,561,000

Source: Memphis-Shelby County Airport Authority.

Table 12. Multiplier Impacts of Construction Expenditures at Memphis International Airport, 2007

RIMS Category	Multipliers				Impacts		
	Direct Expenditures	Output (1)	Earnings (2)	Employment (3)	Output	Earnings	Employment
Construction	\$68,252,000	2.02618	0.7207	22.3928	\$138,290,837	\$49,189,216	1,528

(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.

Total Impact of Memphis International Airport

Table 13 combines the impacts of cargo operations, passenger operations, and construction at MEM. As shown in the table, total combined direct expenditures (may be thought of as sales or revenue) of cargo and passenger operations as well as construction projects and expenditures at Memphis International Airport totaled nearly \$13.5 billion, resulting in total output in the Memphis MSA (the production and sales of goods and services) of almost \$28.6 billion and earnings of nearly \$8.0 billion, while supporting 220,154 jobs. In terms of jobs, MEM directly and indirectly supports over one in three jobs, or 34.3 percent of all jobs in the Memphis MSA.

Historical Comparison

The next few tables present a comparison of the results of the present study with one done in 2005. The impact study in 2005 focused on MEM operations in FY 2004, whereas the current study focused on FY 2007. Table

Table 13. Total Impact of Memphis International Airport, FY 2007

Category	Direct Expenditures	Output	Impacts Earnings	Employment
Cargo Operations	\$12,751,412,240	\$27,118,428,411	\$7,534,809,493	208,319
Passenger Operations	\$ 630,938,363	\$ 1,341,816,616	\$ 372,821,479	10,307
Construction Expenditures	\$ 68,252,000	\$ 138,290,837	\$ 49,189,216	1,528
Total	\$13,450,602,603	\$28,598,535,864	\$7,956,820,188	220,154

14 shows the differences between the results in 2004 and 2007 in terms of passenger enplanements and pounds of cargo enplaned. As shown, domestic passenger enplanements were less than 1.0 percent larger in 2007 than in 2004, while international passenger enplanements were 14.8 percent larger. In total, passenger enplanements were up almost 1.4 percent in 2007 over 2004.

Similarly, pounds of domestic cargo enplaned in 2007 were up more than 9.0 percent over 2004, while pounds of international cargo enplaned were up just over 10.6 percent. Pounds of air mail enplaned increased substantially during this time period, rising 64.2 percent. In total, pounds of cargo enplaned were up nearly 9.2 percent in 2007 versus 2004.

Table 14. Comparison of Passenger Operations and Cargo, 2004 and 2007

Passenger Operations				
	Domestic	International	Total	
2004 Enplanements	5,036,222	156,838	5,193,060	
2007 Enplanements	5,083,466	180,050	5,263,516	
Difference	47,244	23,212	70,456	
Percent Difference	0.94%	14.80%	1.36%	
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
2007 Enplanements	4,174,769,000	181,219,000	10,934,000	4,366,922,000
Difference	345,246,000	17,382,000	4,275,000	366,903,000
Percent Difference	9.02%	10.61%	64.20%	9.17%

The differences in passenger and cargo volumes between 2004 and 2007 are reflected in dollar amounts, too. For comparison purposes and as shown in Table 15, the 2004 numbers were converted to 2007 dollars. As also shown in Table 15, the direct impact (expenditures) from cargo operations in 2007 was nearly 15.7 percent greater than in 2004 in real terms,

while the direct impact from passenger operations was just over 6.0 percent less, a reflection of deflation in ticket prices between the two time periods. In real terms, the total direct impact of MEM in 2007 was almost 14.7 percent greater than it was in 2004.

Table 15. Inflation Adjusted Comparison of Direct Expenditures, 2004 and 2007

Category	Inflation-Adjusted 2004 Direct Expenditures	2007 Direct Expenditures	Difference	Percent Difference
Cargo Operations	\$11,023,972,364	\$12,751,412,240	\$1,727,439,876	15.67%
Passenger Operations	\$ 671,405,980	\$ 630,938,363	-\$ 40,467,617	- 6.03%
Construction Expenditures	\$ 33,792,291	\$ 68,252,000	\$ 34,459,709	101.98%
Total	\$11,729,170,635	\$13,450,602,603	\$1,721,431,968	14.68%

Table 16 examines the differences between the total impacts of 2007 operations at MEM versus the total impacts of 2004 operations. Memphis International Airport's total impact on output (again, roughly analogous to the value of the production of goods and services) was over 25.0 percent larger in 2007, while the earnings impact was over 22.0 percent larger. The impact on employment was over 33.0 percent greater than it was in 2004. As was seen in Tables 14 and 15, this difference is primarily attributable to increases in cargo volume at MEM between 2004 and 2007.

Table 16. Inflation-Adjusted Comparison of Total Impacts, 2004 and 2007

Year	Output	Earnings	Employment
2004	\$22,746,503,536	\$6,510,202,149	165,359
2007	\$28,598,535,864	\$7,956,820,188	220,154
Difference	\$ 5,852,032,328	\$1,446,618,039	54,795
Percent Difference	25.73%	22.22%	33.14%

Comparisons with Other Airports

With an impact of nearly \$28.6 billion on the Memphis MSA's economy and an employment impact of over 220,000 jobs, Memphis International Airport is the primary driver of the local economy. In FY 2007 (July to June), MEM accounted for 34.3 percent of total MSA employment, or just over one in three jobs. Both air cargo operations and air passenger operations have a substantial impact on the local economy, but the lion's share of that impact comes from air cargo.

In terms of air cargo operations, there is only one Memphis International Airport. As mentioned previously, MEM has been the world's busiest cargo airport every year since 1992 and shows no signs of slowing. As shown

in Table 17, no other airport in North America comes close to matching the volume of air cargo handled at MEM. At number two, Anchorage airport only did three-fourths the cargo volume that MEM did in 2007.

Table 17. Top Ten U.S. Air Cargo Volume Airports, 2007

Airport	Total Air Cargo (Metric Tons)	Rank	Percent of MEM
Memphis (MEM)	3,840,491	1	100.0%
Anchorage (ANC)	2,852,511	2	74.3%
Louisville (SDF)	2,078,947	3	54.1%
Miami (MIA)	1,922,985	4	50.1%
Los Angeles (LAX)	1,884,317	5	49.1%
JFK-New York (JFK)	1,607,050	6	41.8%
Chicago O'Hare (ORD)	1,533,606	7	39.9%
Indianapolis (IND)	988,675	8	25.7%
Newark (EWR)	963,794	9	25.1%
Atlanta Hartsfield (ATL)	720,209	10	18.8%

Source: Airports Council International—North America.

Table 18 presents a comparison of economic impacts for a few selected airports around the country. In terms of employment impacts, MEM's figures exceed those of Denver's airport by nearly 2,700 jobs, while having a total output impact that is approximately \$6.3 billion more than Denver's total output impact. Along with the higher numbers of employment, MEM also had a greater impact on earnings by about \$470.0 million. Louisville's airport was included since it hosts UPS' hub, a primary FedEx competitor. The 2005 Louisville study showed an economic impact of less than 20.0 percent of MEM's impact. Indianapolis' airport is included since it, too, hosts a FedEx hub. However, Indianapolis' airport has an economic impact on output of just over 10.0 percent of MEM's impact. All of the airports' impacts (Table 18) were driven primarily by passenger operations.

Table 18. Comparison of Economic Impacts for Selected Airports

Airport/City	Year	Output	Earnings	Employment
Dallas	2007	\$16,600,000,000	\$7,600,000,000	305,000
Denver	2008	\$22,296,664,100	\$7,064,743,700	217,459
Detroit	2006	\$ 5,238,000,000	\$1,007,000,000	30,535
Indianapolis	2005	\$ 3,013,777,500	N/A	N/A
Louisville	2005	\$ 4,467,600,000	\$1,755,700,000	43,214
Nashville	2006	\$ 3,744,208,000	\$1,180,462,000	39,540

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

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. As discussed in the 2005 economic impact study of MEM, while the Airport in and of itself is not necessarily a tourist destination or a reason to come to the Memphis area, MEM does provide a way to get to Memphis. Without this vital connection, many of the area's would-be tourists and business visitors might not come to town, especially foreign tourists and visitors from more than a day's drive away. To this extent, MEM can claim to have an impact on bringing tourists and their revenue influx to the Memphis area. Again, while it is local businesses and the area's tourist attractions, such as Graceland, Beale Street, and Tunica, that spark interest in coming to Memphis, MEM actually provides a way for a substantial number of visitors to the area.

Passenger itinerary data provided by InterVISTAS-ga Consulting, Incorporated (a firm that provides data and consulting services to Memphis Shelby County Airport Authority), indicated that over 1.1 million air passengers (approximately 20.7 percent of passenger deplanements) flew into Memphis, with Memphis being their final destination (via air, excluding passengers who originated their itinerary at MEM). Table 19 shows that 1,082,585 domestic passengers visited Memphis in calendar year 2007, while 67,590 international visitors came to Memphis via MEM.

**Table 19. MEM Passengers With Memphis As
Their Destination, Calendar Year 2007**

Passenger Category	Total Passengers
Domestic Passengers	1,082,585
International Passengers	67,590
Total	1,150,175

Note: Reported international passenger figures include U.S. airlines only. The passengers listed constitute persons who have initiated a trip from another location.

Source: InterVISTAS-ga Consulting, Incorporated.

According to the Memphis Convention and Visitors Bureau,³ Memphis receives over 9.0 million visitors per year; therefore, about 12.7 percent of visitors to the Memphis area arrive by air at MEM. Table 20 presents estimates of visitor spending attributable to the 1,150,175 guests who came

³See <http://memphistravel.com>. The figures used here came from a CVB survey of 236 registered Website users (memphistravel.com) and do not distinguish between leisure, corporate, and convention visitors.

to the Memphis area via MEM in 2007, using spending estimates from the Memphis Convention and Visitors Bureau (CVB). The CVB has estimated that out-of-town guests spend an average of \$286.00 per day per average party of 2.75 persons (roughly \$104.00 per person) while in the Memphis area and stay an average of 2.94 days. Thus, it is estimated that visitors who came to the Memphis area via MEM in 2007 spent a total of nearly \$380.0 million.

Table 20. Total Spending by Visitors Via MEM in 2007

Category	Daily Average Per Guest	Total for 1,150,175 Visitors
Lodging	\$ 52.31	\$184,235,607.28
Food and Drinks	\$ 24.02	\$ 84,609,195.39
Retail Shopping	\$ 27.66	\$111,015,775.85
Total	\$104.00	\$379,860,578.52

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

The amounts from Table 20 were taken and placed into Table 21 to tabulate the economic impact of visitor spending. As Table 21 shows, visitors to the Memphis area who came via MEM had a total impact of nearly \$760.0 million on output (the production of goods and services and sales of such), over \$246.0 million on earnings, and supported almost 10,700 jobs.

Table 21. Multiplier Impacts of MEM Visitor Spending, 2007

RIMS Category	Direct Expenditures	Multipliers			Impacts		
		Output (1)	Earnings (2)	Employment (3)	Output	Earnings	Employment
Hotels and Other Lodging Places	\$184,235,607	1.8998	0.6109	22.6770	\$350,010,807	\$112,549,532	4,178
Eating and Drinking Places	\$ 84,609,195	2.1356	0.6906	40.0887	\$180,691,398	\$ 58,431,110	3,392
Miscellaneous Retail and Services*	\$111,015,776	2.0637	0.6813	28.1787	\$229,097,706	\$ 75,629,497	3,128
Total	\$379,860,579				\$759,799,910	\$246,610,140	10,698

*These numbers are an average of the multipliers for Retail Trade; Other Services; Amusements and Recreation; Performing Arts, Museums, and Related Services.

(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.

APPENDIX

A Brief Overview of Other Airport Impact Studies

Six selected airport studies were reviewed and comparisons were made to the Memphis International Airport. These studies reflect a variety of methodologies. However, they are consistent in emphasizing the impact of each airport on the regional transportation grid, importance to the growth of the regional economy, and the relevance of using multiplier analysis to estimate economic impacts. For the comparisons, an effort was made to include recent airport impact studies of relatively large airports. Table A-1 presents a summary of the impacts of each airport impact study included in the analysis.

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

Airport/City	Year	Output	Earnings	Employment
Dallas	2007	\$16,600,000,000	\$7,600,000,000	305,000
Denver	2008	\$22,296,664,100	\$7,064,743,700	217,459
Detroit	2006	\$ 5,238,000,000	\$1,007,000,000	30,535
Indianapolis	2005	\$ 3,013,777,500	N/A	N/A
Louisville	2005	\$ 4,467,600,000	\$1,755,700,000	43,214
Nashville	2007	\$ 3,744,208,000	\$1,180,462,000	39,540

Source: See the following listed sources and summaries of each listed airport's impact.

The Economic Impact of Dallas/Fort Worth International Airport: 2005 (2007). Prepared by Wilbur Smith Associates for The Texas Department of Transportation, Aviation Division. Available at ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/aviation/impact/dfw_dallas_fort_worth.pdf.

Some of the more significant findings of this study are as follows:

- Direct economic impact on output of more than \$2.6 billion.
- Transported over 16.3 million visitors to the area, supporting 178,500 visitor-related jobs.
- Total economic output impact of \$16.6 billion, while generating \$7.6 billion in earnings and supporting 305,000 jobs.

Airports Colorado Economic Impact Study (2008). Wilbur Smith Associates in conjunction with Colorado Department of Transportation, Division of Aeronautics. Available at <http://www.colorado-aeronautics.org/aeroecono.htm>.

Wilbur Smith Associates conducted an economic impact study of all public-use airports within Colorado, quantifying the economic benefits yielded by each airport at a state and local level, in 2007. Of particular interest were the following impacts of Denver International Airport:

- Visitor economic impacts of \$12,197,979,000 in output, 141,367 jobs, and \$3,773,779,200 in earnings.
- Total economic impact of \$22.3 billion in output, 217,459 jobs, and \$7,064,743,700 in earnings.

Detroit Metropolitan Wayne County Airport: 2006 Economic Impact Study (2006). University of Michigan_Dearborn in conjunction with Wayne County Airport Authority. Available at http://www.metroairport.com/pdf/DTW_Economic_Impact_Report.pdf.

Along with MEM, Detroit is one of three Northwest Airlines (now Delta) hubs. While published in 2006, the study period was 2005. Highlights included the following:

- Total economic impact on output was over \$7.6 billion, over \$2.0 billion in earnings, and over 70,000 jobs spread across the state of Michigan.
- A total of 2.9 million visitors, who stayed an average of 3.5 days while spending an average of \$548 per visit.

Aviation Association of Indiana 2005 Economic Impact Study (2005). Available at <http://www.in.gov/indot/3716.htm>.

The study covered all general and commercial aviation airports within the state of Indiana and included breakdowns for each airport. However, the breakdowns included only estimates of the output impact. Indianapolis International Airport hosts a FedEx hub.

- Indianapolis International Airport had a total output impact of \$3 billion in 2005.

Louisville's Airports: Powering the Regional and Statewide Economy (2006). The study is located at <http://www.louintlairport.com/client-files/raa/RAAEconomicImpacts2006.pdf>.

This study estimated the economic impacts of both Louisville International Airport and Bowman Field Airport. Louisville International serves as the home hub of UPS. Highlights included the following:

- In 2005, Louisville International Airport had an estimated total economic impact of \$4,467,600,000 on output, \$1,755,700,000 on earnings, and supported 43,214 jobs.

Metropolitan Nashville Airport Authority Economic Impact Study (2007). Prepared by Wilbur Smith Associates. The study is located at the following website: <http://www.nashintl.com/about/pdfs/Final%20Technical%20Report.pdf>.

The study estimated the economic impacts of both Nashville International Airport and John C. Tune Airport. Highlights included the following:

- In 2006, Nashville International Airport had an estimated total economic impact of \$3,744,208,000 on output, \$1,180,462,000 on earnings, and supported 39,540 jobs.
- A survey of Nashville area businesses indicated that approximately 212,000 jobs relied upon or benefited from the city's airports.

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 (MEM) impact on their own operations. On behalf of MEM and the Sparks Bureau of Business and Economic Research (SBBER), the Memphis Regional Chamber of Commerce e-mailed an invitation to 5,500 individual e-mail addresses inviting participation in the survey.

Collected over a one-month period, 125 unique businesses responded for a total of 2.2 percent of all addresses within the contact list. Since it is unknown how many unique businesses were contained within the e-mail list, it is not possible to provide an accurate response rate of the population of businesses within the list. In December 2008, e-mail invitations to participate were sent to the entire list of 5,500 e-mail addresses within the Chamber of Commerce's list in an effort to maximize the number of responses. Additionally, a second invitation to participate was included in the Chamber's electronic newsletter *eCrossroads* in late January 2009. Highlights of the survey are included in this section, while complete results may be found later in the appendix.

Most respondents to the business survey employed fewer than 50 persons full time, although several had more than 1,000 employees full time, with the average being 168. Approximately 20.0 percent of the respondents had more than 100 full-time employees, while the largest had 4,800.

Memphis International Airport plays a critical role in the business activities of a majority of the respondents. While just 20.0 percent used the Airport to ship in supplies and 15.2 percent used it to ship out products, 77.6 percent used MEM to transport company personnel. Products and supplies shipped via MEM included everything from time-sensitive critical documents, blood and urine specimens for drug screening services, and check processing services.

Almost 30.0 percent (28.0) of the businesses fly their employees out of MEM on a frequent basis, while slightly more than 34.0 percent (34.4) fly their employees out of MEM on an occasional basis. Similarly, 22.4 percent of the businesses fly their customers, clients, or suppliers to Memphis on a frequent basis, while 33.6 percent do so occasionally.

Significantly, 52.8 percent of the respondents ranked the economic impact of MEM on their overall level of business activity as important or very important. In contrast, 28.0 percent ranked their firm's ability to get

supplies via MEM as important or very important, while 29.6 percent did so concerning their firm's ability to sell their product or service.

A majority of respondents (56.0 percent) agreed or strongly agreed that growth at MEM would automatically cause their businesses to grow, while 38.4 percent agreed or strongly agreed that a growing airport facility would provide an incentive for their company to move more activities to Memphis. Similarly, 40.8 percent agreed or strongly agreed that their company's future decisions to invest in their Memphis facilities will be based partially upon the services offered by Memphis International Airport.

A majority of respondents rated the quality of passenger and cargo services at MEM as high or very high—76.8 percent for passenger services and 60.0 percent for cargo services—both a reflection of the benefits of MEM being home to both a passenger and cargo hub.

However, most businesses rated the cost of passenger services relative to quality as high rather than low, 52.8 percent high or very high with 33.4 percent rating cost relative to quality as low or very low. Similarly, a plurality of respondents (45.6 percent) rated as high or very high the cost of cargo services relative to quality.

As shown in Table A-2, one of the more intriguing questions in the survey was, “Why is your company located in the Memphis area?” Over 43.0 percent of the respondents answered “yes” to at least one response listed besides “Other,” indicating that the Memphis area’s assets as a transportation and distribution center play a substantial role in attracting and keeping businesses to the local area. Significantly, several comments left by those who chose “Other” indicated reasons similar to the other choices listed, including “Major hub for distribution,” “To take advantage of all of the above,” and “Good location between coasts.”

Table A-2. Why is your company located in the Memphis area? Choose all that apply:

Answer	Count	Percentage
To take advantage of the time savings of being near the FedEx Hub.	18	14.40%
To take advantage of the Northwest Airlines* passenger Hub.	20	16.00%
To take advantage of Memphis' rail and highway infrastructure.	15	12.00%
Close proximity to a large portion of the nation's population.	38	30.40%
Other	65	52.00%

*At the time the data was compiled for this study, a few survey questions and/or responses referred to Northwest Airlines, Inc. (NWA). However, in October 2008, NWA merged with Delta Airlines to become the world's largest passenger airline. Throughout 2009, the merged airlines will be known as Delta/Northwest until Northwest has been fully integrated into Delta Airlines.

A distinction was made between air express (Table A-3) and air freight (Table A-4) when respondents were asked, "How important is air express/air freight services to your company?" With respect to air express, 64.0 percent responded that air express is somewhat important or very important. With respect to air freight, 45.6 percent responded that air express is somewhat important or very important.

**Table A-3. How important is access to air express/
air freight services to your company?
[Air Express]**

Answer	Count	Percentage
No answer	6	4.80%
Not very important (1)	28	22.40%
→ (2)	11	8.80%
Somewhat important (3)	33	26.40%
→ (4)	15	12.00%
Very important (5)	32	25.60%

**Table A-4. How important is access to air express/
air freight services to your company?
[Air Freight]**

Answer	Count	Percentage
No answer	10	8.00%
Not very important (1)	41	32.80%
→ (2)	17	13.60%
Somewhat important (3)	24	19.20%
→ (4)	13	10.40%
Very important (5)	20	16.00%

Comparison with the 2005 Local Business Usage Survey

A survey of the local business community's Airport usage was also conducted in 2005. Some of the questions asked in the latest survey (2008) were also asked in the 2005 survey. A comparison of the responses between the two years is presented in Table A-5.

There was a slight decrease in Airport usage by companies' employees or customers, clients, and suppliers, as shown in the first question in Table A-5. This downward trend was also reflected in businesses claiming that the Airport was very important in terms of its economic impact on their

Table A-5. Response Comparison Between 2005 and 2008 Business Surveys (Percent)

During an average month, how often is Memphis Airport used for business travel by . . .						
Answer	Year	Not at all	→	Occasionally	→	Frequently
...by your company's employees?	2005	6.5	14.0	34.4	15.0	30.2
	2008	12.8	13.6	34.4	11.2	28.0
...by customers, clients or suppliers visiting your firm?	2005	8.6	17.6	36.6	11.5	25.7
	2008	13.6	13.6	33.6	10.4	22.4
Please rate the economic impact of Memphis International Airport on your company in the following areas...						
Answer	Year	Not very important	→	Somewhat important	→	Very important
Overall level of business activity	2005	12.8	10.3	22.6	15.0	39.3
	2008	13.6	9.6	20.8	20.0	32.8
Obtaining supplies for your company	2005	30.9	19.6	21.5	11.8	16.3
	2008	28.0	16.8	17.6	13.6	14.4
Selling your business' product or service	2005	28.1	18.9	19.2	9.7	24.1
	2008	32.0	15.2	15.2	8.8	20.8
To what extent do you agree with the following statements about the future impact of Memphis International Airport?						
Answer	Year	Strongly disagree	→	Agree	→	Strongly agree
Growth at Memphis International Airport would automatically cause your business to grow	2005	12.2	33.1	26.3	11.1	17.3
	2008	17.6	20.8	24.8	10.4	20.8
Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport	2005	24.4	33.9	23.9	8.3	9.5
	2008	25.6	24.8	17.6	7.2	16.0
A growing airport facility could provide an incentive for your company to move more activities to Memphis	2005	28.8	26.9	23.3	9.4	11.7
	2008	28.0	15.2	16.8	5.6	16.0
How would you rank the following at Memphis International Airport?						
Answer	Year	Very low	→	No opinion	→	Very high
...the quality of passenger air services?	2005	6.2	15.8	7.2	53.1	17.8
	2008	4.8	9.6	8.0	40.0	36.8
...the quality of air express/cargo services?	2005	1.1	2.0	21.2	22.9	52.7
	2008	0.8	2.4	13.6	12.0	48.8
...the cost relative to quality of passenger air services?	2005	14.5	27.8	12.0	29.5	16.3
	2008	11.2	23.2	12.0	35.2	17.6
... the cost relative to quality of cargo air services?	2005	4.8	9.4	35.0	27.8	23.0
	2008	0.8	12.0	18.4	22.4	23.2

Note: Percentages may not add to 100 due to rounding, multiple responses to the same question, and non-responses.

overall level of business activity: 32.8 percent claimed it was very important in 2008 versus 39.3 percent in 2005. While the trend was slightly negative, the results were still indicative of the importance of the Airport to the business community.

On the other hand, there was an 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 56.0 percent in 2008 from 54.7 percent in 2005. There was also a slight decrease in the percentage of businesses agreeing or strongly agreeing that their company's future decisions to invest in their Memphis facilities would be based partially upon services offered by MEM, down to 40.8 percent in 2008 from 41.7 percent in 2005. In addition, there was 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, down to 38.4 percent in 2008 from 44.4 percent in 2005.

There was a strong increase in the perception of the quality of passenger services but a significant decrease in the perception of the quality of air express/air cargo services between 2005 and 2008. The percentage of businesses that ranked the quality of passenger services at MEM grew to 76.8 percent in 2008 from 70.9 percent in 2005, while the percentage of businesses that ranked the quality of cargo services at MEM fell to 60.8 percent in 2008 from 75.6 percent in 2005.

Changes in business perceptions on the cost of cargo and passenger services relative to the quality of these services were mixed. There was a strong increase in the percentage of businesses that ranked the cost of passenger services as high to very high relative to quality, up to 52.8 percent in 2008 from 45.8 percent in 2005. On the other hand, there was a decrease in the percentage of businesses that ranked the cost of cargo services at MEM as high to very high relative to quality, down to 45.6 percent in 2008 versus 50.8 percent in 2005.

Local Business Airport Usage Survey

- Total respondents: 125
- Response rate: N/A

Q: In 2007, how many people did your business employ locally?

- Full-time (n=122): Average=168, Maximum=4,800
- Part-time (n=94): Average=27, Maximum=700

Q: In 2007, how much did your company spend locally on the following?

- Wages and salary (n=105):
Average=\$8,215,035, Maximum=\$252,000,000
- Non-wage operating expenditures (n=101):
Average=\$7,123,116, Maximum=\$136,664,574
- Local capital expenditures (n=95):
Average=\$3,686,625, Maximum=\$200,000,000

Table A-6. How does your company use Memphis International Airport?

Answer	Count	Percentage
To ship in supplies, raw materials and/or intermediate goods?	25	20.00%
To ship (out) your product?	19	15.20%
To transport company personnel?	97	77.60%
Other	20	16.00%

Table A-7. During an average month, how often is Memphis International Airport used for business travel . . . [by your company's employees?]

Answer	Count	Percentage
No answer	0	0.00%
Not at all (1)	16	12.80%
→ (2)	17	13.60%
Occasionally (3)	43	34.40%
→ (4)	14	11.20%
Frequently (5)	35	28.00%

Table A-8. During an average month, how often is Memphis International Airport used for business travel . . .
[by customers, clients, or suppliers visiting your firm?]

Answer	Count	Percentage
No answer	8	6.40%
Not at all (1)	17	13.60%
→ (2)	17	13.60%
Occasionally (3)	42	33.60%
→ (4)	13	10.40%
Frequently (5)	28	22.40%

Table A-9. How would you rank the following at
Memphis International Airport?
[The quality of passenger air services?]

Answer	Count	Percentage
No answer	1	0.80%
Very low (1)	6	4.80%
→ (2)	12	9.60%
No opinion (3)	10	8.00%
→ (4)	50	40.00%
Very high (5)	46	36.80%

Table A-10. How would you rank the following at
Memphis International Airport?
[The cost relative to quality of
passenger air services?]

Answer	Count	Percentage
No answer	1	0.80%
Very low (1)	14	11.20%
→ (2)	29	23.20%
No opinion (3)	15	12.00%
→ (4)	44	35.20%
Very high (5)	22	17.60%

**Table A-11. How would you rank the following at Memphis International Airport?
[The quality of air express/air cargo services?]**

Answer	Count	Percentage
No answer	28	22.40%
Very low (1)	1	0.80%
→ (2)	3	2.40%
No opinion (3)	17	13.60%
→ (4)	15	12.00%
Very high (5)	61	48.80%

**Table A-12. How would you rank the following at Memphis International Airport?
[The cost relative to quality of air express/air cargo services?]**

Answer	Count	Percentage
No answer	29	23.20%
Very low (1)	1	0.80%
→ (2)	15	12.00%
No opinion (3)	23	18.40%
→ (4)	28	22.40%
Very high (5)	29	23.20%

**Table A-13. Please rate the economic impact of Memphis International Airport
on your company in the following areas:
[Overall level of business activity.]**

Answer	Count	Percentage
No answer	4	3.20%
Not very important (1)	17	13.60%
→ (2)	12	9.60%
Somewhat important (3)	26	20.80%
→ (4)	25	20.00%
Very important (5)	41	32.80%

**Table A-14. Please rate the economic impact of Memphis International Airport
on your company in the following areas:
[Obtaining supplies for your company.]**

Answer	Count	Percentage
No answer	12	9.60%
Not very important (1)	35	28.00%
→ (2)	21	16.80%
Somewhat important (3)	22	17.60%
→ (4)	17	13.60%
Very important (5)	18	14.40%

**Table A-15. Please rate the economic impact of Memphis International Airport
on your company in the following areas:
[Selling your business' product or service.]**

Answer	Count	Percentage
No answer	10	8.00%
Not very important (1)	40	32.00%
→ (2)	19	15.20%
Somewhat important (3)	19	15.20%
→ (4)	11	8.80%
Very important (5)	26	20.80%

**Table A-16. To what extent do you agree with the following statement about the
future impact of Memphis International Airport?
[Growth at Memphis International Airport would automatically
cause your business to grow.]**

Answer	Count	Percentage
No answer	7	5.60%
Strongly disagree (1)	22	17.60%
→ (2)	26	20.80%
Agree (3)	31	24.80%
→ (4)	13	10.40%
Strongly agree (5)	26	20.80%

Table A-17. To what extent do you agree with the following statement about the future impact of Memphis International Airport?

[Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport.]

Answer	Count	Percentage
No answer	11	8.80%
Strongly disagree (1)	32	25.60%
→ (2)	31	24.80%
Agree (3)	22	17.60%
→ (4)	9	7.20%
Strongly agree (5)	20	16.00%

Table A-18. To what extent do you agree with the following statement about the future impact of Memphis International Airport?

[A growing airport facility could provide an incentive for your company to move more activities to Memphis.]

Answer	Count	Percentage
No answer	23	18.40%
Strongly disagree (1)	35	28.00%
→ (2)	19	15.20%
Agree (3)	21	16.80%
→ (4)	7	5.60%
Strongly agree (5)	20	16.00%

Table A-19. Why is your company located in the Memphis area?

Answer	Count	Percentage
To take advantage of the time savings of being near the FedEx Hub.	18	14.40%
To take advantage of the Northwest Airlines passenger Hub.	20	16.00%
To take advantage of Memphis' rail and highway infrastructure.	15	12.00%
Close proximity to a large portion of the nation's population.	38	30.40%
Other	65	52.00%

Table A-20. Please rate the economic impact of the availability of international flights on your company in the following area:
[Overall level of business activity.]

Answer	Count	Percentage
No answer	6	4.80%
Not very important (1)	56	44.80%
→ (2)	9	7.20%
Somewhat important (3)	22	17.60%
→ (4)	9	7.20%
Very important (5)	23	18.40%

Table A-21. Please rate the economic impact of the availability of international flights on your company in the following area:
[Obtaining supplies for your company.]

Answer	Count	Percentage
No answer	10	8.00%
Not very important (1)	65	52.00%
→ (2)	17	13.60%
Somewhat important (3)	20	16.00%
→ (4)	7	5.60%
Very important (5)	6	4.80%

Table A-22. Please rate the economic impact of the availability of international flights on your company in the following area:
[Selling your business' product or service.]

Answer	Count	Percentage
No answer	7	5.60%
Not very important (1)	62	49.60%
→ (2)	9	7.20%
Somewhat important (3)	21	16.80%
→ (4)	10	8.00%
Very important (5)	16	12.80%

Table A-23. To what extent do you agree with the following statements about the future impact of international flights from Memphis International Airport?**[Growth in international flights would automatically cause your business to grow.]**

Answer	Count	Percentage
No answer	7	5.60%
Strongly disagree (1)	44	35.20%
→ (2)	28	22.40%
Agree (3)	13	10.40%
→ (4)	9	7.20%
Strongly agree (5)	24	19.20%

Table A-24. To what extent do you agree with the following statements about the future impact of international flights from Memphis International Airport?**[Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport.]**

Answer	Count	Percentage
No answer	11	8.80%
Strongly disagree (1)	43	34.40%
→ (2)	30	24.00%
Agree (3)	13	10.40%
→ (4)	13	10.40%
Strongly agree (5)	15	12.00%

Table A-25. To what extent do you agree with the following statements about the future impact of international flights from Memphis International Airport?**[Growth in international flights could provide an incentive for your company to move more activities to Memphis.]**

Answer	Count	Percentage
No answer	16	12.80%
Strongly disagree (1)	47	37.60%
→ (2)	27	21.60%
Agree (3)	11	8.80%
→ (4)	7	5.60%
Strongly agree (5)	17	13.60%

Table A-26. How important is access to air express/air freight services to your company? [Air Express.]

Answer	Count	Percentage
No answer	6	4.80%
Not very important (1)	28	22.40%
→ (2)	11	8.80%
Somewhat important (3)	33	26.40%
→ (4)	15	12.00%
Very important (5)	32	25.60%

Table A-27. How important is access to air express/air freight services to your company? [Air Freight.]

Answer	Count	Percentage
No answer	10	8.00%
Not very important (1)	41	32.80%
→ (2)	17	13.60%
Somewhat important (3)	24	19.20%
→ (4)	13	10.40%
Very important (5)	20	16.00%

Table A-28. Is congestion around Memphis International Airport a concern for your business? [Please choose only one.]

Answer	Count	Percentage
No answer	4	3.20%
No concern at all (1)	56	44.80%
→ (2)	29	23.20%
Somewhat of a concern (3)	22	17.60%
→ (4)	6	4.80%
Very much a concern (5)	8	6.40%

Airport Tenant Survey

A survey was also conducted of Airport tenants during the same time period in which the business survey was being conducted. Airport tenants include everything from passenger airlines to the Tennessee Air National Guard to restaurants to car rental agencies. The same questions used in the local business survey were also used for the Airport tenant survey. Highlights of the survey of Airport tenants are covered in this section, while detailed responses from the survey may be found in the appendix.

Contact data were provided by Memphis-Shelby County Airport Authority and contained telephone numbers and addresses. There were 64 unique Airport tenants within the contact list. The surveys were mailed to all 64 tenants along with a postage-paid return envelope and a memo-appeal to participate by Larry Cox, President and Chief Executive Officer of Memphis-Shelby County Airport Authority.

After two mailings in a one-month time frame, the SBBER received 6 total responses. Subsequently, the SBBER turned to telephone and in-person interviews in an effort to increase the number of responses. Telephone and in-person interviews increased the total number of responses to 23. In comparison with the unique list of 64 contacts, the response rate was 35.9 percent.

Average full-time employment of the 21 Airport tenant businesses that responded to the full-time employment question was 37, with the maximum being 270. Nineteen tenants responded to the question of how many part-time workers were employed for an average of 18 and a maximum of 129.

Eighteen of the 23 respondents (for an average of \$1,027,541, with a maximum of \$3,686,000) answered the question, "In 2007, how much did your company spend locally on wages and salaries?" Fifteen of the 23 respondents (for an average of \$595,779 and a maximum of \$2,500,000) answered the question, "In 2007, how much did your company spend locally on non-wage expenditures?" For an average of \$800,000 and a maximum of \$3,686,625, 9 of the 23 respondents answered the question, "In 2007, how much did your company spend locally on capital expenditures?"

With several airlines operating as Airport tenants, it is not surprising that almost 96.0 percent of the tenants (22 of 23) rated the economic impact of Memphis International Airport as very important to their overall level of business activity, while over 65.0 percent (15 of 23) rated MEM as very important to selling their firm's product or service. Additionally, nearly 70.0

percent (16 of 23) of Airport tenants strongly agreed that growth at MEM would automatically cause their business to grow.

Over 91.0 percent (21 of 23) 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, more than 65.0 percent (15 of 23) 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.

Airport Tenant Survey

- Total respondents: 23
- Response rate: 36.0%

Q: How many people did your business employ locally in 2007?

- Full-time (n=21): Average=37, Maximum=270
- Part-time (n=19): Average=18, Maximum=129

Q: In 2007, how much did your company spend locally on the following?

- Wages and salary (n=18):
Average=\$1,027,541, Maximum=\$3,686,000
- Non-wage operating expenditures (n=15):
Average=\$595,779, Maximum=\$2,500,000
- Local capital expenditures (n=9):
Average=\$800,000, Maximum=\$3,686,625

Table A-29. How does your company use Memphis International Airport?

Answer	Count	Percentage
To ship in supplies, raw materials and/or intermediate goods?	4	17.39%
To ship (out) your product?	3	13.04%
To transport company personnel?	11	47.83%
To transport customers and business associates?	17	73.91%
Other	6	26.09%

**Table A-30. During an average month, how often is Memphis International Airport used for business travel by:
[by your company's employees?]**

Answer	Count	Percentage
No answer	1	4.35%
Not at all (1)	3	13.04%
→ (2)	3	13.04%
Occasionally (3)	10	43.48%
→ (4)	1	4.35%
Frequently (5)	5	21.74%

**Table A-31. During an average month, how often is Memphis International Airport used for business travel by:
[by customers, clients, or suppliers visiting your firm?]**

Answer	Count	Percentage
No answer	0	0.00%
Not at all (1)	1	4.35%
→ (2)	0	0.00%
Occasionally (3)	5	21.74%
→ (4)	0	0.00%
Frequently (5)	17	73.91%

**Table A-32. Please rate the economic impact of Memphis International Airport
on your company in the following areas:
[Overall level of business activity.]**

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	0	0.00%
→ (2)	0	0.00%
Somewhat important (3)	0	0.00%
→ (4)	0	0.00%
Very important (5)	22	95.65%

**Table A-33. Please rate the economic impact of Memphis International Airport
on your company in the following areas:
[Obtaining supplies for your company.]**

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	10	43.48%
→ (2)	1	4.35%
Somewhat important (3)	4	17.39%
→ (4)	2	8.70%
Very important (5)	5	21.74%

**Table A-34. Please rate the economic impact of Memphis International Airport on your company in the following areas:
[Selling your business' product or service.]**

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	1	4.35%
→ (2)	0	0.00%
Somewhat important (3)	5	21.74%
→ (4)	1	4.35%
Very important (5)	15	65.22%

**Table A-35. To what extent do you agree with the following statement about the future impact of Memphis International Airport?
[Growth at Memphis International Airport would automatically cause your business to grow.]**

Answer	Count	Percentage
No answer	1	4.35%
Strongly disagree (1)	0	0.00%
→ (2)	1	4.35%
Agree (3)	1	4.35%
→ (4)	4	17.39%
Strongly agree (5)	16	69.57%

**Table A-36. To what extent do you agree with the following statement about the future impact of Memphis International Airport?
[Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport.]**

Answer	Count	Percentage
No answer	1	4.35%
Strongly disagree (1)	0	0.00%
→ (2)	1	4.35%
Agree (3)	5	21.74%
→ (4)	3	13.04%
Strongly agree (5)	13	56.52%

Table A-37. To what extent do you agree with the following statement about the future impact of Memphis International Airport?
 [A growing airport facility could provide an incentive for your company to move more activities to Memphis.]

Answer	Count	Percentage
No answer	2	8.70%
Strongly disagree (1)	6	26.09%
→ (2)	0	0.00%
Agree (3)	4	17.39%
→ (4)	3	13.04%
Strongly agree (5)	8	34.78%

Table A-38. Please rate the economic impact of the availability of international flights on your company in the following area:
 [Overall level of business activity.]

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	2	8.70%
→ (2)	1	4.35%
Somewhat important (3)	6	26.09%
→ (4)	2	8.70%
Very important (5)	11	47.83%

Table A-39. Please rate the economic impact of the availability of international flights on your company in the following area:
 [Obtaining supplies for your company.]

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	15	65.22%
→ (2)	2	8.70%
Somewhat important (3)	2	8.70%
→ (4)	1	4.35%
Very important (5)	2	8.70%

Table A-40. Please rate the economic impact of the availability of international flights on your company in the following area:
[Selling your business' product or service.]

Answer	Count	Percentage
No answer	1	4.35%
Not very important (1)	4	17.39%
→ (2)	2	8.70%
Somewhat important (3)	4	17.39%
→ (4)	1	4.35%
Very important (5)	11	47.83%

Table A-41. To what extent do you agree with the following statements about the future impact of international flights?
[Growth at Memphis International Airport would automatically cause your business to grow.]

Answer	Count	Percentage
No answer	1	4.35%
Strongly disagree (1)	1	4.35%
→ (2)	1	4.35%
Agree (3)	10	43.48%
→ (4)	2	8.70%
Strongly agree (5)	8	34.78%

Table A-42. To what extent do you agree with the following statements about the future impact of international flights?
[Your company's future decisions to invest in your Memphis facilities will be partially based upon the services offered by Memphis International Airport.]

Answer	Count	Percentage
No answer	2	8.70%
Strongly disagree (1)	5	21.74%
→ (2)	6	26.09%
Agree (3)	6	26.09%
→ (4)	1	4.35%
Strongly agree (5)	3	13.04%

Table A-43. To what extent do you agree with the following statements about the future impact of international flights?
[Growth in international flights could provide an incentive for your company to move more activities to Memphis.]

Answer	Count	Percentage
No answer	2	8.70%
Strongly disagree (1)	6	26.09%
→ (2)	4	17.39%
Agree (3)	5	21.74%
→ (4)	0	0.00%
Strongly agree (5)	6	26.09%

**Table A-44. How would you rank the following at Memphis International Airport?
[. . . the quality of passenger air services?]**

Answer	Count	Percentage
No answer	0	0.00%
Very low (1)	0	0.00%
→ (2)	1	4.35%
No opinion (3)	1	4.35%
→ (4)	8	34.78%
Very high (5)	13	56.52%

**Table A-45. How would you rank the following at Memphis International Airport?
[. . . the quality of cargo air services?]**

Answer	Count	Percentage
No answer	0	0.00%
Very low (1)	0	0.00%
→ (2)	0	0.00%
No opinion (3)	6	26.09%
→ (4)	5	21.74%
Very high (5)	12	52.17%

**Table A-46. How would you rank the following at Memphis International Airport?
[. . . the cost relative to quality of passenger air services?]**

Answer	Count	Percentage
No answer	0	0.00%
Very low (1)	2	8.70%
→ (2)	0	0.00%
No opinion (3)	3	13.04%
→ (4)	11	47.83%
Very high (5)	7	30.43%

**Table A-47. How would you rank the following at Memphis International Airport?
[. . . the cost relative to quality of cargo air services?]**

Answer	Count	Percentage
No answer	0	0.00%
Very low (1)	0	0.00%
→ (2)	0	0.00%
No opinion (3)	13	56.52%
→ (4)	5	21.74%
Very high (5)	5	21.74%