The Economic Impact of the Memphis International Airport 1998

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Executive Summary

Total Impact of Airport on Regional Economy

• The total financial impact, both direct and indirect, of the Memphis International Airport on the Memphis regional economy amounts to almost $9.8 billion in income.

• The Memphis International Airport, through its impact on numerous local businesses, from passenger and cargo operations to warehousing and manufacturing, has an impact on 110,683 jobs (or one in five jobs) in the Memphis regional economy.

• Each full-time equivalent job generated by airport related-business paid an estimated $24,364 per year — approximately $12.18 per hour.

• The total economic impact of the airport is derived by utilizing income multipliers. Multipliers show the total effect, both direct and indirect, that business sales have on the economy. That is, after the initial expenditures of airport-related businesses, there is the additional spending that those businesses make in the local economy. The RIMS II multipliers are 2.17 for sales, .5287 for wages and salaries, and 21.7 for jobs per $1 million in expenditures.

• Multiplier effects of spending and re-spending of airport-related business income result in total cargo-generated income of $8.7 billion and passenger-generated income of $1.1 billion.

• Multiplier effects of spending and re-spending of airport-related business income result in a total of 98,323 cargo-related jobs and a total of 12,360 passenger-related jobs in the Memphis economy.

Direct Sales Effect of Airport-Related Business

• Estimated domestic and international freight sales through Memphis International Airport were $4.5 billion in 1997.

• Estimated domestic and international passenger sales that can be attributed to the airport were $569.6 million 1997.

• The airport handled a total of 4,925 million cargo pieces in 1997, a 15.5 percent increase over 1996. For the first half of 1998, the growth in cargo at the airport has continued at an 11.8 percent annual rate.

• Almost 5 million passengers embarked (enplaned) on trips from Memphis International Airport in 1997. That was a 5.6 percent increase over 1996.

• While the number of international passengers enplaned in 1997 was small overall, 130,370 passengers, this number still represented an increase of 16.4 percent for the year.

• Other measures of airport activity, landed weight (up 5.3 percent), cars parked (up 10.6 percent), taxi-cab rides initiated (up 11.0 percent), and meals enplaned (up 11.0 percent), all indicated good growth from 1996 to 1997. Initial data for 1998 indicate a continuation of this performance.

The Size of the Memphis International Airport

• The Memphis International Airport is largest cargo airport in the world. The Memphis Chamber of Commerce uses six competitor cities against which to judge Memphis' performance. Among these peer cities, Memphis cargo capability, measured in gross weight landed, is over twice that of other peer cities, except Louisville. And, Louisville, with its UPS hub, is only 75.0 percent the size of Memphis in the cargo business.

• Passenger service provided by the Memphis International Airport is considerably larger than that provided by three peer cities, Indianapolis, Louisville, and Birmingham, but smaller than that of three other peer cities, Atlanta, Charlotte, and Dallas.

• The new World Runway at the Memphis International Airport should help expand airport operating revenues by 7-8 percent per year over the first five years of operation.

Surveys Indicate Satisfaction with Airport Services

• A survey of Memphis businesses indicated that a majority uses the airport occasionally to frequently every month as part of their business. In addition, a majority of Memphis businesses felt that the airport was somewhat to very important both for buying supplies and for selling their product.

• A small, but important, segment of Memphis businesses (approximately 30 percent) felt their future investment decisions could be linked to the services offered by the Memphis International Airport.

• A survey of Memphis-area residents indicated that more than one in five (22.9 percent) used the airport for business travel, while almost 40 percent used the airport for a pleasure trip during the past year.

Introduction

The availability of transportation opportunities has helped define the size and complexity of the Memphis community. Throughout its history, Memphis has been a city that has grown and prospered because of transportation-based industry. From its early ties to the river to its more recent ties to the air, the easy movement of cargo and passengers has made Memphis an attractive place for people to live and work.

Clearly, over time, the relative importance of the transportation modes has changed. Commodities moving on the Mississippi River are primarily in transit from the farms of the Midwest to the port in New Orleans, or to intermediate stops for processing at industrial facilities in Memphis or other places along the river. Coal, chemicals, stone, petroleum-based goods, metals, large machines, and other bulk products move slowly up and down the river. Agribusinesses, processors, and handlers of these goods have developed in Memphis in response to this water-based transportation opportunity.

The development of roads and the direction and sequence of that development have helped place Memphis' land-based industries at a competitive advantage. Strong east-west and north-south interstate linkages to the markets of America have allowed Memphis to develop its time-sensitive distribution and warehousing industry. Trucking goods around the nation can be accomplished easily from Memphis. Minimizing transportation and inventory costs helps Memphis-based firms stay competitive with other national or international producers.

The development and expansion of air cargo and passenger services in Memphis has helped Memphis define its future. The rapid movement of people and goods across long distances is essential if Memphis is to compete in a global marketplace. Without the Memphis International Airport (MEM), Memphis would not have grown or been able to compete with other communities. Clearly, the continuous growth of the airport, including its size, services, and quality, has been one of the key factors that have defined the economic structure and prosperity of our community.

This report details the quantitative economic impact of the airport on the regional and local economies. The analysis measures the dollar benefits that result from aviation-related activities at the airport, from the airport's tenants, and from businesses that use or are affected by airport activities and services. MEM has an important contribution to make to the future competitiveness of the region.

First, this impact study provides a broad understanding of the economic importance of the airport. This component of the study focuses on:

- The growth of the airport over the years;
- The expansion of airport capacity to service planes, people and cargo;
- The current service loads of the airport in terms of people and cargo; and
- The airport as a business organization.

Second, beyond the economic impact of the airport, an analysis is developed of the pattern of expenditures at the airport. The airport serves as a general multiplier of economic activity in the Mid-South region. The multiplier analysis estimates the direct and indirect economic impact, in terms of regional income generation, of the airport on the Mid-South economy. Using a recognized economic impact model — RIMS II — allowed for an accurate measure of the economic role of the airport.

Third, the analysis provides results from two surveys of Memphis businesses and residents. The survey results enumerate the use and impression of the airport by people who live in the greater Memphis area.

Overview

Memphis International Airport has experienced a period of growth during the 1990s. Examining any of the standards for use of the airport shows that the year-to-year increases have been impressive. While MEM provides both cargo and passenger services to the region, cargo is the larger of the two components. With MEM serving as the primary cargo hub for FedEx, the Memphis regional economy receives an extra boost that non-hub cities do not. The impact boost and the importance of cargo operations at MEM are stated clearly in an article by Oster, Rubin, and Strong appearing in the December 1997 Transportation Journal :

> ...the economic environment for businesses utilizing air cargo is enhanced. With an air cargo hub, firms that use air cargo have a longer shipping day in that the last possible pickup is much later in the day because the shipment only has to get to the hub in time for the overnight sort. Shipping costs may also be less because the shipment only has to be carried by air on the outbound leg from the hub, rather than carried by air to and from the hub. Thus, firms that rely on air cargo can gain a cost and service advantage by locating in an air cargo hub compared with a nonhub city.

The number of cargo pieces handled at the airport has increased impressively in the past three years, averaging almost 11 percent per year. Passenger traffic (both enplaned and deplaned) has been growing at a slower rate, with the growth during the first six of months of 1998 being negative. However, the average growth rate for the past three years has been almost 8 percent per year.

Other measures of MEM growth are also impressive. Landed weight totals are rising rapidly. The number of planes using the airport declined in 1996, but rose in 1997. The growth rate indicates that both cargo and passenger planes are being used more intensively — that is, they are closer to capacity.

Use of airport facilities is also up significantly. As shown in Table 1, the number of cars parked and taxicabs used at the airport has increased over the past three years, and both have grown by over 10 percent in the first six months of 1998. Finally, meals enplaned, after falling in 1995, have increased rapidly since that time.

TABLE 1

PERCENT CHANGE IN SELECTED ACTIVITIES, MEMPHIS INTERNATIONAL AIRPORT, 1994-1997

Category	1994-1995	1995-1996	1996-1997	1997-1998*
Total passengers	11.0	7.6	5.2	-0.2
Total cargo	3.6	12.9	15.5	11.8
Landed weight	5.1	3.5	11.2	5.3
Total airport activity	3.0	0.1	2.6	1.9
Cars parked	6.6	4.2	3.6	10.6
Taxicabs	11.3	7.5	2.2	11.0
Meals enplaned	-8.0	20.5	10.3	11.0

*First six months.

As shown in Table 2, the airport handled a total of 4,925 million pounds of cargo in 1997. For enplaned cargo, there was a 14.4 percent increase from 1996 to 1997 to 2,414 million pounds. Almost 94 percent of the cargo (2,260 million pounds) was domestic. Federal Express continues to dominate the cargo business at the airport, transporting approximately 96 percent of all the cargo handled at the Memphis airport last year. Federal Express' share has been at least 95 percent since 1992. The growth of cargo enplaned at the airport has been amazing over the 1990s. From 1,500 million pounds of cargo enplaned in 1992, the airport's cargo shipments increased 51 percent during the six-year period, reaching 2,414 million pounds in 1997. International (enplaned) cargo handled increased from just over 46 million pounds a year in 1992 to almost 154 million in 1997 (a 235 percent increase).

TABLE 2

MEMPHIS INTERNATIONAL AIRPORT CARGO ACTIVITY SUMMARY, 1992-1997
TOTAL (000)

Year	Domestic Enplaned	Percent Increase	International Enplaned	Percent Increase	Total Cargo Enplaned	Percent Increase	Total Cargo Handled	Percent Increase
1992	1,500,414		46,130		1,546,545		3,086,809	
1993	1,522,289	1.5	71,544	55.1	1,593,834	3.1	3,164,082	2.5
1994	1,727,595	13.5	99,348	38.9	1,826,944	14.6	3,644,558	15.2
1995	1,760,383	1.9	120,159	21.0	1,880,542	2.9	3,775,512	3.6.
1996	1,978,579	12.4	131,760	9.7	2,110,339	12.2	4,264,129	12.9
1997	2,260,655	14.3	153,826	16.8	2,414,482	14.4	4,924,843	15.5

Table 3 shows that the airport served approximately 5 million passengers (enplaned) in 1997, up 5.6 percent from 1996. Of these passengers, domestic passengers accounted for 97.4 percent of the total, or 4.83 million. Domestic (enplaned) passengers increased from 3.89 million a year in 1991 to 4.83 million a year in 1997, a 24 percent gain.

TABLE 3

MEMPHIS INTERNATIONAL AIRPORT PASSENGER (ENPLANED) ACTIVITY SUMMARY, 1991-1997

Year	Regional Airlines (Total)	Major Airlines (Total)	Airport Total: Domestic	Airport Total: International	Airport Total: Total
1991	457,598	3,475,077	3,893,910	39,664	3,933,574
1992	662,318	3,295,605	3,926,519	32,507	3,959,026
1993	602,780	3,187,938	3,763,912	29,298	3,793,210
1994	639,834	3,336,737	3,949,716	28,431	3,978,147
1995	714,549	3,674,167	4,323,567	65,149	4,388,716
1996	774,161	3,920,265	4,582,428	111,998	4,694,426
1997	840,327	4,076,028	4,828,150	130,370	4,958,520

The number of international (enplaned) passengers tripled during the 1991-1997 period. Since 1991, the most rapid growth at the airport has been in the number of international passengers (229 percent increase). Though the most recent figures show a slowing of international passenger traffic, the opening of the new international World Runway should put this statistic back on a growth trajectory. During the first half of 1998, there was a 0.6 percent increase in international passengers. Four out of five passengers who pass through the airport are passengers of Northwest/KLM and its affiliate, Northwest Airlink.

Northwest/KLM accounts for 67 percent of all airport passenger traffic (6.7 million total by Northwest/KLM vs. 10 million airport total enplaned and deplaned).

In Table 4, the figures for the first half of 1998 compared with those for the first half of 1997 show a continued growth path. On the passenger side, the airport served almost the same number of total passengers, 5 million (a 0.2 percent decrease). The data for the first half of 1998 indicate that international passengers account for most of the passenger growth at the airport.

TABLE 4

MEMPHIS INTERNATIONAL AIRPORT ACTIVITY SUMMARY, JANUARY-JUNE 1997 VS. JANUARY-JUNE 1998

	Enplaned Passengers			
	Domestic	International	Total Passengers	Total Cargo
Jan.-June 1997	2,397,205	70,419	5,017,925	2,290,093,798
Jan.-June 1998	2,397,803	70,868	5,009,393	2,559,484,829
% Difference	0.02	0.6	-0.2	11.8

	Meals Enplaned	Limos	Taxis	Cars Parked
Jan.-June 1997	887,556	3,009	46,993	479,099
Jan.-June 1998	1,040,487	3,053	52,174	529,649
% Difference	17.2	1.5	11.0	10.6

On the cargo side, there was a strong 11.8 percent increase in total cargo handled in the first half of 1998 compared with the first half of 1997. The double-digit cargo growth rates of 1996 and 1997 are likely to continue this year. In addition, airport parking, taxi, and limousine business has been good so far this year. The number of meals enplaned increased at a faster rate than the number of passengers enplaned.

Table 5 shows that the Memphis International Airport is both smaller and larger than airports in Memphis 2005 peer cities. In terms of passenger enplanements, Atlanta and Dallas have six to seven times more enplanements than Memphis. However, Birmingham, Indianapolis, and Louisville enplane significantly fewer passengers than Memphis does. In terms of cargo, the picture reverses. Memphis is the largest of the Memphis 2005 cities. Only Louisville (home of UPS) comes close to landing as much weight (75 percent of Memphis). Atlanta and Dallas airports are a quarter to a third the size of the Memphis airport when cargo weight is considered.

TABLE 5

PASSENGER ENPLANEMENTS AND LANDED WEIGHT COMPARISON AMONG BENCHMARK CITIES, 1996

City	Passenger Enplanements	% of Memphis	Gross Landed Weight	% of Memphis
Memphis	4,657,501	100.0	9,199,420,535	100.0
Atlanta	30,931,572	664.1	2,166,428,830	23.5
Birmingham	1,381,008	29.7	627,679,910	6.8
Charlotte	10,892,494	233.9	845,510,402	9.2
Dallas	27,433,782	589.0	2,813,659,322	30.6
Indianapolis	3,527,335	75.7	3,246,353,314	35.3
Louisville	1,773,834	38.1	6,903,008,000	75.0

Source: Federal Aviation Administration, 1996.

Economic Impact

The overall effect of Memphis International Airport on the regional economy is significant. And, of course, the primary reason for its major impact is the amount of cargo handled. From the table below, the total impact of Memphis International Airport on the Memphis-area economy, in terms of direct and indirect income production, amounts to almost $10 billion in sales (or output), $2.7 billion in salaries and wages, and 111,000 jobs. This means that the airport has a significant impact on one of five jobs in the Memphis economy.

TABLE 6

TOTAL IMPACT OF AIRPORT OPERATIONS, 1997

	Sales	Earnings	Employment
Passenger	$1,090,625,011	$ 301,135,076	12,360
Freight	+ $8,675,993,745	+ $2,395,549,349	+ 98,323
Total	$9,766,618,756	$2,696,684,425	110,683

The total impact of Memphis International airport was developed from reviewing the performance of the airport in fiscal 1997 — the airport, plus the passenger operation, plus the cargo operation. In addition, multiplier analysis estimates of the direct and indirect economic impact of the airport, in terms of regional income generation were calculated using the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) Regional Input-Output Modeling System (RIMS). RIMS II, developed in 1992, is the most widely used input-output model in the U.S. for providing estimates of the economic multiplier impact on communities that result from changes in a specific industry in a region.

The RIMS II multipliers are created from extensive data on the national and regional economies. The multipliers used in this analysis represent economic activity for West Tennessee, North Mississippi, and East Arkansas. This study uses the RIMS II methodology to provide estimates of the changes in the value of output (sales), earnings, and employment brought about from normal operations of the Memphis International Airport.

• Step One: Estimating the Direct Impact of the Memphis International Airport

Estimates of the size of the airport are based upon fiscal 1997 cargo and passenger enplanement figures. Beginning with cargo operations, the airport shipped almost 2.1 billion pounds of cargo in 1997. The revenue for domestic cargo was estimated to be $2.11 per pound and for international cargo, $0.94 per pound. The result is that cargo operations at the airport have a direct effect of $4.5 billion in sales output.

TABLE 7

ESTIMATED CARGO SHIPMENT SALES, 1997

	Domestic Freight Sales	International Freight Sales
Total Freight Pounds	2,082,677,000	145,287,000
Revenue Per Pound	x $2.11	x $0.94
Estimated Total Freight Sales	$4,394,448,470	$136,569,780
Total Estimated Sales	**$4,531,018,250**	

The direct impact of passenger enplanements at the airport is smaller. Using data from the U.S. Department of Transportation FAA Aviation Forecasts, it was estimated that a typical domestic passenger trip was 813.1 miles, producing $0.1371 in revenue per passenger mile. For international travel, the average passenger trip length was 3,019.5 miles, producing $0.1101 revenue per passenger mile. The direct impact of passengers is $570 million.

Thus, the direct impact on the Memphis economy of cargo and passenger operations at Memphis International Airport is $5,100,594,713.

TABLE 8

ESTIMATED PASSENGER SALES, 1997

	Domestic Passenger Sales	International Passenger Sales
Enplanements	4,713,443	132,775
Average Passenger Trip Length	x 813.1	x 3,019.5
Estimated Total Passenger Miles	3,832,500,503	400,914,113
Revenue Per Passenger Mile	x $0.1371	x $0.1101
Total Sales	$525,435,819	$44,140,644
Total Estimated Sales	**$569,576,463**	

• Step Two: Use of Multipliers to Estimate Direct and Indirect Impact

The RIMS II multipliers utilized for airport operations were 2.17 for output (sales), .5287 for wages and salaries, and 21.7 for jobs per $1 million in expenditures. When multiplied against direct expenditures, the RIMS II multipliers provide estimates of the total (direct and indirect) impact of the Memphis airport on the regional economy. The direct impact calculated above is the sales output (value of services) actually generated by airport activity. The indirect impact is the spending and re-spending of income earned by businesses and individuals as a result of airport operation.

Table 9 shows that the impact of passenger operations at the airport was almost $1.1 billion, with approximately 92 percent of the total coming from domestic flight operations. Passenger operations had a total impact of $301.1 million in earnings and 12,360 jobs in the Memphis economy.

TABLE 9

MULTIPLIER EFFECTS OF AIRPORT PASSENGER OPERATIONS — 1997

	Output	Earnings	Employment
Domestic Sales	$1,006,104,506	$277,797,918	11,402
International Sales	+ $84,520,505	+ $23,337,158	+ 958
Total	**$1,090,625,011**	**$301,135,076**	**12,360**

Although the impact of MEM's passenger operations is greatest in the Memphis regional economy, MEM also has a large impact on cities outside this area via its role as a major hub for Northwest Airlines. Four out of five passengers who pass through the airport are passengers of Northwest/KLM and its regional affiliate, Express Airlines I operating as Northwest Airlink. The extent of MEM's impact became apparent during the 1998 Northwest Airlines pilots' strike. While the strike impacted Northwest's hub cities (Memphis, Detroit, Minneapolis/St. Paul) the hardest, also hard hit were the smaller cities where Northwest Airlines and its affiliate regional airlines provide the only air service. Via Memphis, these cities included Jackson, Tennessee; Greenville, Mississippi; Laurel/Hattiesburg, Mississippi; Sheffield/Muscle Shoals, Alabama; and Owensboro, Kentucky. Thus, MEM's passenger operation impacts are felt well outside the Memphis regional economy.

The direct and indirect impact of cargo operations, shown in Table 10, totalled almost $8.7 billion in sales, $2.4 billion in wages and salaries, and 98,000 jobs. The large job impact results from the cargo base. In addition to the 24,000 jobs (in 1997) at the Federal Express operation, there are numerous other warehouse, airport operation, and maintenance jobs that are tied to the movement of cargo through the Memphis International Airport.

On average, each (full-time equivalent) job generated by passenger and cargo operations paid $24,364 per year. At $12.18 per hour, these would rank as above average jobs in the local economy.

TABLE 10

MULTIPLIER EFFECTS OF AIRPORT CARGO OPERATIONS, 1997

	Output	Earnings	Employment
Domestic Sales	$8,414,489,930	$2,323,344,906	95,360
International Sales	+ $261,503,815	+ $72,204,443	+ 2,964
Total	**$8,675,993,745**	**$2,395,549,349**	**98,323**

The employment impact estimate of just over 98,000 cargo-related jobs is supported by evidence in the Oster, Rubin, and Strong study (1997). In an econometric analysis, Oster, Rubin, and Strong estimated that each job at FedEx in Memphis generated an additional 2.75 jobs in the local economy. Using this employment multiplier estimate and assuming that FedEx had approximately 24,000 full-time equivalent (FTE) jobs in the Memphis area in 1997, then FedEx cargo operations accounted for a total of 90,000 jobs in the local economy:

FEDEX FTE EMPLOYMENT IMPACT

Direct FedEx Employment	24,000
x Employment multiplier	x 2.75
Total Indirect Employment Impact	66,000
Indirect FedEx Employment	66,000
+ Direct FedEx jobs	+ 24,000
Total FedEx Employment Impact	90,000

MEM Projections and the World Runway

Between 1997 and 1998, operating revenue for the Memphis International Airport grew from $31.6 million to $57.2 million, an average of 7.3 percent per year. Operating expenses rose at a slightly greater rate per year, 7.8 percent, resulting in expenses of $45.6 million in 1997. Landings and takeoffs totaled 363,448 in 1997, reflecting growth for the 1990s, but the level of passenger traffic was almost the same as in 1988.

A projection of the future of the airport is based upon a set of assumptions about the growth of the airport and the impact of the new World Runway. Using DOT projections, it was assumed that takeoffs and landings would increase by 49 percent from 354,448 in 1995 to 528,128 in 2010. Over the 13-year time span from 1998 to 2010, operating revenue was assumed to be $145.08 per takeoff and landing (based upon historic averages of revenue to flights at the airport).

The projections in Table 11 indicate significant growth in the operating ability of the Memphis International Airport. In addition, the new runway provides a foundation for future capacity at the airport and for potential revenue.

TABLE 11

MEM Operating Projections, 1998-2002

	Operating Revenue	Rev. from Runway	Total Operating Revenue	% Increase
1998	$61,330	$ 180	$61,510	
1999	65,790	180	65,970	7.3
2000	70,575	539	71,114	7.8
2001	75,708	1,078	76,786	8.0
2002	81,214	1,617	82,830	7.9

Local Business and Airport Usage

A survey of Memphis businesses was developed using a list of businesses in the Memphis MSA developed from Doing Business in Memphis: A Directory of Business and Industry. The survey was sent to every business in the Memphis area that met the following criteria: (1) the company employed more than 50 people, (2) the company had a listed contact person, and (3) the company had a listed fax number. The total number of businesses to be surveyed via fax was 989. Of those, 947 (96 percent) were successfully contacted. One hundred seventy-seven completed surveys were returned (an 18.7 percent response rate), which gives a 95 percent confidence level (within +/- 6 percent) that the results represent the opinions of Memphis businesses. The responses are reported on a 1 to 5 scale from high to low. A copy of the survey and responses can be found in Appendix A.

Very few of the businesses surveyed are directly connected with Memphis International Airport (MEM). From the first two questions, less than 3 percent had any direct financial ties to the airport. In addition, most of the surveyed companies were in the 50-500 employee range, represented a cross-section of Memphis industry, and came from most zip codes in the city. Consequently, the survey represents typical Memphis business activity.

The responses to the next two questions indicate that the surveyed companies tended to be regular users of MEM as part of their regular business activity. Over 45 percent of the companies used the airport frequently or somewhat frequently. Another 28.2 percent used the airport occasionally. That is, almost three-quarters of the surveyed businesses use the airport as part of their regular business activities.

Clearly, the airport is a critical part of doing business in Memphis. Over a quarter of the businesses surveyed found that many of their customers, clients, and suppliers use the airport as their mode of transportation when doing business in Memphis. When the categories "some" to "many" are added together, 72.3 percent of local businesses depend on the airport for part or all of their people connections to keep their businesses going.

The next four questions asked businesses to assess the importance of MEM to the operation of their business. The questions were asked to determine the impact of the airport on current business operations. Clearly, the responses indicate that a portion of the business community finds the airport is a key component of their business activities.

Memphis businesses feel that the presence of MEM provides a critical component in the supply chain of Memphis industry. Thirty percent find MEM important to very important for supplies. If infrastructure can be seen as the external portion of a company's value chain, then the airport is important to many business enterprises as they assemble the products or services they provide to the regional and national economies. Similarly, MEM is increasingly important to the selling activities of regional businesses: 27.7 percent feel the airport is important to very important to that part of their business. As part of the transportation and logistics network of the Memphis regional economy, MEM increasingly provides a service similar to that provided by truck, rail, and water transportation.

However, the airport is seen as part of the regional transportation infrastructure, not as the sole component of transportation for regional businesses. In other words, the airport assists companies and is not seen as the motivating force behind success or growth. In answer to the question of the relationship of MEM to their company's growth, almost 39 percent of the respondents agreed that airport expansion would help their businesses. But, most Memphis businesses do not see themselves as dependent upon the airport; only 18.1 percent feel dependent upon the airport to maintain current business levels, while 53.1 percent feel their current business activity is not dependent upon the airport.

Two questions focused on the ability of the airport to inspire business expansion in the Memphis regional economy. And the answers provide some of the most surprising outcomes from the survey. As a major logistics and transportation center, it is logical to assume that an expansion of transportation facilities would be a drawing card for business to expansion or relocation. The answers to the questions are contrary to that assumption. While 30.2 percent of the respondents feel their future is linked to the services offered by MEM, 69.8 percent do not. A significant number (46.3 percent) indicated that a growing airport facility will have no impact on their decision to expand business in the regional economy. When the "no impact" opinion is added to the "disagree" opinion, over 80 percent of the surveyed businesses do not feel that their future is linked to a growing airport facility. Thus, while MEM serves all Memphis businesses, the number that find their future closely tied to the airport is an important minority.

A series of four questions on the survey focused on perceptions of the business value gained from using airport services. Opinions on quality are basically positive. For passenger service, 51.4 percent of the respondents felt that quality was high or very high; for cargo, 50.3 percent felt that quality was high or very high. For both questions, a significant percentage of respondents expressed no opinion, a result that is particularly surprising. Almost 28 percent ranked the quality of passenger service as low, and 51.4 percent indicated that cost of using passenger service at MEM is high relative to quality. However, 31.1 percent felt that cost was low relative to quality, so opinions in the Memphis business community are mixed relative to the value gained from passenger service at the airport. Finally, while 25.4 percent ranked cost to quality high in the cargo operations, most respondents had no opinion on the cost of cargo relative to quality, a response that probably indicates a balanced cost-to-quality ratio.

Two characteristics of the airport stand out as strengths for regional businesses. First, the most frequently mentioned benefit is the location and convenience of Memphis International Airport. Its location inside the city near major roads and interstate connections is very important to airport users. Second, the availability of flights to many domestic locations is the next most mentioned strength of the airport. Other strengths regularly mentioned were cargo services, in general , and the presence of Federal Express and Northwest Airlines, in particular.

Survey respondents see only one weakness to Memphis International Airport. That weakness is the perceived cost of tickets on Northwest Airlines and the general lack of competition among airlines at the airport. The only other weakness mentioned by businesses was parking, an almost universal complaint with large institutions that depend on a volume of public commuting.

Customer Satisfaction and Airport Usage

Over 400 households in the Memphis area were surveyed about their use of the airport and its services. The sample size provides a 96 percent confidence level that the data are accurate to within +/- 5 percent for the Memphis MSA. A copy of the survey and results can be found in Appendix B.

Analysis of the survey data indicates that 22.9 percent, or more than one in five households in Memphis, used the airport for business travel in the last year. Nearly 40 percent of the households surveyed indicated they had used the airport for a pleasure trip in the last year. As a point of reference, Woods and Poole estimates for 1998 indicate that the number of households in the Memphis MSA was approximately 407,000 and can be expected to rise to 531,000 by the year 2020.

It should be noted that most Memphis households were not frequent fliers. Over three-fourths of those taking business trips took less than six trips in the past year, and over half took less than three trips. Over 90 percent of those taking pleasure trips took less than six trips in the past year, and over 70 percent took three trips or less.

With the addition of the Northwest/KLM flight to Amsterdam three years ago, Memphis residents were offered direct service to Europe for the first time. The expansion of current runways will allow additional direct international service as demand justifies. Approximately 10 percent of the households surveyed responded that they had taken at least one international trip in the last year, and 40 percent of those trips were on the KLM flight to Amsterdam. While international travel is a small part of the total air service used by Memphis-area residents, over time it will grow in importance as air service and international business linkages expand. The Northwest Airlines hub in Memphis has dramatically improved the choices available to passengers seeking direct connections to other U.S. cities. A large part of the expansion of passenger traffic at the airport can be attributed to the service provided by Northwest Airlines.

At the same time, concern has been raised about the cost of travel from Memphis. Many residents complain about the cost of local flights and indicate a willingness to travel to other cities to take flights that are cheaper. Twenty percent of the households responded that they had gone to another airport to take a flight in order to obtain a less expensive fare.

Little Rock was, by far, the most frequently used alternative airport, being mentioned by 72 households. Nashville was mentioned by 16 households, and other airports were mentioned 12 times. Eighty percent of those responding that they had gone to another airport had done so less than three times within the past year. Still, substantial evidence exists that lower-priced air service available from other airports has captured a sizeable portion of the Memphis air service market.

Other types of services at the airport used by respondents range from shipping packages and renting cars to simply picking up passengers and watching flights. Of those services, picking up passengers was the most frequently mentioned. Nearly 60 percent of the households had picked up passengers at the airport at least one time, and some had done so many times. Perhaps the image many people develop of the airport is from passenger pickups. With all the congestion at the terminal at key pickup and departure times, perhaps improvements in organizing passenger pickups and departures would be valuable to Memphis residents and would improve their support and use of the airport.

The second most frequently mentioned service involved food (29.4 percent). The expansion of eating and drinking facilities at the airport has clearly encouraged Memphis consumers. Depending upon the success of existing businesses, improving food-related services could result in increases in food-related sales to airport customers.

Other services were less frequently mentioned but may be important. Banking, an item omitted from the survey, may be an essential service that many passengers and non-passengers use. The post office (13.0 percent), the opportunity to watch flights (12.7 percent), shipping freight (8.7 percent), and shopping for gifts (6.0 percent) were all activities that complement traditional air cargo and passenger service. Even though they were not used by most Memphis households, these services may be an essential component of the services provided other passengers.

In conclusion, the airport usage survey confirms that a large percentage of all households used the airport in some fashion during the year. In nearly all cases, people in Memphis are satisfied with the airport and its services and are willing to state an opinion even if they do not use the airport regularly.

Only 5 of the 348 households that had an opinion were very dissatisfied with the airport, and another 20 were less than satisfied. This is in stark contrast to the fact that 114 (33 percent) and 127 (36 percent) of the responding households, respectively, indicated that they were very satisfied or more than satisfied with the airport. Another 24 percent (82 households) indicated they were satisfied with the airport.

Airport usage and the number of flights taken, especially when taken for pleasure, were positively related to customer satisfaction levels. So, it seems that even without the improvements in services being made by the airport, most people in Memphis (93 percent) were at least satisfied with the airport's services, and nearly 70 percent were more than satisfied. Clearly, with planned improvements in services and some initiatives to reduce congestion and improve communications at departure and pickup zones, the airport can reach even higher levels of customer service and support.

Tourism

This section presents an analysis of the contribution that Memphis International Airport makes to Memphis as a tourist destination. Because most tourism-related activities take place offsite, this portion of the study measures the economic reach and influence of MEM's activities beyond the airport itself.

A tourist is a visitor who comes to Memphis through Memphis International Airport and spends at least one night in Memphis. Most tourists are U.S. citizens; however, at least 12 percent of the total are from foreign countries (Irwin, 1996). An important distinction to consider about expenditures is the difference between the business and the leisure traveler. In addition, this study does not subtract travel by Memphis residents to other destinations. The total tourist expenditure estimates from the airport are the gross contributions to economic activity in the Memphis MSA.

• Domestic Tourism: Number of Visitors Per Year

The number of domestic visitors to Memphis and Shelby County who stay at least one night is estimated at 8 million by the U.S. Travel Data Center, using a county travel economic impact model to derive estimates for tourism.

To calculate the percentage of domestic tourists to Memphis who arrive by air is difficult. Moreove Memphis, as a tourist destination for the South and the Mid-South, attracts visitors from numerous fee er markets, defined primarily as Nashville to the northeast, Birmingham to the southeast, New Orleans to the south, Austin to the southwest, and St. Louis to the northwest. To determine the number of airline travelers, travel survey data provided by Department of Transportation statistics (USDOT, 1995-96) were utilized. Of 2,636 respondents to the survey who cited Memphis as their destination, 238, or 8.6 percent, reported having traveled to Memphis via commercial airline (Table 12). Therefore, of the 8 mil lion estimated visitors to the city (U.S. Travel Data Center, MCVB, 1997), approximately 688,000 visitors are believed to have landed at the airport. This statistic, combined with the 3 percent increase in air travel in the past two years (Air Transport Association, Annual Report 1998), means that almost 750,00 visitors arrive in the Memphis area via Memphis International Airport.

TABLE 12

DOMESTIC TRAVELERS: CITY COMPARISON OF USE OF COMMERCIAL AIRLINES AS PRINCIPAL MEANS OF TRANSPORTATION IN ARRIVING AT DESTINATION

City	Percent	City	Percent
Atlanta	30.3	Minneapolis/St. Paul	19.3
Birmingham	7.4	Nashville	16.3
Charlotte	10.8	New Orleans	22.3
Knoxville	3.9	St. Louis	18.6
Memphis	**8.6**		

Source: American Travel Survey, BTS/USDOT, 1995-96.

• Direct Economic Impact: Estimated Expenditures

Tourist expenditures on goods and services differ based upon visitation motive, from $129.02 per day reported for those who visited Memphis as an intermediate destination and $160.53 for those wh visited Memphis for a "variety of attractions" (Irwin, 1996) to $191.00 per day according to a study con missioned by the Memphis Convention & Visitors Bureau (MCVB). Using the middle figure ($160.53) a typical, the composite expenditure breakdown for domestic tourists, per person per day, is as follows:

TABLE 13

SPENDING PER DAY BY MEMPHIS TOURISTS

Activity	Spending	Percent of Total
Lodging	$ 33.71	21
Food	35.32	22
Shopping	41.74	26
Siteseeing	30.50	19
Transportation	16.05	10
Other	3.21	2
Total	**$ 160.53**	**100**

The direct economic impact of tourists who arrived through Memphis International Airport is estimated as:

$160.53 x 2 nights x 750,000 tourists = $240.8 million.

Table 14 provides a breakdown of expenditures for tourists who arrive on an airline. Because the economics of tourism means a transfer of consumption from one place to another, the full impact of direct tourist spending accrues to Memphis as a destination. The Regional Input-Output Modeling System II (RIMS) captures the impact of various rounds of spending as uniquely determined by the Memphis MSA economy.

TABLE 14

ECONOMIC IMPACT OF MEM-BASED TOURISM

	Direct Spending ($ millions)	Total Output ($ millions)	Earnings ($ millions)	Employment
Lodging	$ 50.6	$ 108.3 (2.14)*	$ 35.9 (0.71)	2,231 (44.10)
Food	53.0	103.4 (1.95)	30.7 (0.58)	2,359 (44.50)
Shopping	62.6	122.9 (1.96)	44.5 (0.71)	2,840 (45.30)
Siteseeing	45.7	94.8 (2.07)	31.6 (0.69)	1,942 (42.40)
Transportation	24.1	51.1 (2.12)	11.6 (0.48)	598 (24.80)
Other	4.8	9.9 (2.07)	3.3 (0.69)	203 (42.38)
TOTAL	**$240.80**	**$490.40**	**$157.60**	**10,173**

*Multipliers for each segment are in parenthesis.

The multipliers should be interpreted as follows: for growth in regional output, $1 of spending generates a multiple of, for example, $2.14 in additional goods and services consumed in the hotel industry. Total output is calculated by using the multiplier for each economic sector where tourists typically spend money.

For most tourist expenditure categories, the principal means by which the initial $1 is converted to subsequent rounds of spending is by wages paid directly to laborers in the target industry. Since workers receive a fraction of the value of final demand, this multiplier is less than 1; for example, $50.6 million in tourist expenditures in hotels results in $35.9 million in wages and salaries from that sector. The employment multiplier measures the number of full-time equivalent jobs supported by $1 million of direct spending.

Local taxes are calculated in Table 15 as total spending times the local tax rate of 2.25 percent. For the additional tax charged to hotel guests, the influx to the local economy is 5 percent times total lodging expenditures. Total taxes generated are estimated to be $62.9 million.

TABLE 15

TAX IMPACT OF TOURISM

Tax Revenue Generated	Amount ($ million)
State Taxes (6 % of direct spending and output)	$ 43.9
City and County Taxes (2.25%)	16.5
Local Bed Tax (5% of direct spending only)	2.5
Total Tax Revenue Generated Locally	19.0
Total Tax Revenue (state and local)	$ 62.9

It is important to note that this survey captures the impact of the leisure tourist, that is, the traveler who visits friends/family, attends a specific event, or tours a variety of attractions. Another visitor segment is the business traveler who attends a meeting or convention as a "delegate." According to the MCVB, total delegates in 1997 were 523,955, with expenditures of $359 million.

If it is assumed that attendees at national and regional conferences, who comprise 9 percent (MCVB 1997) of all delegates, arrive by air, then the number of business air travelers is estimated at 47,680 per year (based again upon the assumption that the almost 524,000 delegates are equally distributed among conferences and meetings). Using the International Convention & Visitor Bureau's estimate of $685.13 per convention delegate for a three-day hotel stay, the direct impact is $ 33 million for business tourists. Without a specific estimate for spending in Memphis or for separate expenditure categories, the direct and multiplier effects of this spending cannot be categorized industry by industry. However, it is possible to tally the additional spending generated by the business traveler. The incremental income generated by the meeting delegate is:

$685.13 - $160.53 x 2 days x 47,680 delegates = $17.4 million.

Thus, the direct impact of tourist and delegate domestic tourism in Memphis resulting from air travel is:

$240.8 million + $17.4 million = $258.2 million.

• Outlook for Domestic Tourism

Although tourism in Memphis in 1998 will be comparable to last year's levels, several national and local trends augur well for stronger domestic tourism in the near future:

(1) Nationally, the travel industry is benefiting from one of the longest economic booms in this century (Goeldner, 1997), with GDP slated to continue to increase, albeit at a slower rate of between 2 percent and 2.5 percent. Consequently, the resulting higher levels of disposable personal income will support increased consumption of luxury goods, among them, tourism.

(2) Local institutions have implemented strategies to increase Memphis tourism demand on the part of the traveler who lives outside the Mid-South and its immediately adjacent regions. Specifically, the Memphis Convention and Visitors Bureau and Civil Rights Museum are placing more resources into targeting the meeting and convention market; Harrah's casino is planing to increase to two-thirds the portion of its visitors who come from distant cities, and Hunt Phelan has undertaken a program of market expansion.

(3) In addition to marketing, construction is underway to accommodate what meeting planners hope will be an increase in tourism — the $76 million expansion of the Cook Convention Center will render Memphis more competitive in the business tourism market. Along with the Redbirds AAA Baseball Team and a Children's Interactive Blues Museum on Beale Street, Memphis' appeal as a tourist destination will increase.

The figures in Table 16 represent best estimates of total Memphis tourism forecasts. Both high and low estimates are provided, with low estimates resulting from systemic factors such as slower GDP growth and/or specific, one-time changes in levels such as the (possible) termination of the WONDERS exhibit series. The estimates decline slightly in 1999.

TABLE 16

ESTIMATED NUMBER OF AIRPORT DOMESTIC TOURISTS TO MEMPHIS, 1998-2002

	1998	1999	2000	2001	2002
High Estimate	**8.0 mil.**	**8.48 mil.**	**9.00 mil.**	**9.53 mil.**	**10.12 mil.**
MEM Tourists	750,000	848,000	969,000	1,067,360	1,226,446
Airport Market Share	(9.4%)	(10.0%)	(10.8%)	(11.2%)	(12.1%)
Low Estimate	**8.0 mil.**	**7.76 mil.**	**8.01 mil.**	**8.23 mil.**	**8.5 mil.**
MEM Tourists	750,000	729,440	801,000	823,000	850,000
Airport Market Share	(9.4%)	(9.4%)	(10%)	(10%)	(10%)

The estimates for tourism growth are based upon annual personal consumption expenditure growth for the U.S. Over the past three years, this ranged from a low of 3.2 percent (1996) to 6.1 percent (1998, Q1 and Q2). Therefore, the underlying growth rate of 6 percent is used for the high growth estimate and 3 percent for the low growth estimate. Moreover, assuming that tourists maintain their same travel patterns, the projected increase in visitors who travel via the airport should not differ for both the high and low estimates of those who use commercial airlines. The optimistic outlook for tourism allows for increases in both the level and percentages of airport users. The pessimistic scenario assumes that the percentage of all tourists visiting Memphis via commercial airlines remains essentially flat.

• International Tourism

Table 17 provides estimates of international tourists to Memphis arriving by air versus total number of international tourists to Memphis during a two-year period.

TABLE 17

NUMBER OF INTERNATIONAL VISITORS PER YEAR ARRIVING BY AIR, 1995-1997

Year	International Deplanements*	International Visitors**
1995	66,938	103,000
1996	114,114	91,000
1997	130,430	97,000

*Source: MEM Annual Activity Reports.
**Source: "Overseas Visitors to Select Cities/Hawaiian Islands," Tourism Industries, ITA, USDOC.

The international visitor figures in Table 17 are based upon an in-flight survey of international passengers en route to the U.S. For this reason, they present a more accurate picture of international travel to Memphis since they do not include U.S. citizens in the tabulation. For 1997, this figure represented 0.4 percent of the U.S. market for international visitation, placing Memphis among cities such as Austin, Charlotte, and Norfolk that have the same percentage share of the international tourist market.

The typical international tourist is a male (65.9 percent) between 31 and 50 years of age (69.4 percent) who stays in Memphis between two and three days (Irwin, 1996). Unlike domestic tourists who tend to travel as a family unit, international visitors travel alone or with their spouses. In addition, they also tend to spend more per person per day than the domestic tourist. Daily expenditure levels have been estimated from a low of $155 per day (Irwin, 1998) to $231 per day (MCVB, 1998). For purposes of this study, a mean expenditure level of $193 will be used in determining direct spending and multiplier effects.

According to the Irwin survey, only 16 percent of these international visitors were in Memphis on business; however, this figure is larger than the corresponding one of 6.5 percent for domestic visitors (523,955/8 million). Seventy percent seek out Memphis for its holiday adventures, and the remainder combine business and pleasure. The theme which is a consistent international favorite is music. Graceland is a perennial attraction, as is Beale Street (Irwin, MCVB, 1997). Tunica is not viewed as an amenity by international tourists (Irwin, 1996).

Table 18 provides a composite expenditure breakdown for international tourists per person per day (Tourism Industries, International Trade Administration):

TABLE 18

SPENDING PER DAY BY MEMPHIS INTERNATIONAL TOURISTS

Activity	Spending	Percent of Total
Lodging	$48.25	25
Shopping	46.32	24
Food	34.74	18
Transportation	30.88	16
Sightseeing	17.37	9
Other	15.44	8
Total	$193.00	100

• Outlook for International Tourism

International tourism is growing faster than domestic tourism. The growth rate of international tourism will be assumed to follow an underlying growth trend of 7 percent for the high estimate and 2 percent for the low estimate, with allowances for:

(1) the calendar year 2000 spurt in travel of 2,000 visitors;

(2) the opening of the World Runway; and

(3) the 25th commemoration of the death of Elvis in 2002.

Similarly, with greater promotion efforts underway by the Memphis Convention & Visitors Bureau in Europe, where there are four representatives, and in the near future Japan, a steady increase in the disembarkation rate up to 40 percent five years hence is projected. The less optimistic scenario presumes a stable level of 33 percent of international travelers who actually tour Memphis.

TABLE 19

ESTIMATED NUMBER OF INTERNATIONAL TOURISTS TO MEMPHIS, 1998-2002

		1998	1999	2000	2001	2002
INTERNATIONAL TOURISTS	High Estimate	97,000	103,790	113,055	219,829	233,147
	Low Estimate	97,000	98,940	102,919	153,438	160,500
DISEMBARKING PASSENGERS	High Estimate	32,010	34,251	39,569	83,535	93,259
	(% of total tourists)	(33%)	(33%)	(35%)	(38%)	(40%)
	Low Estimate	32,010	32,650	33,963	50,635	52,965
	(% of total tourists)	(33%)	(33%)	(33%)	(33%)	(33%)

• Economic Impact Summary of the Role of Memphis International Airport in Memphis Tourism

As an important by-product of its operations, the Memphis International Airport facilitates the creation of wealth via domestic and international tourism in Memphis and surrounding communities. Spending resulting directly from tourist activities totals $279.3 million, and tax revenue amounts to over $21 million.

(1) This direct spending generates additional output — indirect and induced effects — totaling $534.5 million.

(2) Memphians take home $171.9 million more in earnings as a result of tourism.

(3) Over 11,000 jobs can be attributed to the myriad impacts of tourism, as it affects a cross-section of industries throughout the region.

(4) Tourism is expected to continue to grow in the Memphis MSA economy. With the completion of MEM's World Runway and the operation of direct flights internationally, Memphis will gain prominence in the global community as both a world-class distribution center and an exciting tourist destination.

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Appendix

Appendix A

Local Business Airport Usage Survey Results

1. Does your firm own aircraft based at Memphis International Airport?
   Yes = 1.7% No = 98.3%

2. Does your firm own equipment or property based at Memphis International Airport?
   Yes = 2.3% No = 97.7%

3. During an average month, how often do your employees use the airport for passenger business?

Frequently		Occasionally		Not at all
❒ 1 (30.5%)	❒ 2 (14.7%)	❒ 3 (28.2%)	❒ 4 (16.9%)	❒ 5 (9.6%)

4. During an average month, how many customers, clients, or suppliers use the airport when visiting your firm?

Many		Some		None at all
❒ 1 (25.4%)	❒ 2 (13.6%)	❒ 3 (33.3%)	❒ 4 (19.8%)	❒ 5 (7.9%)

5. The economic impact of Memphis International Airport for supplies to your company is:

Not very important		Somewhat important		Very important
❒ 1 (24.9%)	❒ 2 (13.6%)	❒ 3 (31.1%)	❒ 4 (14.7%)	❒ 5 (15.3%)

6. The economic impact of Memphis International Airport for selling your business' product or service is:

Not very important		Somewhat important		Very important
❒ 1 (36.7%)	❒ 2 (14.1%)	❒ 3 (21.5%)	❒ 4 (11.9%)	❒ 5 (15.8%)

7. Growth at Memphis International Airport would automatically cause your business to grow.

Strongly Disagree		Agree		Strongly Agree
❒ 1 (26.6%)	❒ 2 (34.5%)	❒ 3 (25.4%)	❒ 4 (4.5%)	❒ 5 (9.0%)

8. To what degree is your current level of business activity dependent upon Memphis International Airport services?

Very dependent		Somewhat dependent		Not at all dependent
❒ 1 (11.9%)	❒ 2 (6.2%)	❒ 3 (28.2%)	❒ 4 (31.4%)	❒ 5 (21.7%)

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

Strongly Disagree		No Impact		Strongly Agree
❒ 1 (27.1%)	❒ 2 (13.6%)	❒ 3 (33.9%)	❒ 4 (19.2%)	❒ 5 (11.0%)

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

Strongly Disagree		No Impact		Strongly Agree
❒ 1 (26.6%)	❒ 2 (8.5%)	❒ 3 (46.3%)	❒ 4 (14.7%)	❒ 5 (3.4%)

11. How would you rank the quality of passenger air services at Memphis International Airport?

Very high		No opinion		Very low
❒ 1 (5.6%)	❒ 2 (45.8%)	❒ 3 (19.0%)	❒ 4 (20.3%)	❒ 5 (7.3%)

12. How would you rank the quality of cargo air services at Memphis International Airport?

Very high		No opinion		Very low
❐ 1 (21.5%)	❐ 2 (25.8%)	❐ 3 (42.4%)	❐ 4 (5.6%)	❐ 5 (0.0%)

13. How would you rank the cost relative to quality of passenger air services at the Memphis International Airport?

Very high		No opinion		Very low
❐ 1 (33.9%)	❐ 2 (17.55%)	❐ 3 (17.5%)	❐ 4 (13.6%)	❐ 5 (17.5%)

14. How would you rank the cost relative to quality of cargo air services at the Memphis International Airport?

Very high		No opinion		Very low
❐ 1 (6.2%)	❐ 2 (19.2%)	❐ 3 (63.3%)	❐ 4 (9.0%)	❐ 5 (1.1%)

15. What is the single greatest strength of Memphis International Airport for your business?

____

____

16. What is the single greatest weakness of the Memphis International Airport for your business?

____

____

Appendix B

Memphis International Airport Customer Satisfaction Survey Results

1. In the past 12 months, how many Memphis International Airport flights have you or members of your household taken for:

a. business 92 (number of flights) (If "0" to 1a, skip to 1b.)

0	309
1-6	72
6+	20

b. pleasure 159 (number of flights) (If "0" to 1a and 1b, skip to 3a.)

0	242
1-6	147
6+	12

2a. How many international trips have you or members of your household taken from Memphis International Airport in the last 12 months?

43 (number of trips)

0	357
NA	1
1-3	38
4+	5

2b. On how many trips have you or members of your household used KLM's service to Amsterdam during the past 12 months?

17 (number of trips)

0	384
1-2	17

3a. In the past 12 months, approximately how many times have you or members of your household traveled to another airport in order to obtain a less expensive fair?

80 (number of trips)
(If "0", skip to 4)

0	321
1-3	65
4+	15

3b. To what airport(s)?

a. Little Rock (72)
b. Nashville (16)
c. Other (12)

4. I am going to list several activities people can do at the Memphis International Airport. Please respond "Yes" or "No" to indicate whether you or members of your household have done each activity in the past 12 months.

	Yes	No	(If yes)		
a. ship cargo	35 yes	362 no	Approx. how many times?	1-3	18
				4+	17
b. pick up passengers	231 yes	167 no	Approx. how many times?	1-3	139
				4-6	63
				7+	29
c. use the post office	52 yes	34 no	Approx. how many times?	1-3	24
				4+	28

d. eat or drink	118	yes	279	no	Approx. how many times?	1-3	75
						4+	43
e. shop for gifts	24	yes	374	no	Approx. how many times?	1-3	18
						4+	7
f. rent a car	34	yes	363	no	Approx. how many times?	1-3	25
						4+	9
g. watch flights	57	yes	347	no	Approx. how many times?	1-3	30
						4+	27

5. Please rate your overall satisfaction with the Memphis International Airport on a scale of 1-5 (5 is the best).

1	2	3	4	5	No opinion
5	20	82	127	114	53

6. Which of the following income ranges best describes your household income?

52	NA
65	Less than $20,000
164	Between $20,000 and $50,000
88	Between $50,000 and $100,000
32	Over $100,000

7. What is your zip code? Distributed at random in MSA