RESEARCH UPDATE:

The Economic and Impact of
Rickenbacker International Airport
And Foreign-Trade Zone Number 138

Prepared for the
Rickenbacker Port Authority

Prepared by the
Economics Research Group
Center for Economic Education
University of Cincinnati

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For additional information contact the Economics Center for Education & Research, email Econeduc@uc.edu.
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Introduction

Rickenbacker is an international multi-modal cargo airport located in the Columbus, Ohio metropolitan Area. The airport includes an Air National Guard Base and U.S. Foreign-Trade Zone Number 138. A Foreign-Trade Zone (FTZ) is a defined area within the United States in which merchandise is considered to be in international commerce, outside of U.S. Customs territory. The Rickenbacker Port Authority (RPA) operates the airport and FTZ. The RPA facilitates the development of Central Ohio as a competitive, multi-modal port serving international and regional markets and distribution systems. In these roles, Rickenbacker International Airport is a major component and economic engine of the Greater Columbus area. In this study, the estimated impact of Rickenbacker International Airport and all related entities was $2.8 billion in business output in the year 2000. This impact is expected to grow to $3.8 billion in 2006.

Rickenbacker Airport (LCK) is located on a 5,000-acre site in Central Ohio, which is considered the prime location in North America for access to both population (58 percent within one day's drive) and manufacturing areas (61 percent within one day's drive). The airport has over 500,000 square feet of air cargo terminals in place and over 3 million square feet of additional air cargo facilities are planned over the next five to ten years.

The amount of cargo handled at LCK has averaged a 15 percent annual growth rate over the last ten years, which is twice the industry average. LCK is among the top 60 air cargo airports in North America and is considered the largest public, cargo-dedicated airport in the world. The airport's runways can accommodate the largest aircraft and has been identified by the Federal Aviation Administration as one of only six American airports with the current capability to handle the next generation of super-jumbo aircraft.

The airport anchors the southern end of a 15,000-acre industrial zone known as the Rickenbacker Area. In addition to the FTZ, the area includes twelve separate industrial parks. The Port Authority has developed ten million square feet in the FTZ over the last nine years. An additional twelve million square feet have been developed in the industrial parks, with ample room for additional growth.

The size and scope of operations at Rickenbacker Airport, including the Foreign-Trade Zone and surrounding development, make it a significant component of the regional economy. The purpose of this report is to estimate the impact of all operations at Rickenbacker International Airport on the economy of Greater Columbus. The economic impact of the airport is based on the operations of all components of the airport and on investment in airport infrastructure. Operations included in this impact estimation are the airport (including the military), Foreign-Trade Zone 138, a planned air cargo hub, and the planned international passenger terminal and facilities.

Included in this report are the total impacts of the airport and related facilities on output, household earnings, and employment for the Columbus Metropolitan Area (MSA). Also included are the economic impacts of the airport on the state of Ohio, and on Franklin and Pickaway Counties, in which the facility is located. Impacts of the airport on tax revenues in Franklin, Pickaway, and other counties in the Columbus MSA are estimated.

The estimates in this report are based on airport employment data from 1998 to 2000 provided by the Rickenbacker Port Authority (RPA). Impact estimates are forecast to 2006. Forecasts include planned investment in airport infrastructure and in an international passenger facility, expected to begin operating in 2002. This report serves as an update to an economic impact study of the airport authored by the Center for Economic Education's Economics Research Group in 1999. The previous report included actual data up to 1997.

Economic Impact Methodology

The impact of a facility like Rickenbacker International Airport on the local economy depends on the amount of "new money" that it brings into the region. That is, it depends on the amount of spending in the region that would not have occurred if not for the airport. This new money includes all local expenditures by airport related businesses for day-to-day operations. This spending represents an increase in the demand for goods and services that local businesses provide. It is considered new money because it is assumed that this spending would not occur locally if the airport were not located in the Columbus region.

Total local spending by airport related businesses represents the direct economic impact of the airport on the regional economy – it is spending that can be directly attributed to airport operations. Local businesses that have received this new money will re-spend some of these receipts locally in order to meet expenses and pay employees. Thus, there are successive rounds of spending in the region by those businesses that have supplied goods and services for airport related functions. These successive rounds of re-spending are called the indirect impact. Only money spent in the region is included in the analysis. Money received by vendors located outside of the region is not considered in this impact analysis.

Money earned by employees of those businesses generating output in both the direct and indirect phases of the impact is also counted because much of this income is spent locally. Purchases by households that have experienced increased earnings due to the injection of new money are known as induced impacts. In the context of the economic impact estimation methodology, indirect and induced impacts are combined into a single figure representing the total multiplier effects of business-to-business and household-to-business spending within the region.

This economic impact estimation uses the RIMS II[1] system developed by the U.S. Department of Commerce's Bureau of Economic Analysis. The Bureau of Economic Analysis has estimated a set of multipliers based on purchaser-supplier (or input-output) relationships among businesses of different industry classes within the Greater Columbus region. These multipliers are used to estimate the total economic impact of a change in local spending associated with a business. The multipliers can also be used to estimate the number of new jobs that are created when businesses sales increase. This employment impact is stated in full-time job year equivalents.

New workers must be paid wages, or existing workers must be paid higher wages in order to produce the increased output. The impact on household earnings represents the change in the amount of wages and salaries that must be paid to workers in the region in order to generate the additional output.

Rather than using direct spending as an input to the model, the impact estimation in this study is based on total employment at airport related facilities (see appendix A). The figures can be interpreted as total additional output, earnings, and employment generated by the operation of typical firms in Greater Columbus of the type in operation at Rickenbacker Airport that directly employ the number of workers indicated by the data.

[1] RIMS is an acronym for Regional Input-output Modeling System.

Summary of Economic Impacts

Table 1 lists the total impacts of Rickenbacker Airport operations and capital investment in the Columbus Metropolitan Area economy[2]. In 1998, business operations and capital investment at Rickenbacker generated $1.6 billion in total output in the Columbus region, adding $439 million to regional household earnings and supporting 16,458 jobs. By 2000, this impact grew to $1.8 billion in output, $493 million in household earnings, and 18,711 jobs. These impacts include direct, indirect, and induced impacts of Airport operations, operations of firms in Foreign-Trade Zone 138, and capital investment at the airport.

Table 1. Summary of the Economic Impacts of Rickenbacker Airport And Foreign-Trade Zone 138 on Columbus

	1998	1999	2000
Regional Output	$ 1,627,852,697	$ 1,725,307,278	$ 1,820,097,697
Household Earnings	$ 438,838,452	$ 466,874,513	$ 492,533,595
Employment	16,458	17,593	18,711

Table 2 lists the total annual impacts of Rickenbacker International Airport, including the airport, Foreign-Trade Zone 138, capital investment, and the proposed international facility, from 1979 to 2006. Figures between 1979 and 1997 are from the 1997 ERG study. By 2006, total regional impacts of the airport are forecast to be $2.6 billion in business output, $697 million in household earnings, and 26,462 jobs[3]. Forecast growth in employment at the airport and related facilities are based on the Ohio Bureau of Job and Family Services' *Job Outlook 1996-2008: Columbus MSA*, while anticipated capital investment at the airport and international facilities during this time period are provided by the RPA.

The decline in the impact on output from 1997 to 1998 is the result of a reduction in direct employment at the site. The decline in total impact from 2002 to 2003 results from lower planned investment in the later year. The changing values for the total impact on output are also illustrated in figure 1.

[2] The Columbus Metropolitan Area is defined as Delaware, Fairfield, Franklin, Licking, Madison, and Pickaway Counties in Ohio.
[3] All impact estimates are expressed in constant (year 2000) dollars. Forecast growth in employment at the airport and related facilities are based on the Ohio Bureau of Job and Family Services' *Job Outlook 1996-2008: Columbus MSA*.

Table 2. Total Impacts of Rickenbacker Airport FTZ 138 and International Facility on Columbus, 1979-2006

	Impact on Output	Impact on Earnings	Impact on Employment
1979	$ 773,272,202	$ 182,088,034	7,101
1980	$ 542,340,087	$ 127,755,118	4,982
1981	$ 429,326,118	$ 101,176,502	3,945
1982	$ 426,710,559	$ 101,758,220	3,921
1983	$ 426,710,559	$ 104,013,799	3,921
1984	$ 426,710,559	$ 104,408,848	3,921
1985	$ 465,290,061	$ 113,864,978	4,275
1986	$ 626,691,884	$ 155,420,031	5,756
1987	$ 500,491,135	$ 123,858,737	4,599
1988	$ 501,907,896	$ 124,739,207	4,611
1989	$ 496,785,759	$ 120,696,612	4,564
1990	$ 444,692,530	$ 106,991,601	4,086
1991	$ 445,128,457	$ 107,317,393	4,090
1992	$ 482,727,126	$ 119,283,461	4,435
1993	$ 570,130,407	$ 139,272,725	5,237
1994	$ 1,571,392,218	$ 386,824,372	14,424
1995	$ 1,526,970,383	$ 374,340,913	14,015
1996	$ 1,580,087,124	$ 386,752,437	14,502
1997	$ 1,750,105,318	$ 438,313,091	16,067
1998	$ 1,627,852,697	$ 438,838,452	16,458
1999	$ 1,725,307,278	$ 466,874,513	17,593
2000	$ 1,821,342,283	$ 492,533,595	18,711
2001	$ 2,295,878,765	$ 620,633,916	23,360
2002	$ 2,400,784,351	$ 649,375,819	24,760
2003	$ 2,259,801,081	$ 607,424,808	22,976
2004	$ 2,488,785,139	$ 656,076,267	24,806
2005	$ 2,551,405,369	$ 673,642,271	25,450
2006	$ 2,633,091,992	$ 697,289,570	26,462

Figure 1. Economic Impact of Rickenbacker Airport and Foreign-Trade Zone 138 on Columbus
1979 - 2000

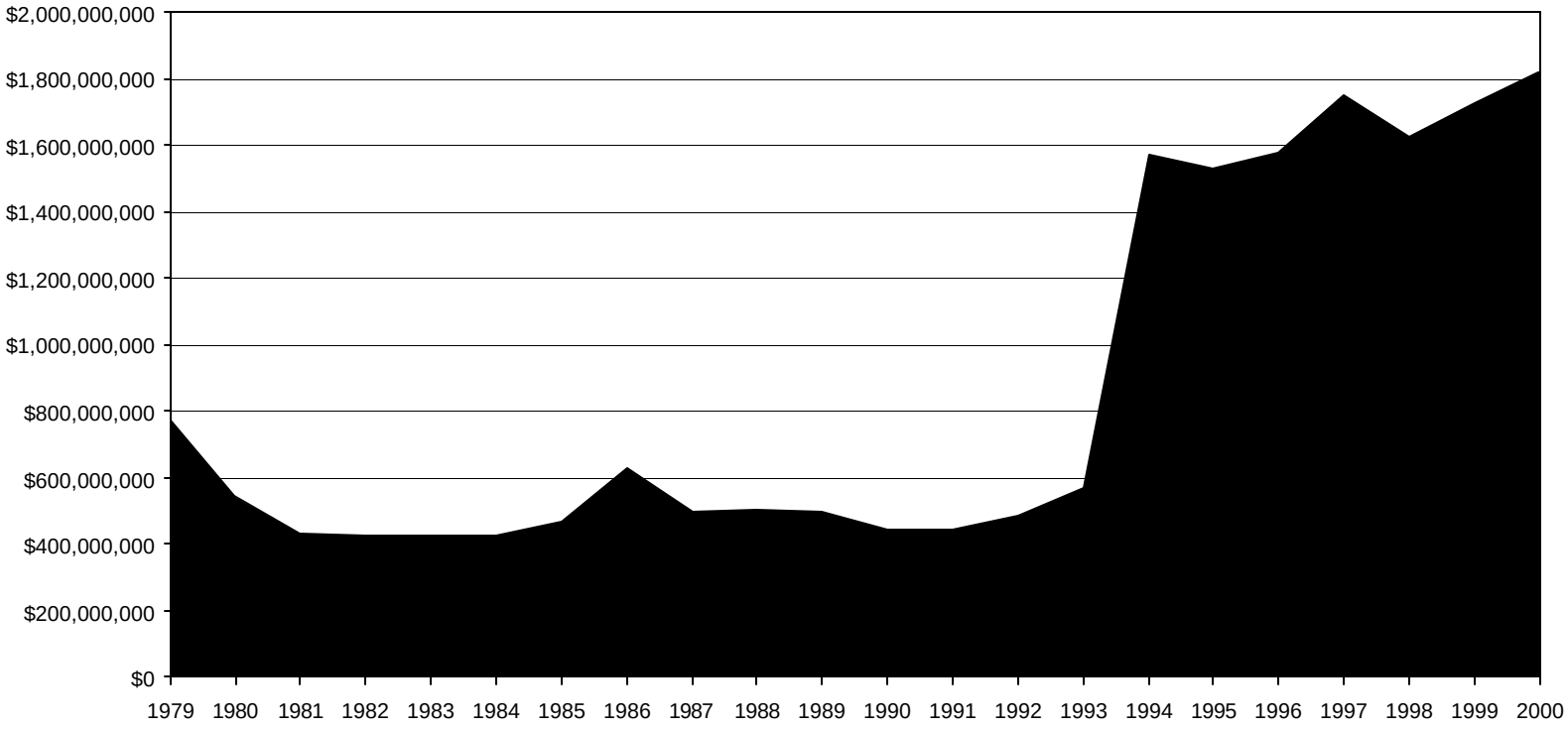


Table 3 shows the total impacts of Rickenbacker on Output by industry for the year 2000. By far the most effected industry is transportation. This category includes most of the direct business occurring at the airport and trade zone. The second most affected industry is miscellaneous services, which includes automobile repair, health services, and Federal, state and local government enterprises, including military operations. The presence of the Ohio Air National Guard, Army National Guard, and Naval Reserves would affect output in this industry category. The real estate industry is affected because increases in income affect the demand for housing.

Tables 4 and 5 reveal the impacts of Rickenbacker on household earnings and employment for different industry categories. The most affected industries in employment and earnings are similar to those for output. Again the most affected industry in terms of employment and earnings is transportation. The second most affected industries in terms of these measures are miscellaneous services and business services. The business services category includes establishments primarily engaged in rendering services to businesses on a contract or fee basis, such as computer programming, photocopying, data processing, services to buildings, and help supply services.

Differences in rank among industry categories with regard to output, earnings, and employment impacts will depend on numbers of employees required by different types of businesses and relative average wages in different industries. For example, retail trade is the fourth most affected in employment, with nearly 3,000 jobs supported in those three years or nearly 1,200 more jobs than are supported in the Health services category. However, household earnings in health care services show a larger impact than household earnings in retail services because average earnings for employees in health care are higher than in retail.

The rankings among affected industries in terms of impacts on output, earnings, and employment will be similar for other years because the mix of businesses operating at the airport and nearby facilities remains fairly constant over time. Only impacts by industry from airport operations are reported. Impacts from investment spending will have a larger relative impact on the construction industry.

Table 3. Rickenbacker Impact on Columbus Output by Industry, 2000

Industry	Impact on Output
Transportation	$ 661,526,388
Miscellaneous services	$ 297,421,825
Real estate	$ 149,091,739
Business services	$ 144,468,019
Construction	$ 82,803,845
Retail trade	$ 56,901,719
Health services	$ 56,223,811
Financial Institutions	$ 45,775,015
Wholesale trade	$ 42,226,362
Electric, gas, and sanitary services	$ 34,851,736
Communications	$ 32,031,500
Eating and drinking places	$ 25,818,321
Insurance	$ 24,673,586
Printing and publishing	$ 17,977,227
Food and kindred products and tobacco products	$ 14,206,307
Hotels, amusement and recreation services	$ 12,455,020
Chemicals and allied products and petroleum and coal products	$ 7,995,510
Personal services	$ 7,513,196
Rubber, plastic products, and leather products	$ 6,763,467
Industrial machinery and equipment	$ 6,556,599
Fabricated metal products	$ 6,189,136
Motor vehicles and equipment	$ 5,200,196
Paper and allied products	$ 5,030,846
Farm products and agricultural, forestry, and fishing services	$ 4,308,056
Electronic and other electric equipment	$ 3,937,497
Lumber and wood products and furniture and fixtures	$ 3,504,180
Stone, clay, and glass products	$ 3,223,062
Primary metal industries	$ 1,879,400
Instruments and related products	$ 1,041,512
Miscellaneous manufacturing industries	$ 936,448
Oil and gas extraction	$ 790,539
Apparel and other textile products	$ 460,014
Metal mining and nonmetallic minerals, except fuels	$ 277,323
Other transportation equipment	$ 214,603
Textile mill products	$ 116,098

Table 4. Rickenbacker Impact on Columbus Earnings by Industry, 2000

Industry	Impact on Earnings
Transportation	$ 171,272,993
Miscellaneous services	$ 72,997,351
Business services	$ 66,318,710
Health services	$ 27,166,930
Construction	$ 27,007,833
Retail trade	$ 20,375,738
Wholesale trade	$ 13,670,468
Financial Services	$ 12,680,301
Real estate	$ 8,971,848
Insurance	$ 8,679,622
Eating and drinking places	$ 7,889,591
Communications	$ 6,533,128
Printing and publishing	$ 5,087,872
Hotels, amusement and recreation services	$ 4,410,606
Electric, gas, and sanitary services	$ 4,228,238
Personal services	$ 2,964,547
Industrial machinery and equipment	$ 1,955,979
Farm products and agricultural, forestry, and fishing services	$ 1,696,508
Food and kindred products and tobacco products	$ 1,658,350
Fabricated metal products	$ 1,518,648
Rubber, plastic products and leather products	$ 1,322,514
Chemicals, petroleum and coal products	$ 1,067,924
Paper and allied products	$ 884,601
Electronic and other electric equipment	$ 871,048
Motor vehicles and equipment	$ 833,057
Stone, clay, and glass products	$ 807,459
Lumber and wood products and furniture and fixtures	$ 802,567
Primary metal industries	$ 344,276
Instruments and related products	$ 271,072
Miscellaneous manufacturing industries	$ 197,184
Apparel and other textile products	$ 91,201
Oil and gas extraction	$ 56,265
Metal mining and nonmetallic minerals, except fuels	$ 49,190
Other transportation equipment	$ 7,075

Table 5. Rickenbacker Impact on Columbus Employment by Industry, 2000

Industry	Impact on Employment
Transportation	6,487
Business services	2,664
Miscellaneous services	2,250
Retail trade	1,216
Construction	834
Real estate	782
Health services	766
Eating and drinking places	730
Financial Services	378
Wholesale trade	337
Hotels, amusement and recreation services	294
Insurance	246
Personal services	206
Printing and publishing	147
Communications	123
Farm products and agricultural, forestry, and fishing services	112
Electric, gas, and sanitary services	78
Industrial machinery and equipment	49
Food and kindred products and tobacco products	44
Fabricated metal products	40
Rubber, plastic products and leather products	37
Lumber and wood products and furniture and fixtures	31
Paper and allied products	22
Stone, clay, and glass products	21
Electronic and other electric equipment	21
Chemicals, petroleum and coal products	18
Motor vehicles and equipment	17
Miscellaneous manufacturing industries	9
Primary metal industries	6
Instruments and related products	6
Apparel and other textile products	4
Oil and gas extraction	3
Metal mining and nonmetallic minerals, except fuels	2
Other transportation equipment	1
Textile mill products	1

Economic Impact of Rickenbacker International Airport

The airport itself includes those businesses listed in Table 6. The economic impact of the non-military component of the airport was $275 million in output for the Columbus region in 1998, growing to $282 million in 2000 (Table 7). Airport businesses directly employed 1,355 people in 1998, generating a total impact on regional employment of 3,017 jobs. Direct employment at airport businesses grew to 1,436 in 2000 and the total impact on regional employment in 2000 was 3,158 jobs.

Impacts of the military sector are listed in Table 8. Direct employment by the Ohio Air National Guard, Army National Guard, and Naval Reserve stationed at Rickenbacker remained constant at 1,449 people from 1998 to 2000. This activity generated a total annual impact on the Columbus economy of $529 million in business output, $139 million in household earnings, and 4,506 jobs.

Table 6. Rickenbacker International Airport

AGI Logistics (USAirports)	Lane Aviation
Air Now	Newark Parcel Service
Air Tahoma	PBB
Airborne Logistics	Polar Airlines
Alliance Airlines	Rickenbacker Aviation
Aviation Technologies	Rickenbacker Fire Station
Corporate Wings	Rickenbacker Port Authority
Eagle Global Logistics	Ricker Express
Evergreen International Airlines	Schenker Internatioanal
Expeditors International	Serco Air Traffic Control
F.S. Cargo	Snow Aviation
Federal Express	Southern Air
Forward Air	Steinmetz Transfer
Fritz Companies	U.S. Customs Columbus Office
Geologistics	United Parcel Service
Hellmann Global Logistics	USF Logistics
Kintetsu World Express	World Harvest Church

Table 7. Economic Impact of Rickenbacker Airport (Non-Military) on Columbus MSA

	Direct Employment	Impact on Output	Impact on Earnings	Impact on Employment
1998	1,355	$ 275,238,183	$ 80,087,407	3,017
1999	1,337	$ 262,276,832	$ 77,067,875	2,936
2000	1,436	$ 282,009,903	$ 82,720,962	3,158

Table 8. Economic Impact of Rickenbacker Military Component on Columbus MSA

	Direct Employment	Impact on Output	Impact on Earnings	Impact on Employment
1998	1,449	$ 529,753,769	$ 139,134,457	4,506
1999	1,449	$ 529,753,769	$ 139,134,457	4,506
2000	1,449	$ 529,753,769	$ 139,134,457	4,506

Economic Impact of New Air Cargo Hub

The 1997 report included an analysis of the impact of a new air cargo hub facility at Rickenbacker. Construction of this facility is to begin in 2002 and will be completed in 2003. Because no changes have been made in the assumptions regarding the construction and operation of this facility other than the years in which these activities are expected to take place, there is no reason to change the estimated impacts of this facility as described in the previous study. In this analysis, the estimated impacts from the previous study are inflated from 1997 dollars to 2000 dollars and moved back by one year.

Impact estimates for the new air cargo hub are presented in Table 9. Each year of construction activity will generate a total impact on regional output of $196 million. Production of this output will create $$46 million in new household earnings, supporting an additional 1,641 jobs.

A full year of operations in 2004 will create 1,475 direct jobs. This level of direct employment will result in a total impact on Columbus regional output of $426 million, generating $94 million in household earnings and creating 3,376 jobs. It is assumed that the level of direct employment, and consequently the total economic impacts from operations, will remain constant through 2006. Note that these impacts are included in the impact of Rickenbacker Airport (non-military) in Table 7 and in all other impact estimates for 2001-2006.

Table 9. The Economic Impact of a New Air Cargo Hub at Rickenbacker

		Output		Earnings	Employment
2002 (Construction)	$	195,648,857	$	45,763,221	1,641
2003 (Construction)	$	195,648,857	$	45,763,221	1,641
2004 (Operation)	$	426,167,863	$	93,821,622	3,376

Economic Impact of Foreign-Trade Zone 138

Businesses located in Foreign-Trade Zone No.138 directly employed 3,481 people in 1998, 3,770 in 1999 and 4,356 in the year 2000 (Table 10). These businesses generated a total impact on Columbus regional output of $770 million in 1997, growing to $832 million in 1998 and $951 million in 2000. This economic activity supported a total of more than 8,000 jobs in 1997 up to nearly 10,500 jobs in the Columbus region in the year 2000. The 48 businesses located in Foreign-Trade Zone Number 138 are listed in Table 11. It is assumed in this impact estimation that these businesses would not have located in the Columbus metropolitan area if not for the existence of Foreign-Trade Zone No.138.

Table 10. Economic Impact of Foreign-Trade Zone No.138 on Columbus

	Direct Employment		Impact on Output		Impact on Earnings	Impact on Employment
1998	3,481	$	769,835,939	$	203,949,166	8,373
1999	3,770	$	832,483,552	$	220,890,488	9,059
2000	4,356	$	951,498,053	$	253,884,655	10,412

Table 11. Foreign-Trade Zone No. 138

American Health Packaging/Amerisource	Marriott Food Distribution
Autover, Inc.	Medline
Berger Health Systems	Micro Industries
Cardinal Health	Middleton Dolls, Inc.
CBS Personnel Services	Ohio Distribution Warehouse
Circuit City	P & R Machine Tool
Cole Optical	Paige Electric
Columbus Industries	Petsmart
Commodity Logistics	Pinnacle Data Systems
Decision One	Polo Retail
Dorcy International	Quantum Logistics
Essilor Optical	Satis Vaccum
Exel Logistics	Seagate Technology, Inc.
Gentry Company	Showe Management Co.
Great American Fun	Siemens
Hy-Tek	Specialized
Impex Logistics	Spiegel/Eddie Bauer (DFS)
Kern International	Stephan Machinery
Kraft Foods	Sun TV
Kroger Company	Sunworthy Wallcoverings
Kubota Tractor	Techneglas, Inc.
Laura Ashley Distribution Center	Timken
Lucent Technologies	Whirlpool
Malt-O-Meal	Xerox Corp. Distribution Center

Economic Impact of Capital Investment

Capital investment includes business activity related to construction and demolition, airfield electronics, utilities, regional infrastructure, buildings, and equipment. Table 12 lists total investment for 1997-2000, and anticipated investment through 2006. Of the total amount spent on investment, about 60-65 percent is assumed to have a local impact. That is, only a part of the total investment dollars are spent towards hiring Columbus area firms or purchasing equipment and other goods and services produced in Greater Columbus. Machinery and equipment purchased from vendors outside Greater Columbus has no local impact because that money has immediately left the Columbus region.

Between 1997 and 2000 a total of $203 million was spent on capital investment at Rickenbacker. Of this, about $130 million had a direct local impact. This local investment generated a total estimated impact of $281 million in regional output, supporting over 3000 jobs and contributing $83 million to household income in Greater Columbus. Impacts from investment activity are non-recurring and are assumed to take place during the year that the activity takes place. These investment figures do not include construction of the International Facility or Air Cargo Hub, which are reported separately.

Table 12. Economic Impact of Rickenbacker Capital Investment on Columbus

	Total Investment	Local Investment	Impact on Output	Impact on Earnings	Impact on Employment
1997	$ 50,568,714	$ 32,363,977	$ 69,825,118	$ 20,631,469	729
1998	$ 38,401,600	$ 24,577,024	$ 53,024,806	$ 15,667,423	562
1999	$ 72,996,349	$ 46,717,663	$ 100,793,125	$ 29,781,693	1,092
2000	$ 41,161,721	$ 26,343,501	$ 56,835,973	$ 16,793,521	635
2001	$ 133,712,000	$ 85,575,680	$ 112,344,389	$ 33,194,785	2,115
2002	$ 218,188,000	$139,640,320	$ 301,273,292	$ 89,018,260	3,537
2003	$ 64,144,500	$ 41,052,480	$ 86,261,626	$ 25,525,611	1,020
2004	$ 58,903,000	$ 37,697,920	$ 79,212,849	$ 24,031,764	966
2005	$ 73,659,000	$ 47,141,760	$ 99,056,741	$ 29,311,804	1,171
2006	$ 122,791,000	$ 78,586,240	$ 169,549,420	$ 50,097,353	2,036

Economic Impact of International Facility

This section estimates the economic impact of a proposed international passenger facility. The international facility will include passenger and cargo terminals, airplane hangars, a hotel and conference center, a restaurant, and corporate business center. Impacts of the international facility are based on both construction of the facility and on annual operations (Table 13).

Construction of the facility will begin in 2001 and will proceed in three phases, with the second phase beginning in 2003 and the third phase in 2005. Economic impacts of the three phases will total $171 million in regional output, generating $51 million in additional output for Columbus households and supporting over 1600 jobs. Impacts from construction are non-recurring, affecting output, earnings, and employment only in the years during which construction takes place.

The facility will begin operating in 2002. Annual impacts from operations are based on direct employment at the facility and are an estimated $83.5 million in total business output in 2002, rising to $118 million in 2006. Total impacts on Columbus employment rise from 913 in 2002 to over 1300 by 2006.

Table 13. Economic Impact of International Facilities on Columbus

	Direct Employment	Impact on Output	Impact on Earnings	Impact on Employment
Construction				
2001	-	$ 102,897,650	$ 30,806,390	970
2003	-	$ 49,945,530	$ 14,793,090	472
2005	-	$ 17,814,270	$ 5,276,310	167
Operations				
2002	403	$ 83,572,280	$ 23,275,655	913
2003	403	$ 83,572,280	$ 23,275,655	913
2004	553	$ 114,467,479	$ 33,265,219	1,268
2005	553	$ 114,467,479	$ 33,265,219	1,268
2006	568	$ 118,006,522	$ 34,243,788	1,304

Economic Impact Summary

The total impact on Columbus regional output from 1998 to 2006 of construction and operations at Rickenbacker Airport (including the cargo hub), Foreign-Trade Zone No. 138, and the international facility are given in Table 14. Total impacts on Columbus business sales grow from $1.6 billion in 1998 to an estimated $2.6 billion in 2006. About half of this total impact comes from the operation of businesses in Foreign-Trade Zone No. 138, with the next largest component being the airport, including military operations.

Table 14. Summary of Annual impacts of Rickenbacker on Columbus Economic Output

	Airport	FTZ no. 138	International Facility	Investment	Total
1998	$ 804,991,951	$ 769,835,939	$ -	$ 53,024,806	$ 1,627,852,697
1999	$ 792,030,601	$ 832,483,552	$ -	$ 100,793,125	$ 1,725,307,278
2000	$ 811,763,672	$ 951,498,053	$ -	$ 56,835,973	$ 1,820,097,697
2001	$ 833,363,339	$ 963,222,178	$ 102,897,650	$ 187,051,321	$ 2,086,534,489
2002	$ 1,042,095,460	$ 973,843,318	$ 83,572,280	$ 301,273,292	$ 2,400,784,351
2003	$ 1,055,412,724	$ 984,608,921	$ 133,517,810	$ 86,261,626	$ 2,259,801,081
2004	$ 1,299,582,878	$ 995,521,934	$ 114,467,479	$ 79,212,849	$ 2,490,905,364
2005	$ 1,313,481,484	$ 1,006,585,396	$ 114,467,479	$ 99,056,741	$ 2,522,020,263
2006	$ 1,327,733,614	$ 1,017,802,436	$ 118,006,522	$ 169,549,420	$ 2,633,091,992

Economic Impact of Area Development

The economic impact of non-RPA Rickenbacker area development (Table 15) refers to the impact that is generated from developed land in the immediate vicinity of the airport. This land has been developed for industrial uses. The Rickenbacker area is defined as an area bordered by I-270 to the north, Lockbourne Road to the west, Rickenbacker International Airport (LCK) to the south, and State Route 317/Little Walnut Creek to the east.

Currently, six industrial parks are located near Rickenbacker: Creekside Industrial center, Groveport Commerce Center, Greenpointe Business Center, Greenpointe II, Obetz Industrial Park, and Obetz Industrial Center Park. Businesses at these parks directly employed 2,219 people in 1998, rising to over 4,000 employees in the year 2000. This direct employment is forecast to increase to nearly 5,000 by the year 2006.

Total impacts of non-RPA development were $556 million in regional output in1998, riding to $988 million by 2000. This activity generated an additional $149 million in earnings for Columbus area households in 1998, supporting 5,612 new jobs. In 2000, additional household earnings topped $266 million and the total impact on regional employment was over 10,000 jobs. By 2006, activity at nearby industrial parks is predicted to directly employ nearly 5,000 people, generating an additional $1.2 billion in business output in the Columbus region, adding $321 million to Greater Columbus household earnings and supporting over 12,000 jobs.

Because these business operations are not directly controlled by Rickenbacker Port Authority, they are not included in the estimated impacts of the airport. However, the presence of the airport was almost certainly a significant factor in the decision to develop this land and for those businesses to locate in Franklin County.

Table 15. Economic Impact of Non-RPA Rickenbacker Area Development

	Direct Employment		Impact on Output		Impact on Earnings	Impact on Employment
1998	2,219	$	556,013,220	$	149,405,969	5,612
1999	2,467	$	611,299,026	$	164,476,508	6,209
2000	4,055	$	988,133,281	$	266,417,070	10,123
2001	4,452	$	1,083,338,510	$	292,263,279	11,103
2002	4,541	$	1,103,218,317	$	297,772,220	11,315
2003	4,632	$	1,123,427,718	$	303,378,220	11,530
2004	4,724	$	1,143,973,126	$	309,083,725	11,750
2005	4,819	$	1,164,856,537	$	314,889,268	11,974
2006	4,915	$	1,186,084,753	$	320,797,435	12,202

Total Impact Summary

Table 16 summarizes the economic impact of all activity at Rickenbacker Airport plus the economic impacts of nearby industrial development on Greater Columbus. In 2000, the total impact of all Rickenbacker related entities on business output for the Columbus region was $2.8 billion. This impact is expected to grow to $3.8 billion in 2006.

Table 16. Summary of the Annual Economic Impacts of Rickenbacker and Related Entities on the Columbus Region

	Rickenbacker Airport, International Airport, and FTZ No. 138	Non-RPA Rickenbacker Area Industrial Development	Total Annual Impacts of Rickenbacker and Related Entities
1998	$ 1,627,852,697	$ 556,013,220	$ 2,183,865,917
1999	$ 1,725,307,278	$ 611,299,026	$ 2,336,606,305
2000	$ 1,821,342,283	$ 988,133,281	$ 2,809,475,563
2001	$ 2,086,534,489	$ 1,083,338,510	$ 3,169,872,999
2002	$ 2,400,784,351	$ 1,103,218,317	$ 3,504,002,668
2003	$ 2,259,801,081	$ 1,123,427,718	$ 3,383,228,798
2004	$ 2,520,737,115	$ 1,143,973,126	$ 3,664,710,241
2005	$ 2,522,020,263	$ 1,164,856,537	$ 3,686,876,799
2006	$ 2,633,091,992	$ 1,186,084,753	$ 3,819,176,745

The Economic Impact of Rickenbacker on Ohio

Table 17 lists the impacts of Rickenbacker on the economy of the state of Ohio from 1997 to 2000. These impacts include output, earnings, and employment impact estimates for the Columbus area. Additional impacts occur at the state level because the initial inflow of money circulating through the state economy does not "leak out" as quickly as it does from the metropolitan area economy. Therefore, multiplier effects at the state level will be slightly higher. Most of the state level impact does occur in the Columbus metropolitan area.

Table 17. Summary of the Economic Impacts of Rickenbacker Airport and Foreign-Trade Zone 138 on Ohio

	1998	1999	2000
State Output	$ 1,729,472,647	$ 1,833,286,707	$ 1,925,479,462
Household Earnings	$ 469,143,557	$ 499,721,288	$ 524,913,247
Employment	17,201	18,348	19,434

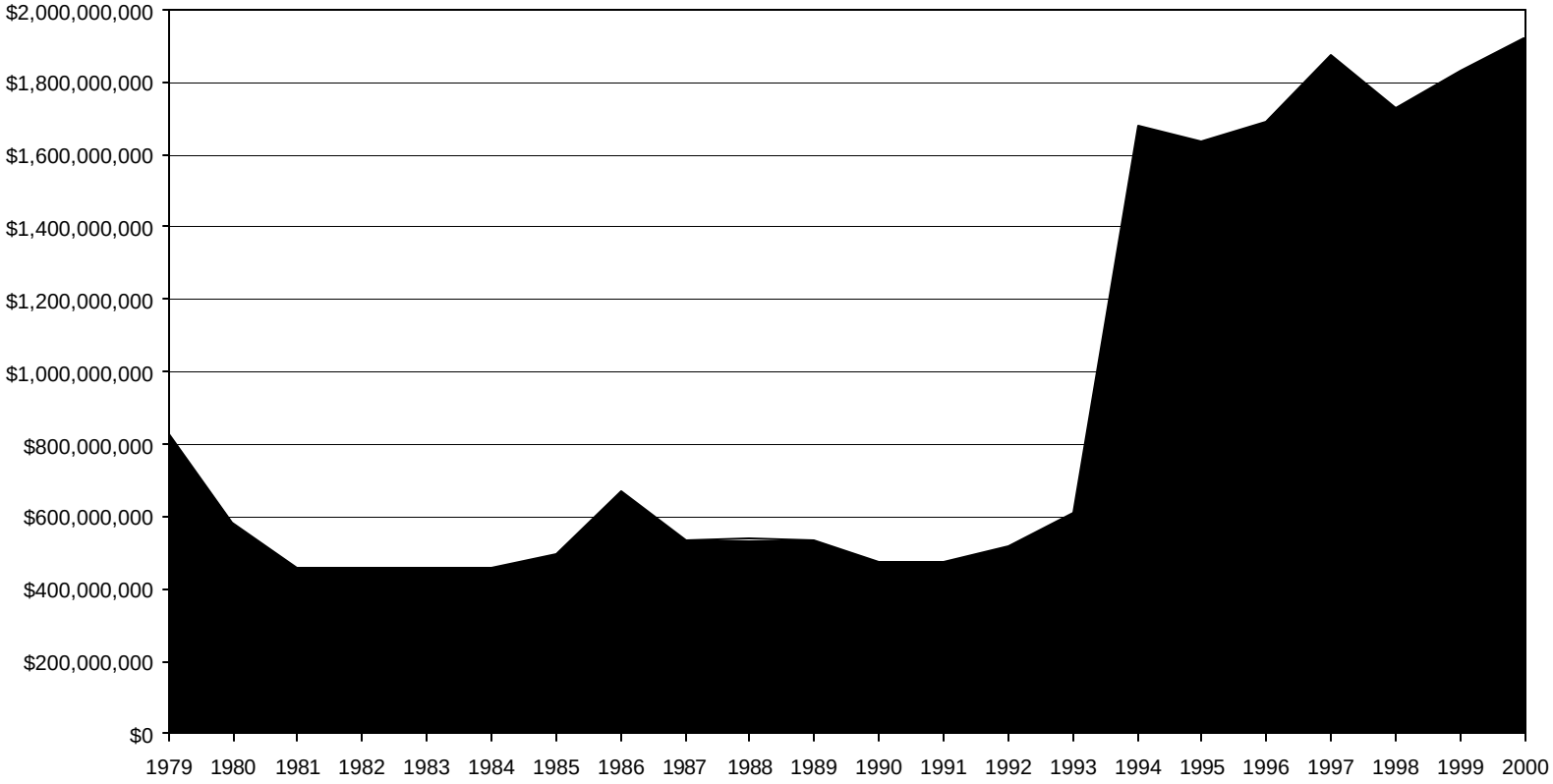
Table 18 lists the total impacts of Rickenbacker on state output, earnings, and employment from 1979 to 2006. Impacts from 1979 to 1997 come from the 1997 study. Impacts to 2006 are based on expected growth in employment and on anticipated capital investment. By 2006, Rickenbacker is expected to contribute nearly $2.8 billion to the economy of Ohio, adding $745 million to household earnings in the state and supporting over 27,000 jobs.

The decline in the total impact on output between 1997 and 1998 is a result of a reduction in direct employment at the site. The decline in total impact from 2002 to 2003 results from lower planned investment in the later year.

Table 18. Total Impact of Rickenbacker Airport, FTZ 138, and International Facility on Ohio, 1998-2006

	Impact on Output	Impact on Earnings	Impact on Employment
1979	$ 827,401,256	$ 238,410,893	9,289
1980	$ 580,303,893	$ 167,317,595	6,517
1981	$ 459,378,946	$ 132,483,823	5,159
1982	$ 456,580,298	$ 133,303,109	5,130
1983	$ 456,580,298	$ 136,257,913	5,130
1984	$ 456,580,298	$ 136,775,427	5,130
1985	$ 497,860,366	$ 148,283,217	5,559
1986	$ 670,560,316	$ 200,369,522	7,413
1987	$ 535,525,514	$ 162,226,981	6,016
1988	$ 537,041,449	$ 163,348,242	6,031
1989	$ 531,560,762	$ 157,890,507	5,963
1990	$ 475,821,007	$ 139,961,478	5,338
1991	$ 476,287,449	$ 140,377,279	5,343
1992	$ 516,518,025	$ 155,918,768	5,789
1993	$ 610,039,536	$ 179,282,167	6,734
1994	$ 1,681,389,673	$ 497,234,465	18,526
1995	$ 1,633,858,310	$ 487,610,724	18,228
1996	$ 1,690,693,223	$ 504,775,427	18,888
1997	$ 1,872,612,690	$ 588,978,540	21,547
1998	$ 1,729,472,647	$ 469,143,557	17,201
1999	$ 1,833,286,707	$ 499,721,288	18,348
2000	$ 1,925,479,462	$ 524,913,247	19,434
2001	$ 2,219,104,601	$ 611,075,387	22,223
2002	$ 2,559,243,362	$ 697,271,842	25,277
2003	$ 2,400,284,480	$ 650,458,831	23,875
2004	$ 2,638,195,257	$ 700,483,645	25,773
2005	$ 2,708,037,981	$ 720,781,450	26,446
2006	$ 2,794,503,183	$ 745,690,598	27,256

Figure 2. Economic Impact of Rickenbacker Airport and Foreign-Trade Zone on Ohio
1979 - 2000



Economic Impact on Franklin County

Rickenbacker International Airport is located in Franklin and Pickaway Counties. Most of the operating facilities and all of the businesses in Foreign-Trade Zone No. 138 lie within Franklin County. Therefore, all of the direct impact of the airport and trade zone occurs in Franklin County.

The total impact of Rickenbacker on the Franklin County economy was an estimated $1.45 billion in total output in 1998, with an additional $328 million in earnings for Franklin County households and nearly 13,000 jobs (Table 19). This impact is expected to grow to $2.3 billion in output for the county by 2006, adding over $541 million to household income and supporting over 20,000 jobs.

These impacts represent about 89 to 94 percent of total impacts on output for the Columbus metropolitan area. Because more than 80 percent of total employment in the Columbus region is located in Franklin County, it is reasonable to expect that most of the total impact of the airport would occur in Franklin County.

Table 19. Economic Impact of Rickenbacker Airport, FTZ 138, and International Facility on Franklin County

	County Output	County Household Earnings	County Employment
1998	$ 1,451,870,663	$ 328,250,679	12,898
1999	$ 1,570,617,562	$ 356,637,485	13,734
2000	$ 1,709,075,674	$ 388,212,342	14,657
2001	$ 1,881,316,791	$ 431,271,156	15,917
2002	$ 2,158,304,039	$ 488,243,110	17,778
2003	$ 2,037,365,105	$ 458,968,289	16,896
2004	$ 2,182,233,739	$ 510,617,987	19,090
2005	$ 2,238,915,306	$ 524,293,097	19,552
2006	$ 2,308,926,135	$ 541,067,871	20,109

Economic Impact on Pickaway County

Part of the Rickenbacker Airport property lies in Pickaway County, however, none of the airport operations are within this jurisdiction. Therefore, in this estimation only indirect impacts are expected to occur in Pickaway County.

About 2 percent of total employment in the Columbus region is in Pickaway County. Therefore, about this same percentage of the total economic impact could be expected to occur in Pickaway County. However, because of the close proximity of the airport to Pickaway County it might be expected that somewhat more of the indirect impact will occur in this county, because airport businesses and employees are likely to make purchases from nearby vendors. Therefore, in this estimation it is assumed that 4 percent of the total economic impact of Rickenbacker Airport is attributed to Pickaway County. This figure represents about the same proportion of activity attributed to Pickaway County as in the 1999 report.

In 1998, Rickenbacker had an estimated impact on the Pickaway County economy of over $65 million in business output (Table 20). Production of this output contributed $17.5 million in earnings to local households and supported 659 jobs in the county. By 2006, the estimated impact is expected to be more than $105 million in county output, adding over $28 million to earnings for local households and maintaining a total of 1,058 jobs.

Table 20. Economic Impact of Rickenbacker Airport, FTZ 138, and International Facility on Pickaway County

	County Output	County Household Earnings	County Employment
1998	$ 65,114,108	$ 17,553,538	658
1999	$ 69,012,291	$ 18,674,981	704
2000	$ 72,853,691	$ 19,701,344	748
2001	$ 83,461,380	$ 22,835,651	863
2002	$ 96,031,374	$ 25,975,033	990
2003	$ 90,392,043	$ 24,296,992	919
2004	$ 99,551,406	$ 26,243,051	992
2005	$ 102,056,215	$ 26,945,691	1,018
2006	$ 105,323,680	$ 27,891,583	1,058

Fiscal Impacts on the Columbus Region

Economic activity generated by Rickenbacker Airport will increase tax revenues for jurisdictions in the Columbus area. Increases in business sales will generate sales tax revenue for county governments, while impacts on household earnings will increase earnings taxes for many local jurisdictions.

Table 21 shows estimated payroll tax revenues for all local jurisdictions in the Columbus area[4]. In 1998 estimated payroll tax revenues include over $4 million in revenue received from those persons directly employed at Rickenbacker, and $3.2 million in earnings taxes from workers employed through indirect impacts, for a total of $7.3 million in payroll taxes. These tax revenues are expected to increase to a total of nearly $12 million by 2006[5].

Table 21. Annual Payroll Tax Revenues in Columbus Region

	Taxes from Direct Employment	Taxes from Indirect Employment	Total Payroll Tax Revenue
1998	$ 4,137,889	$ 3,200,444	$ 7,338,333
1999	$ 4,579,922	$ 3,252,149	$ 7,832,071
2000	$ 5,252,687	$ 3,068,870	$ 8,321,557
2001	$ 5,491,031	$ 4,070,655	$ 9,561,686
2002	$ 5,712,526	$ 5,088,880	$ 10,801,406
2003	$ 5,943,352	$ 4,244,375	$ 10,187,727
2004	$ 7,395,606	$ 3,744,991	$ 11,140,597
2005	$ 7,676,982	$ 3,773,587	$ 11,450,568
2006	$ 7,970,127	$ 3,885,715	$ 11,855,842

[4] Fiscal impacts do not include potential state tax revenues.
[5] For an explanation of tax revenue estimates and their distribution among Columbus area counties, see Appendix B.

Table 22 shows estimated payroll taxes for each of the six counties in the Columbus region. Because all of the direct employment and most of the indirect employment impact falls in Franklin County, jurisdictions in this county receive most of the anticipated payroll tax revenue.

Table 22. Payroll Tax Revenues by County

	1998	1999	2000	2003	2006
Delaware	$ 313,850	$ 320,053	$ 304,826	$ 417,598	$ 389,946
Fairfield	$ 463,013	$ 505,502	$ 563,873	$ 656,566	$ 837,066
Franklin	$ 6,149,133	$ 6,561,696	$ 6,969,037	$ 8,535,361	$ 9,925,427
Licking	$ 105,771	$ 109,047	$ 106,792	$ 142,176	$ 140,730
Madison	$ 33,523	$ 35,507	$ 37,086	$ 46,210	$ 52,031
Pickaway	$ 273,044	$ 300,266	$ 339,942	$ 389,816	$ 510,642
Total	$ 7,338,333	$ 7,832,071	$ 8,321,557	$ 10,187,727	$ 11,855,842

Table 23 shows estimated sales taxes for all counties. A total of over $2.9 million in sales taxes in 1998 is expected to grow to $5.8 million in 2006. Again, most of the sales tax impact will affect Franklin County because most business sales in the Columbus area occur in this county.

Table 23. Impact on Sales Tax Revenues by County

	1998	1999	2000	2003	2006
Delaware	$ 251,694	$ 274,403	$ 298,201	$ 486,176	$ 537,507
Fairfield	$ 120,813	$ 131,713	$ 143,136	$ 233,364	$ 258,003
Franklin	$ 2,215,566	$ 2,365,126	$ 2,618,514	$ 3,151,552	$ 4,041,945
Licking	$ 241,626	$ 263,427	$ 286,273	$ 466,729	$ 516,006
Madison	$ 75,508	$ 82,321	$ 89,460	$ 145,853	$ 161,252
Pickaway	$ 150,773	$ 161,580	$ 178,275	$ 228,566	$ 283,678
Total	$ 3,055,980	$ 3,278,570	$ 3,613,858	$ 4,712,239	$ 5,798,391

Fiscal Impacts on Franklin County

In addition to earnings and sales taxes, Franklin County will receive additional property tax revenues[6]. Combined with estimated county sales and earnings taxes, about $3.5 million in additional property taxes[7] result in a total fiscal impact in 1998 of over $11.8 million for taxing jurisdictions in Franklin County (Table 24). This fiscal impact is expected to grow to over $20 million in 2006.

Table 24. Rickenbacker Fiscal Impacts on All Jurisdictions in Franklin County

	Income Tax	Sales Tax	Personal Property Tax	Real Property Tax	Total
1998	$ 6,149,133	$ 2,215,566	$ 2,113,255	$ 1,339,914	$ 11,819,866
1999	$ 6,561,696	$ 2,365,126	$ 2,287,446	$ 1,591,884	$ 12,808,151
2000	$ 6,969,037	$ 2,618,514	$ 2,653,779	$ 2,527,399	$ 14,770,729
2001	$ 8,011,478	$ 2,852,770	$ 2,647,996	$ 2,780,407	$ 16,294,652
2002	$ 9,053,694	$ 3,303,351	$ 2,692,530	$ 2,827,167	$ 17,878,744
2003	$ 8,535,361	$ 3,151,552	$ 2,737,752	$ 2,874,651	$ 17,301,319
2004	$ 9,327,308	$ 3,689,209	$ 3,269,774	$ 3,114,058	$ 19,402,353
2005	$ 9,586,289	$ 3,795,498	$ 3,319,340	$ 3,161,264	$ 19,864,396
2006	$ 9,925,427	$ 4,041,945	$ 3,369,990	$ 3,209,502	$ 20,548,870

Over the 1979 to 2000 period, the income, sales, and property tax revenues directly and indirectly generated for all agencies, municipalities, and schools within Franklin County totaled $118 million[8]. Franklin County itself received about $20 million of this total. Over the 2001 to 2006 period, Rickenbacker will generate another $111 million in tax revenue for all Franklin County entities, including $14 million in County revenues.

Franklin County invested $8 million in Rickenbacker in 2000. Total investment at the airport in 2000 was $41 million. For every dollar invested in 2000, $42 in County output was generated, including $9.50 in direct county wages. Each County dollar invested generated $1.85 in local taxes.

[6] Because of positive economic impacts in other counties, these counties will also see increased property tax revenues, however, in this report only property tax revenue for Franklin County has been estimated.

[7] Because higher earnings will also result in increased investment in residential property, the county will see an increase in residential property taxes. However, as in the previous report, this estimate includes only property taxes received from businesses.

[8] This total includes estimates from the previous study.

Fiscal Impacts on Pickaway County

Estimates of new tax revenue for Pickaway County are based on the economic impacts of Rickenbacker on this county. Including income and sales tax revenues, jurisdictions in Pickaway received an additional estimated $425,815 due to Rickenbacker International Airport (Table 25). This fiscal impact is expected to increase to a total of nearly $800,000 in sales and earnings taxes by 2006.

Table 25. Fiscal Impacts of on Pickaway County

	Income Tax	Sales Tax	Total
1998	$ 273,044	$ 150,773	$ 425,815
1999	$ 300,266	$ 161,580	$ 463,845
2000	$ 339,942	$ 178,275	$ 520,217
2001	$ 361,150	$ 206,243	$ 569,394
2002	$ 381,443	$ 245,365	$ 628,810
2003	$ 389,816	$ 228,566	$ 620,385
2004	$ 474,767	$ 258,708	$ 735,479
2005	$ 492,066	$ 266,923	$ 760,994
2006	$ 510,642	$ 286,830	$ 799,478

APPENDIX A

The RIMS II product generates estimates of total output, earnings, and employment. These estimates are typically based on the level of total new spending within a region. In this report, estimates are based on levels of employment, using relationships among multiplier estimates in the RIMS II system as described below.

An Alternative to the Standard Protocol

RIMS II provides final demand output multipliers, final demand earnings multipliers, and final demand employment multipliers; the model also furnishes direct effect multipliers for household earnings and employment. By deriving a series of relationships among the multipliers, the user is then able to use firm direct jobs data in order to fully simulate the RIMS II model. These derivations are founded on the definitions of the various multipliers.

Prior to use, the RIMS II 38 by 471 matrices must be exported to a spreadsheet program and transposed to a 471 by 38 matrix. Continuing with the output example, the appropriate row industry output multipliers are multiplied by the change in final demand to estimate the detailed industry impacts. Summing the industry impacts yields the total output impact within a particular region. Often the approach is complicated in assessing the final demand change since the change in final demand must be delivered outside the region.

Working with direct employment data allows the analysis to rest on a more solid foundation. Because RIMS II supplies the direct effect employment multiplier, the change in employment may be multiplied by the direct effect employment multiplier to find the total employment impact. But RIMS II supplies the final demand employment multiplier as well. Each entry in the final demand employment matrix represents the change in employment (jobs) that occurs in the row industry for each additional million dollars of output delivered to final demand by the column industry.

Knowing the definitions of the final demand output multiplier permits the user to derive a relationship between total employment, the final demand employment multiplier, and ultimately to determine the change in final demand. Once the final demand change is found, the model may be used in the traditional way. The algebraic derivation and a simple example follow.

Illustration

Given:

Final demand output multiplier = $FDQK_i$,
where i is the particular industry
Final demand employment multiplier = $FDNK_i$
where i is the particular industry
Direct effect employment multiplier = $DENK_i$,
where i is the particular industry
Total employment = TN_i
where i represents the industry
Change in employment = CN_i
where i represent the industry and C represents the difference sign
FD = final demand

Model:

$(DENK_i \times CN_i) = CTN_i$
$(FDNK_i \times CFD) = CTN_I$

Therefore

$(FDNK_i \times FD) = (DENK_i \times CN_i)$

But

$(DENK_i \times CN_i) - CTN_I$

Therefore

$CFD = [CTN_i\ (DENK_i \times CN_i) \times 1{,}000{,}000] / FDNK_i$

Example:

Given:

In the construction industry in the Columbus MSA:
$FDQK_i$ where i = construction industry is 2.0952
$FDNK_i$ where i = construction industry is 26.045
$DENK_i$ where i = construction industry is 2.3827

Let

CN_i = 100 in the ith industry or the construction industry (i.e. 100 additional jobs)

Then

$CTN_i = (100 \times DENK_i) = (100 \times 2.3827)$
$= 238.27$

As derived above:

$CFD = [CTN_i\ (DENK_i \times CN_i) \times 1{,}000{,}000] / FDNK_i$

$CFD = [(238.27) \times 1{,}000{,}000] / 26.045 = \$9{,}148{,}397$

We know by definition that CTN_i = (CN x $DENK_i$)
=238.27

We know by definition that CTN_i = CFD x $FDNK_i$
Substituting,

CFD ($9,148,397) or
9.148397 in millions x 26.045
Must equal (CN_i x $DENK_i$) or 238.27

APPENDIX B. Tax Estimates

Earnings Tax

Earnings taxes are based on estimated direct and indirect earnings times an average tax rate.
Direct earnings equal the number of direct employees times the average payroll per employee in the relevant industry sector in Franklin County. Forecasts for 2001-2006 use a 2.5% annual growth in wages.
Direct earnings are distributed among counties as follows:

> 16% of employees live in jurisdictions with no earnings tax. They will pay the tax to the jurisdiction in which they work (Columbus or Groveport) so this amount of direct earnings is applied to Franklin County taxable earnings.
>
> It is assumed that the remaining employees pay earnings tax to the jurisdiction in which they live. Of the remaining 84% of employees, 72% live in Franklin County, so an additional 0.72*0.84 = 60% of direct earnings are applied to Franklin County. The remaining direct earnings are distributed among counties by the county of residence of Rickenbacker employees that live in jurisdictions with an earnings tax.

Distribution of All Rickenbacker Employees By County of Residence (RPA Sample)	
Delaware	0.31%
Fairfield	13.42%
Franklin	62.57%
Licking	1.94%
Madison	0.82%
Pickaway	11.79%
Other	9.15%

County Distribution of Rickenbacker Employees Residing in Jurisdiction with Local Earnings Tax	
Delaware	0.37%
Fairfield	12.91%
Franklin	71.87%
Licking	0.67%
Madison	0.82%
Pickaway	8.88%
Other	4.48%

These direct earnings are assigned a county earnings tax rate as follows:

> 16% of direct earnings are assigned to Franklin County and the tax rate of 2% (Columbus and Groveport rates) is applied.
>
> The remaining direct earnings in each county are assigned a county average earnings tax rate. Local earnings tax rates are weighted by relative earnings tax collections in the jurisdiction versus all other taxing jurisdictions in the county (1999 data).

Indirect earnings for the region equal the total impact on earnings minus the estimated direct earnings. Indirect earnings tax revenue equals indirect earnings times an average tax rate for the entire six-county region. Local earnings tax rates are weighted by the percent of total income in the jurisdiction versus total income for the region (1990 data). This method allows for indirect earnings to occur in local jurisdictions with no earnings tax. Indirect earnings taxes are distributed among counties by total earnings tax collections in each county as a percent of total taxes collected in the six-county region (1999 data). This method differs from the original study in that the earlier study assumed that all income (direct and indirect) was earned and/or all employees resided in a jurisdiction with a tax rate of 2%.

Sales taxes are estimated using the same methodology as the earlier study. A per employee level of taxable sales in the Columbus region is calculated. For the years 2001-2006, a two-year moving average and 2% growth in taxable sales per employee is assumed. Total taxable sales in each county equals this per employee figure times the impact on employment in the county. For Franklin and Pickaway counties, the estimated impact on employment is given. For the remaining counties, the impact on employment equals the total impact on employment in the region minus the estimated impact on Franklin and Pickaway County employment, distributed according to the relative percent of Columbus region employment among these four counties (1999 data). Estimated sales tax revenue equals estimated taxable sales times the county sales tax rate.

Property taxes are estimated for Franklin County only. Total property taxes are equal to those reported by RPA for airport and FTZ 138 firms in 1998-2000. These taxes are used to estimate a per employee property tax rate (real and personal) This rate is applied to both estimated employment for non-RPA Rickenbacker area development and to direct employment at Rickenbacker to compute the total property tax impact.