Chapter 6. Economic Benefit

Chapter 6. ECONOMIC BENEFIT

An airport has two main economic benefits to its local community. One is its obvious transportation use. That is, the only way to move people and goods long distances quickly is via the airport. The second is the employment and purchases that can be attributed to the airport. That is, the trade and industry caused or which benefit from the airport.

This report acknowledges the incalculable value of the airport's role in providing access to and from the greater Dayton region. These benefits cannot be entirely expressed in monetary terms. However, this analysis measures the dollars created locally by the airport and airport related business.

This type of economic analysis is valuable because public airports must compete for funds with other governmental activities. Further, cost and environmental impact of any new construction must be evaluated against the anticipated benefits of increased employment and local purchases of goods and services.

This analysis shows that DAY contributed approximately 16,600 jobs and approximately $1.3 billion of monetary impact to the region's economy in 1998. By 2018, the number of jobs is anticipated to increase to 36,500 and monetary impact will increase to approximately $2.8 billion (in 1999 dollars). The summary of jobs and dollar impact is shown in **Table 6-1**.

Table 6-1 – Summary of Economic Impact

	1993	1998	2003	2008	2018
Total Jobs	10,436	16,600	22,400	28,500	36,500
Total Dollar Impact (Billions)	$.7	$1.3	$1.7	$2.2	$2.8

Source: 1993 Ohio Department of Transportation and Landrum & Brown projections.
Costs are in 1999 dollars.

1. DEFINITION OF ECONOMIC IMPACTS

Economic impacts measure the importance of a local airport in terms of the employment it provides and the goods and services it utilizes. The types of economic impact which are measured are presented below:

- Employment – At the airport or as a direct result of airport activity.

- Direct Impacts - These are the consequences of economic activity carried out at the airport by airlines, airport management, fixed based operators, and other tenants with a direct involvement in aviation. Examples of airport activities that generate direct impacts are employing labor, purchasing locally produced goods and services, and contracting for airport construction.

- Indirect Impacts - These effects are derived from off-airport activities that can be attributed to the airport. Such activities include cabs, hotels, restaurants, and retail establishments, but only to the extent the airport supplies them with customers. Indirect impacts differ from direct impacts in that they occur off-site.

  Like direct impacts, indirect impacts represent economic activity that would not have occurred in the absence of the airport. For this reason, restaurant sales and hotel stays of visitors to the Air Trade Area who arrive by air are counted, but local residents who eat at a restaurant or persons who drive to a hotel would not measure as an airport impact. The Air Trade Area is the multi-county region surrounding and served by the airport.

- Induced Impacts - The final class of impact result from the multiplier effect of the direct and indirect impacts. That is, the increase in jobs and economic activity caused by the direct and indirect impact as successive rounds of spending occur from the initial expenditure. For example, most of the take-home pay of airport employees is spent locally. This spending creates additional employment within the Air Trade Area. Thus, each new dollar of airport spending becomes income to successive rounds of individuals or businesses with the Air Trade Area.

- Total Impacts - This is the sum of the direct, indirect, and induced impact.

The airport and the quality of air service available also serves as a differentiator, giving the Dayton region a competitive advantage in attracting new businesses over those regions which have smaller facilities and less air service. The presence of the air cargo hub at DAY further enhances the competitiveness of the Dayton region by giving locally based businesses a time advantage in the shipment of goods. The economic benefits which result from the airport's contribution towards enhancing the Dayton region's competitiveness are difficult to measure, and thus have not been included in this analysis of economic benefits.

2. METHODOLOGY FOR THIS ANALYSIS

The Ohio Department of Transportation, Division of Aviation had a statewide airport system economic impact analysis completed in 1994, using 1993 as the base year. This analysis for DAY projects those values to the base Master Plan analysis year of 1998 and future facility planning dates. The state's "Airport System Economic Impact Analysis" is dated November 22,

1994 and was prepared by PDR Engineers, Inc., Price Waterhouse LLP, and BTI Consultants. The report was prepared consistent with the methodology presented in "Estimating the Regional Economic Significance of Airports" which is the U.S. Department of Transportation's September 1992 standard resource document for economic impact studies.

Three principal measurement tools were utilized in the study:

- Employment - Measures the number of employees at the airport or whose jobs are created because of airport activity.
- Payroll - Measures the sum of salaries and wages paid the direct and indirect employees.
- Expenditures - Measures the value of the goods and services used to produce or support airport activity.

To collect information on the economic impact of aviation in Ohio, the original analysis utilized surveys and interviews at each state airport and in each airport service area to identify the airport's effect. Induced impacts were measures by use of the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS-II). The result identified the economic impact of each Ohio airport. Note that the general aviation airports in the greater Dayton area were also measured, but the impact is not counted at DAY since they are separate airports. In the same manner, the aviation-related jobs created at aircraft manufacturing support facilities in the Dayton area and at the Wright-Patterson Air Force Base are irrelevant to this analysis.

To bring the 1993 data up to today, the relationship of 1993 airport passenger and air cargo activity was compared to 1998. In addition, the impact of inflation between 1993 and 1998 was factored in the equation. The consumer price index increased a total of 12.3 percent over the five-year period. **Table 6-2** indicates the relationship between airport activity in 1993 and 1998.

Table 6-2 – Airport Activity

	1993	1998	Change
Enplaned Commercial Passengers	1,044,221	1,096,613	+5.0%
Total Air Cargo Tonnage	583,414	984,827	+68.8%
Aircraft Operations	132,234	148,786	+12.5%

Source: Airport.

The big change in the 1993 to 1998 period is that an estimated 1,700 jobs were added at the Emery Worldwide air cargo hub. This results in total airport-related jobs increasing from 10,436 to approximately 16,600; and monetary impact rising from approximately $0.7 billion to $1.3 billion.

The economic impact for years 2003, 2008 and 2018 was estimated based on the airport's forecast activity presented in Chapter 2. These out-year estimates are in constant 1998 dollars, so no adjustments for inflation are assumed.

Total airport economic impact is anticipated to increase from approximately $1.3 billion to $2.8 billion between 1998 and 2018 as shown on **Table 6-3**.

Table 6-3 – Economic Impact Calculation

	Actual	Calculated	Forecast		
	1993	1998	2003	2008	2018
JOBS					
Direct	3,398	5,400	7,300	9,300	11,900
Indirect	2,238	3,600	4,800	6,100	7,800
Induced	4,801	7,600	10,300	13,100	16,800
TOTAL JOBS	**10,436**	**16,600**	**22,400**	**28,500**	**36,500**
DOLLAR IMPACT					
PAYROLL					
Direct	$93,387,897	$166,700,000	$225,400,000	$287,100,000	$367,400,000
Indirect	$43,189,622	$78,000,000	$104,000,000	$132,200,000	$169,000,000
Induced	$114,431,991	$203,400,000	$275,700,000	$350,600,000	$449,600,000
Total	$251,009,510	$448,100,000	$605,100,000	$769,900,000	$986,000,000
EXPENDITURES					
Direct	$134,418,979	$239,900,000	$324,300,000	$413,200,000	$528,700,000
Indirect	$118,027,650	$213,200,000	$284,300,000	$361,300,000	$461,900,000
Induced	$212,772,642	$378,200,000	$512,600,000	$651,900,000	$836,000,000
Total	$465,219,271	$831,300,000	$1,121,200,000	$1,426,400,000	$1,826,600,000
TOTAL DOLLAR IMPACT					
Total	**$716,228,781**	**$1,279,400,000**	**$1,726,300,000**	**$2,196,300,000**	**$2,812,600,000**

Notes:
1/ Forecast in Constant 1998 Dollars.
2/ Assumes improvement of Airport as identified in the Master Plan.
Source: Landrum & Brown, 3/9/99

In addition to the increase in economic impact presented in this section, airport users will save substantial amounts as a result of the capital programs; these aircraft user savings are presented in Chapter 7. Airport construction impacts of capital projects proposed in this Master Plan are also excluded from these projections because they result in a one time impact. However, the economic impact on the community will be substantial.

S:\00DAY\027901\DAY_CH6.DOC