

ECONOMIC CONTRIBUTION OF KENTUCKY AIRPORTS



ECONOMIC CONTRIBUTION OF KENTUCKY AIRPORTS

October 2024

Prepared for:

Kentucky Department of Aviation
90 Airport Road
Frankfort, KY 40601



Prepared by:

Kentucky Transportation Center
176 Oliver H. Raymond Civil Engineering Building
Lexington, KY 40506



The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the University of Kentucky, the Kentucky Transportation Center, the Kentucky Transportation Cabinet, the United States Department of Transportation, or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation. The inclusion of manufacturer names or trade names is for identification purposes and should not be considered an endorsement.

<https://doi.org/10.13023/ktc.rr.2025.12>

Technical Summary

KTC-25-12

ECONOMIC CONTRIBUTION OF KENTUCKY AIRPORTS

P. Gayle Marks, Ph.D.
Research Scientist

Bethany Paris, Ph.D.
Research Scientist

Bryan Gibson, Ph.D.
Associate Director

Kentucky Transportation Center
College of Engineering
University of Kentucky
Lexington, Kentucky

In Cooperation With
Kentucky Transportation Cabinet
Commonwealth of Kentucky

Mark Carter
Commissioner

Brad Schwandt
Deputy Commissioner

Kentucky Department of Aviation
Frankfort, Kentucky

Acknowledgements: Data for this study were provided from the collective efforts of Kentucky's public-use airport management, tenants, and major users. The research team is thankful for their participation.

KTC researchers also wish to thank economists and researchers at the Institute for Transportation Research and Education (ITRE), North Carolina State University for their support modelling the economic contributions of Kentucky's airports. Special thanks to Ryan Hassett, Steven Bert, Lisa Callister, and Associate Director Daniel Findley, Ph.D., P.E.

November 2024

1. Report No. KTC-25-12	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Economic Contribution of Kentucky Airports		5. Report Date November 2024	
		6. Performing Organization Code	
7. Author(s): P. Gayle Marks, Bethany Paris, Bryan Gibson		8. Performing Organization Report No. KTC-25-12	
9. Performing Organization Name and Address Kentucky Transportation Center College of Engineering University of Kentucky Lexington, KY 40506-0281		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. KHIT 156	
12. Sponsoring Agency Name and Address Kentucky Transportation Cabinet State Office Building Frankfort, KY 40622		13. Type of Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplementary Notes Prepared in cooperation with the Kentucky Transportation Cabinet			
16. Abstract Airports generate economic impacts that are felt well beyond their physical boundaries by supporting commerce, tourism, and the provision of essential services. To understand the economic contributions of airports throughout Kentucky, researchers collected data from general aviation (GA) airports and commercial service (CS) airports across the state on operational statistics, levels of employment, and usage patterns in calendar year 2022. IMPLAN® econometric models were developed to estimate the economic contributions of the state's airports. These models show that in 2022 Kentucky's airports contributed \$23.7 billion in total economic output, which equals 9.1 percent of its gross domestic product (\$261.5 billion). Airports also generated over \$1 billion in tax revenues, which went to state and local governments, and supported over 116,000 part- and full-time jobs. In addition to helping 12.8 million passengers reach their destinations, commercial service airports handled over 5.4 million tons of cargo — buoyed by the extensive cargo operations at Louisville Muhammad Ali International Airport and the Cincinnati/Northern Kentucky International Airport. In addition to establishing an updated baseline of the economic contributions of Kentucky's airports, this study's results will appear in an online dashboard hosted by the Kentucky Transportation Cabinet Department of Aviation.			
17. Key Words airport, economic impact study, employment, aviation, Kentucky		18. Distribution Statement Unlimited with approval of the Kentucky Transportation Cabinet	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 23	22. Price

TABLE OF CONTENTS

Executive Summary	1
Introduction.....	2
Methodology	3
Estimation Components	3
IMPLAN® Modeling.....	4
Data Sources.....	5
Direct Contributions from General Aviation Airports.....	7
Direct Contributions from Commercial Service Airports.....	7
Direct Contributions from Capital Expenditures.....	7
Visitor Contributions.....	7
Annual Operations and Based Aircraft	8
Business Traveler Contributions	8
Tax Contributions	8
Results	8
Summary.....	8
Beyond the Numbers.....	10
Total 2022 Economic Impact of Kentucky’s Airports.....	11
Individual Airport Impacts	12
Based Aircraft at General Aviation Airports	15
References.....	17

LIST OF FIGURES

Figure 1. IMPLAN® Modelling	5
Figure 2. Kentucky's Public-Use Airports	6
Figure 3. Summary of the 2022 Economic Impact of Kentucky's Public-Use Airports.....	9

LIST OF TABLES

Table 1. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for Commercial Service Airports	11
Table 2. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for General Aviation Airports	11
Table 3. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for All Kentucky Public-Use Airports	11
Table 4. Employment, Personal Income, Output, and Tax Contributions for Commercial Service Airports	12
Table 5. Employment, Personal Income, Output, and Tax Contributions for General Aviation Airports	12
Table 6. Number of Based Aircraft at General Aviation Airports	15

EXECUTIVE SUMMARY

Background

The economic footprint of an airport extends well beyond the physical property of its geographic location. Airports support commerce, tourism, and the provision of essential services across local, state, and regional economies. The most recent study to investigate the economic impacts of Kentucky's airports was published in 2017. While this study contains valuable insights, it is now dated and does not fully capture the role of airports in shaping the state's economy. Other studies assessing the economic impacts of aviation industries in Kentucky combined aviation and aerospace industry sectors and do not specifically address the economic contributions of the state's airports. To fill this knowledge gap, Kentucky Transportation Center (KTC) researchers partnered with the Kentucky Transportation Cabinet Department of Aviation (KDA) to analyze the economic impacts generated by the state's five commercial service airports and 53 general aviation (GA) airports in calendar year 2022.

How We Measured the Economic Contributions of Kentucky's Airports

Researchers quantified the economic impact of every airport in Kentucky by looking at their direct impacts, indirect impacts, and induced impacts. To begin, they collected operational statistics and employment data for commercial service airports and surveyed airport management, tenants, and major users of GA airports. GA airport managers supplied data on the number of annual operations, while major users offered insights into how often their employees use each airport as well as the level of employment they support. Researchers also reviewed operational and capital budgets along with state and federal funding sources. These data were used to construct an operational profile of each facility. Researchers used the IMPLAN[®] econometric software package to build a model that estimates the individual and collective contributions of Kentucky's airports to the state's economy.

Our Findings

In 2022, Kentucky's airports:

- Contributed \$23.7 billion in total economic output, or about 9.1% of its GDP (\$261.5 billion).
- Generated over \$1 billion to state and local governments through tax revenues.
- Supported over 116,000 part- and full-time jobs that generated \$8 billion in personal income.

Additionally, 12.8 million passengers and over 5.4 million tons of cargo passed through commercial service airports while GA airports handled 1.27 million flight operations and housed 1,541 based aircraft.

Broader Implications and Future Work

This study provides a baseline against which future trends can be assessed with respect to the economic impacts of Kentucky's airports. KDA will publish key findings in an online dashboard that lets users map the location of individual airports and visualize their respective economic contributions. KDA and KTC researchers will update the dashboard each year so the public can access the most up-to-date information on the essential role Kentucky's airports play in building a vibrant economy.

INTRODUCTION

Kentucky's five commercial service airports and 53 general aviation (GA) airports confer immense economic benefits to the state. To understand the scope of these benefits, the Kentucky Transportation Cabinet's (KYTC) Department of Aviation (KDA) partnered with Kentucky Transportation Center (KTC) researchers to conduct this Airport Economic Impact Study (AEIS). The purpose of this study was to quantify the contributions of Kentucky's 58 public-use airports to local, regional, and state economies in calendar year (CY) 2022.^{1,2}

Kentucky's system of public-use airports is critical for facilitating the transport of people and cargo. Airports bring new businesses and tourists into the state and bolster local and regional employment. Passenger airlines support business and leisure travel and connect Kentucky's businesses to opportunities worldwide. Kentucky's airports also support global business supply-chain activities as companies specializing in logistics and shipping air cargo link Kentucky exports to key domestic and international markets, while ensuring the state's businesses receive critical inputs in a timely manner. Two of the state's commercial airports, Louisville Muhammad Ali International Airport (SDF) and Cincinnati/Northern Kentucky International Airport (CVG), rank among the top cargo airports in the world. Beyond supporting business and facilitating air travel, airports provide physical space for based aircraft and serve as hubs for community services such as air ambulances, military training, and aviation education.

The most recent study to investigate the economic impact of the state's airports was the 2017 Statewide Aviation System Plan (SASP).³ CDM Smith and partners assessed the direct economic impacts attributed to on-airport activities based on the number of jobs, wages, and benefits paid to workers in aeronautical businesses or organizations located at the 59 public-use airports that were part of Kentucky's system of public airports in 2015. The results showed that Kentucky's 59 public-use airports employed more than 23,300 people and paid more than \$1.4 billion in annual payroll. While the results of the study are valuable, the impacts calculated were limited to employment and payroll. The total economic impacts of Kentucky's airports extend beyond airport borders to other business sectors through the purchase of goods and services and employees spending their wages in the region.

Other studies have broadened the scope of analysis beyond economic impacts originating at airports to include all aviation and aerospace industries. For example, in 2017 the Kentucky Commission on Military Affairs, along with the Kentucky Transportation Cabinet and Cabinet for Economic Development (CED), published *The Kentucky Aerospace & Aviation Industry Study*. Thomas P. Miller & Associates (TPMA) prepared the study for the Commonwealth that was mandated by House Joint Resolution 100 (HJR100) in 2015 to examine the state's "aviation, aerospace, and defense supply chains." TPMA estimated the economic impact and tax impact of the Aerospace and Aviation cluster comprised of aerospace products and aviation service industries. Results from TPMA's study showed the aerospace and aviation cluster had an estimated \$3.4 billion impact on Kentucky's economy. The cluster also supported 17,518 jobs with over \$1 billion in earnings and \$109 million in state and local taxes.

Similarly, PricewaterhouseCoopers, LLC (PwC) quantified the contribution of the General Aviation industry to the U.S. national and state economies in calendar year 2018 for industry trade organizations.⁴ PwC defined the general

¹ Barkley Regional Airport (PAH) did not provide CY 2022 data. Results are based on 2019 data from PAH's own economic impact study.

² Tradewater Airport (8M7) has a turf runway and was excluded from analysis.

³ Kentucky's Statewide Aviation System Plan (2018) includes summaries of the entire airport system, support industries, aviation/aerospace manufacturing, military aviation, unmanned aircraft systems (UAS), and aviation education.

⁴ PwC prepared the study for the following general aviation industry trade organizations: Aircraft Electronics Association (AEA), Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), General Aviation Manufacturers

aviation industry to include “aircraft and component manufacturing, flight operations, maintenance, and other activities” (PwC, 2020, p. 1). The study results showed that in 2018 Kentucky’s General Aviation industry contributed \$2.035 billion to the state economy (0.46% of the state GDP), employed 11,000 people, and produced \$599 million in total labor income.

Results presented in this study establish a new baseline for understanding the collective and individual economic contributions of Kentucky’s airports. The KDA will display these results on an online dashboard. This visualization of Kentucky’s airports connects the geographic location of each airport to its economic contributions, creating a beneficial tool for fostering regional and statewide economic development.

METHODOLOGY

Estimation Components

Economic Impact Metrics

To quantify the overall economic impact of Kentucky airports, the impact of individual airports was first standardized by a metric or unit of analysis. Researchers used the number of employed individuals and flow of traffic in and out of an airport to discern the overall economic impact of individual airports on Kentucky’s economy. Total impacts are based on four measures: employment, personal income (or payroll), output, and tax revenue.

- **Employment:** The total number of full-time and part-time employees in jobs supported by the airport. Part-time employees are scaled to their full-time equivalency (e.g., a person who works 20 hours in a week is 0.5 full-time equivalent). This is the definition used by the Bureau of Labor Statistics (BLS) and Bureau of Economic Analysis (BEA).
- **Payroll or personal income:** The sum of compensation (including wages and benefits) received by individuals working jobs supported by an airport.
- **Tax Revenue:** All taxes generated in association with an airport (for both local and state governments), such as income (personal and corporate), sales, and property taxes.
- **Economic Output:** Gross revenue of goods and services produced by an airport (i.e., business revenue earned minus operating costs).

Economic Impact Components

Airports facilitate the sale of goods and services through activity that originates either on or off their premises. Researchers measured the economic impacts of Kentucky airports using three components: on-airport activities, off-airport visitor spending, and off-airport business travelers.

- **On-airport** activities include onsite employment (i.e., airport management, fixed-based operators [FBOs], and tenants), as well as capital improvement projects (CIPs).
- **Off-airport visitor** effects stem from out-of-state visitors spending money on taxis, hotels, and tourist attractions.

Association (GAMA), Helicopter Association International (HAI), National Air Transportation Association (NATA), and National Business Aviation Association (NBAA).

- **Off-airport business travelers** impact economic linkages because they help open new markets, expand operations, and provide employee training opportunities.

Economic Contribution Categories

Airport economic impact assessments measure and estimate the flow of dollars through all economic sectors. The total economic contribution of each airport is the sum of direct, indirect, and induced impacts.

Direct impacts encompass the economic output and employment associated with activities that initiate on airport property (e.g., airport operations, onsite employment, tenant businesses), as well as output and wages associated with money spent by arriving business and leisure travelers. Visitor spending is an income source for off-airport businesses and jobs that might not exist without the airport’s presence. Airports also generate direct impacts when business travelers secure returns on investment by accessing new markets, gains in human capital, and enhancements in factors of production stemming from airport market access. Economic output (the value of goods and services produced), employment, and employee earnings of (i.e., wages, salaries, and benefits) fall under the heading of direct impacts as well. Examples of onsite employment include airport administration, business tenants, and maintenance workers. Commercial service airports directly support jobs at airlines; airport security; car rental companies; food, hospitality, and retail stores; and cleaning services. GA airports directly support tenant jobs at FBOs, flight instruction businesses, and air ambulance services. Industries directly supported by visitors include lodging, food and dining, tourism, and other hospitality businesses.

Indirect impacts, or business-to-business impacts, result from secondary enterprises whose inputs *support* businesses that create direct impacts. Indirect impacts typically result from materials and services businesses procure to complete their work (e.g., asphalt, construction equipment and surveying to repave a runway, raw ingredients for restaurants). In terms of assessing an existing sector, the indirect impact primarily includes supplies and tools needed to maintain a business’s site or operations. Engineering and Information Technology (IT) industries create indirect impacts in a local economy, as businesses that provide support to goods and services primarily provided by the airport thus creating secondary or indirect impacts in the local economy.

Induced impacts, or tertiary impacts, occur due to spending from employees or visitors incur within the local economy. The purchase of these goods and services creates a ripple effect in the local market, as individuals spend their earnings on items such as groceries, housing, and utilities.

IMPLAN® MODELING

Researchers estimated the direct, indirect, and induced impacts of each Kentucky airport using the Impact Analysis for Planning (IMPLAN®) econometric modelling software, which leverages national employment and population datasets to show how economic activity in one industry produces ripple effects in other industries. IMPLAN® is a linear input-output (I-O) model comprised of approximately 100 datasets, including local and census data. It uses inputs from an industry or industries to estimate the impact of the primary industry on the local economy down the supply chain. Figure 1 defines the flows and relationships of direct, indirect, and induced impacts.

On-airport employment and off-airport spending (i.e., airports purchasing goods or services from supporting businesses) produce secondary, or multiplier effects, in local economies. Multiplier effects emerge when economic contributions that originate from on-airport expenditures are re-spent in other industries. Supplier sales and income re-spending in local communities support local jobs, wages, business revenues, and add business value (National Academies, 2023). IMPLAN® generates indirect and induced multipliers based on industry inputs. The final model output — the total effect — is the sum of direct, indirect, and induced effects for all industry inputs.

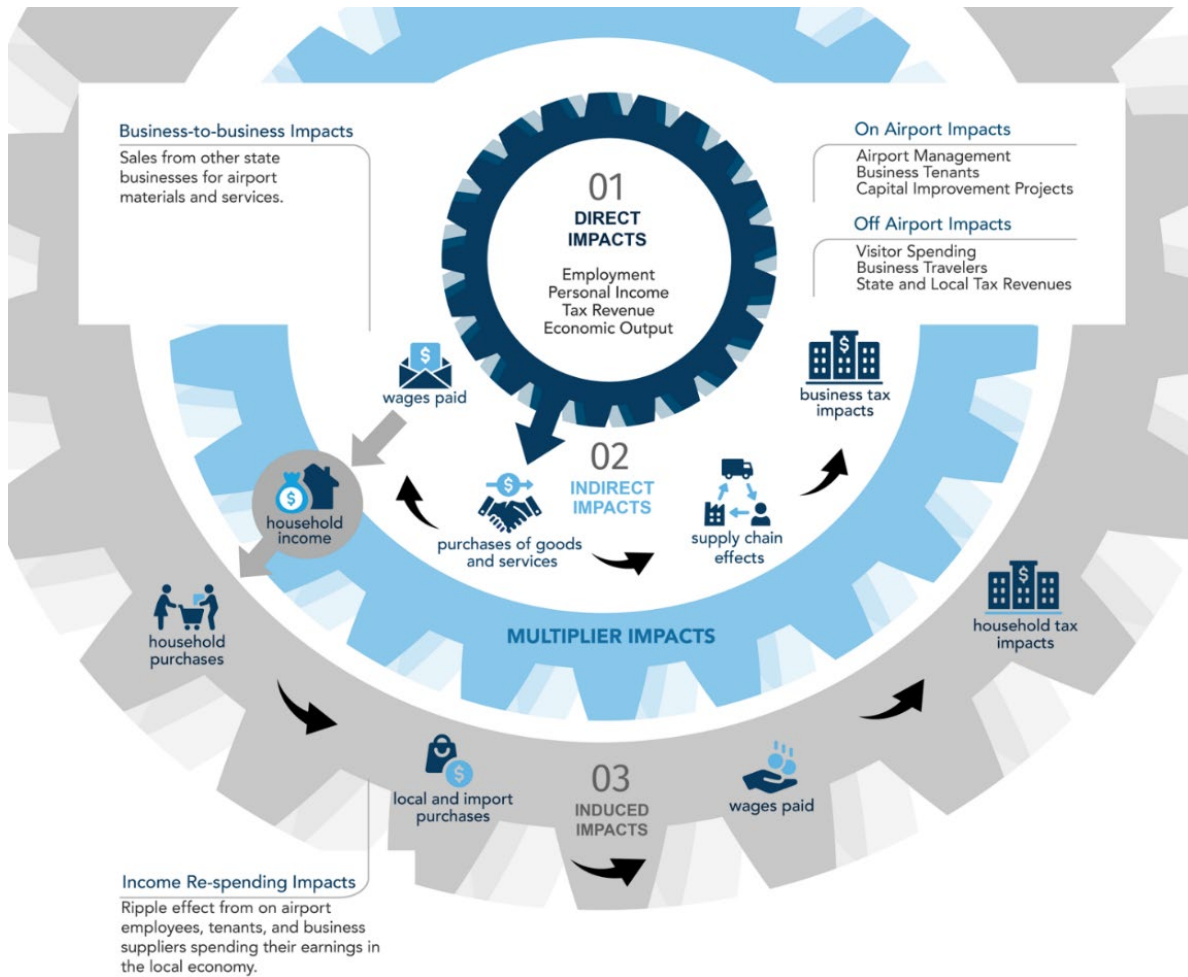


Figure 1. IMPLAN® Modelling

Note: Figure 1 is adapted from the IMPLAN® Cascade of direct, indirect, and induced impacts (IMPLAN Blog, 2022).

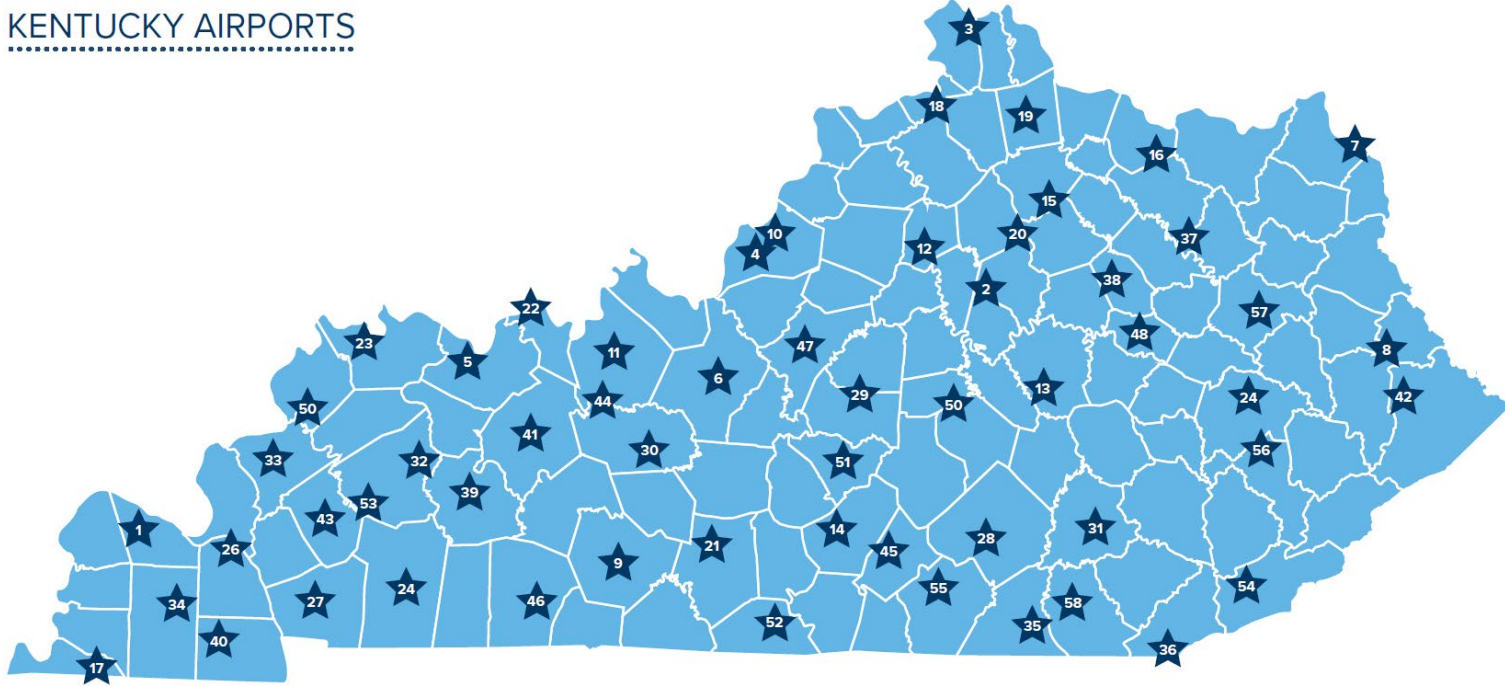
DATA SOURCES

Data collection proceeded in two phases. In 2023, researchers collected data on Kentucky’s five commercial airports and a geographically representative sample of 14 GA airports. In 2024, they collected data on the remaining 39 airports in the Commonwealth. Figure 2 presents a map of Kentucky’s public-use airports.

The project team surveyed airport management, tenants, and major users of GA airports; it also collected operations statistics for commercial service airports to derive direct economic contributions from both on-airport impacts and travelers. Data were entered as IMPLAN® inputs for individual airports. Based on these data, the software estimated the statewide economic impact of each airport.

For GA airports (except Louisville Bowman Field and Georgetown-Scott County Regional), data were modeled at the state level. For commercial service airports (and all other GA airports), data were modeled at the core-based statistical area level (metropolitan statistical area [MSA] or micropolitan statistical area [μSA]). And for airports where the OMB-defined MSA or μSA included counties outside Kentucky, researchers modeled the impacts twice — one model captured airport impacts throughout Kentucky as well as in out-of-state counties (or leakages); a second model estimated only in-state impacts.

KENTUCKY AIRPORTS



Commercial Airports

1. Barkley Regional Airport (PAH)
2. Blue Grass Airport (LEX)
3. Cincinnati/Northern Kentucky International Airport (CVG)
4. Louisville Muhammad Ali International Airport (SDF)
5. Owensboro–Davies County Regional Airport (OWB)

General Aviation Airports

6. Addington Field Airport (EKK)
7. Ashland Regional Airport (DWU)
8. Big Sandy Regional Airport (SJS)
9. Bowling Green–Warren County Regional Airport (BWG)
10. Bowman Field (LOU)
11. Breckinridge County Airport (I93)
12. Capital City Airport (FFT)
13. Central Kentucky Regional Airport (RGA)
14. Columbia-Adair County Airport (I96)
15. Cynthiana-Harrison County Airport (O18)
16. Fleming-Mason Airport (FGX)
17. Fulton Airport (1M7)
18. Gallatin County Regional Airport (8GK)
19. Gene Snyder Airport (K62)
20. Georgetown-Scott County Regional Airport (27K)
21. Glasgow Municipal Airport (GLW)
22. Hancock County Airport (KY8)
23. Henderson City-County Airport (EHR)
24. Hopkinsville–Christian County Airport (HVC)
25. Julian Carroll Airport (JKL)
26. Kentucky Dam State Park Airport (M34)
27. Lake Barkley State Park Airport (1M9)
28. Lake Cumberland Regional Airport (SME)
29. Lebanon Springfield-George Hoerter Field Airport (6I2)

30. Leitchfield-Grayson County Airport (M20)
31. London-Corbin Airport-Magee Field Airport (LOZ)
32. Madisonville Regional Airport (2I0)
33. Marion-Crittenden County Airport (5M9)
34. Mayfield Graves County Airport (M25)
35. McCreary County Airport (18I)
36. Middlesboro-Bell County Airport (1A6)
37. Morehead-Rowan County Clyde A. Thomas Regional Airport (SYM)
38. Mount Sterling-Montgomery County Airport (IOB)
39. Muhlenberg County Airport (M21)
40. Murray-Calloway County Airport (CEY)
41. Ohio County Airport (JQD)
42. Pike County Airport-Hatcher Field (PBX)
43. Princeton-Caldwell County Airport (2M0)
44. Rough River State Park Airport (2I3)
45. Russell County Airport (K24)

46. Russellville-Logan County Airport (4M7)
47. Samuels Field Airport (BRY)
48. Stanton Airport (I50)
49. Stuart Powell Field Airport (DVK)
50. Sturgis Municipal Airport (TWT)
51. Taylor County Airport (AAS)
52. Tompkinsville-Monroe County Airport (TZV)
53. Tradewater Airport (8M7)
54. Tucker-Guthrie Memorial Airport (I35)
55. Wayne County Airport (EKQ)
56. Wendell H. Ford Airport (CPF)
57. West Liberty Airport (9I3)
58. Williamsburg-Whitley County Airport (BYL)

Figure 2. Kentucky's Public-Use Airports

DIRECT CONTRIBUTIONS FROM GENERAL AVIATION AIRPORTS

GA airport managers and/or airport board chairs provided information on the number of annual operations, names and contact information of tenants and major business users, each firm's headcount and the industry in which it operates, and number of based aircraft. Survey responses from tenants were used to validate data on the number of onsite employees. Major airport users were surveyed to determine the number of off-site employees who regularly use each airport and to estimate the level of employment supported by each airport. Military personnel who spent a portion of the year on the airport's premises — for training purposes or other operations — were included in employee counts and scaled based on time spent at an airport. In some cases, airport managers were unaware of major business users contributing to off-site employment or flying for business purposes. Tenants contribute directly to an airport's overall economic impact as 100% of a tenant's employment is based at the airport. When necessary, the project team conducted follow-up phone interviews to complete information for users and tenants. Only business users that responded to the survey were included in the study, except when employee numbers could be verified from externally published sources (e.g., Data Axel database, Lexis Uni, or corporate websites).

DIRECT CONTRIBUTIONS FROM COMMERCIAL SERVICE AIRPORTS

To analyze the direct economic impacts of commercial service airports, researchers used a method developed by the Federal Aviation Administration (FAA) (2011) and Oxford Economic Forecasting (OEF, 2014). Commercial service airport administrators provided statistics related to onsite airport employment, airport operations, and capital expenditures for CY 2022. Onsite employment included badged and unbadged employees (when available). Researchers included unbadged staff in the study because they comprise a large percentage of employees at companies specializing in logistics and shipping air cargo. Air cargo includes products that are moved through airports, but which are not produced by airports. Cargo is captured in the analysis of tenant jobs supported. The FAA (2023) ranked Louisville Muhammad Ali International Airport (SDF) and the Cincinnati/Northern Kentucky International Airport (CVG) as the third and sixth largest domestic cargo airports, respectively, in CY 2022.

DIRECT CONTRIBUTIONS FROM CAPITAL EXPENDITURES

The project team reviewed capital and operating budgets from commercial service airports and GA airports (when provided), along with state funds and state-matched federal funds. Capital expenditure data were evaluated to account for contractor wages in 2022. Contractor employment and wages were estimated in the IMPLAN® model based on annual capital investment.

VISITOR CONTRIBUTIONS

Airport visitors were defined as people who travel from outside Kentucky. Visitor contributions thus reflect the flow of spending coming into the state rather than shifted from one part of the state to another. For GA operations, airport visitors were calculated based on the FAA (2011) methodology using operations data, while for commercial service operations deplanements were used (including external transfers but excluding internal transfers). To include non-revenue passengers at commercial airports, when requested, the airport visitor count was based on 50% of the total passenger count. For GA operations, calculations were built on several assumptions. First, visitor estimates were based on air taxi and itinerant general aviation trips, assuming they are the only trips that generate visitors. Second, from these operations, half were assumed to be arriving and half departing. They were expected to carry

overnight passengers — 2.84 passengers per operation (FAA, 2011). The average expenditure of a travelling party, at both GA and commercial service airports, was estimated based on data from Kentucky’s Department of Tourism.

ANNUAL OPERATIONS AND BASED AIRCRAFT

For GA airports, airport management updated FAA form 5010 Master Plan data (when necessary) for total operations and based aircraft data. In many cases, the number of annual operations reported at GA airports were *best estimates* since these airports do not have air traffic control towers, personnel to count each operation, or technology to monitor each flight. By mid-2024, the Kentucky Department of Aviation had provided nearly every airport in the state that did not have an operations monitoring system with Virtower™ to monitor aircraft operations. Future economic impact studies will be able to incorporate more detailed operations data on GA airports.

For commercial service airports, data originated from FAA Master Plan 5010 data, T-100 Market data, and airport-supplied information for operations and passengers. Information on air carrier and regional carrier operations were derived from passenger counts. Operations included air taxi and general aviation itinerant. T-100 Market data do not include non-revenue passengers. To include this metric, commercial airports reported their passenger counts to the project team.

BUSINESS TRAVELER CONTRIBUTIONS

Return on investment (ROI) from business travelers was calculated based on Oxford Economic Forecasting methodologies (2014) and data from IHS Global Insight and STR hospitality data analytics firm. Total ROI from business travel used in analysis was 5.3:1, which is a conservative estimate. Spending by firms on outgoing business travel was estimated using data from USDOT, STR, and state tourism departments.

TAX CONTRIBUTIONS

Researchers assessed state and local tax revenues generated from airport activity based on IMPLAN® analysis. For Louisville Muhammad Ali International Airport, including Indiana’s bordering counties reduced the overall tax impact, likely due to Kentucky and Indiana having different tax structures as well as the lower economic productivity in out-of-state counties included in the analysis.

RESULTS

SUMMARY

Key findings from this economic impact analysis are presented in Figure 3.

2022 ECONOMIC IMPACT OF:
 Kentucky's Public-Use Airports

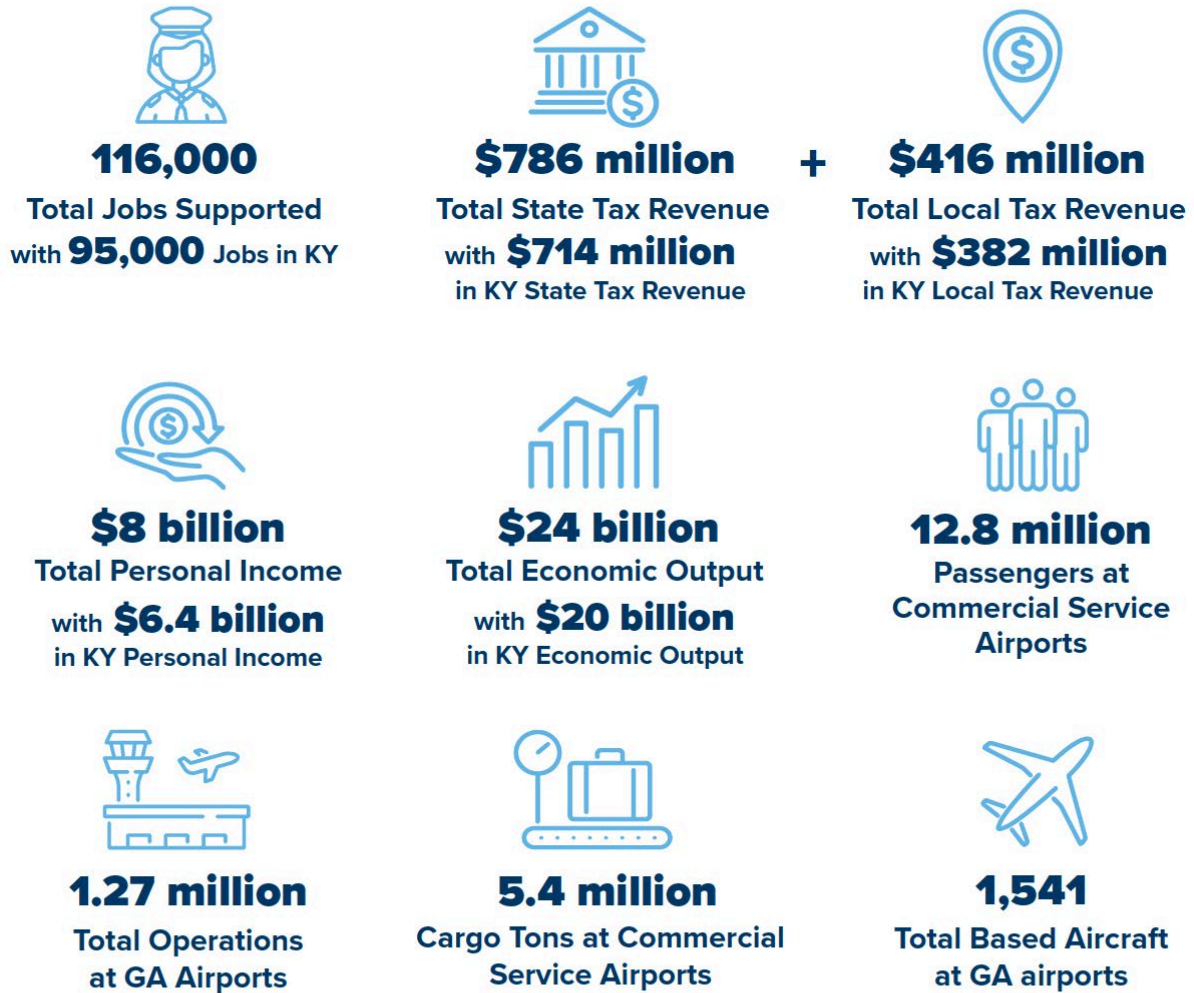


Figure 3. Summary of the 2022 Economic Impact of Kentucky's Public-Use Airports

Tables 1 – 3 summarize data on employment, personal income, economic output, and local and state tax revenue for commercial service airports, GA airports, and all public-use airports, respectively. Tables 4 and 5 highlight the same data but at the level of individual airports. And Table 6 lists the number of based aircraft at each GA airport.

The results include the output of two models. The first model captured the economic impacts of each airport at the state level (Kentucky only). Where an airport’s MSA or μ SA includes counties outside Kentucky, a second model accounted for leakages into out-of-state counties (total system).

Based on the total system model, in CY 2022 the state’s 58 publicly owned airports contributed \$23.7 billion⁵ in economic output. This represents 9.1% of the state’s GDP, which the Bureau of Economic Analysis (BEA) estimated at \$261.5 billion.⁶ Kentucky’s airports also contributed over \$1 billion to state and local governments through sales, property, corporate, and personal tax revenue.⁷ In CY 2022, commercial service airports handled 12.8 million passengers and over 5.4 million tons of cargo, while GA airports recorded 1.27 million flight operations and had 1,541 based aircraft.

In CY 2022, the state’s airports supported over 116,000 full- and part-time equivalent jobs that provided over \$8 billion in personal income (i.e., wages, benefits, and other compensation).

BEYOND THE NUMBERS

This report provides a conservative estimate of the economic contributions of Kentucky’s public airports. But it does not offer a comprehensive picture of the state’s aviation industry. For example, researchers did not account for the economic impacts of avionics, aerospace manufacturing, or aviation education except for when these activities occurred at an airport. According to the Kentucky Cabinet for Economic Development, the state’s 100+ aerospace-related facilities employ over 23,000 people.

Beyond their economic contributions, Kentucky airports deliver benefits that cannot be summed up neatly in a quantitative analysis. For instance, many airports serve as hubs for emergency responders (air ambulance, police, fire) and military personnel who provide life-saving resources to their communities and deliver disaster relief. Airport-sponsored airshows, fly-ins, educational programs, and more bring people together to create vibrant communities around Kentucky’s airports.

⁵ About \$4 billion of the total contribution spills over to neighboring states.

⁶ The contribution to state GDP is based on the Kentucky-only model.

⁷ IMPLAN® excludes tax revenue for public schools from analysis.

TOTAL 2022 ECONOMIC IMPACT OF KENTUCKY'S AIRPORTS

Table 1. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for Commercial Service Airports

Model	Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
KY-only	88,909	\$6,003,376,853	\$18,479,643,465	\$680,689,302	\$366,427,627
Total System	109,641	\$7,651,303,425	\$22,526,846,184	\$751,986,583	\$399,956,194

Table 2. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for General Aviation Airports

Model	Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
KY-only	6,154	\$372,987,892	\$1,097,457,514	\$33,240,145	\$15,444,708
Total System	6,394	\$387,288,921	\$1,142,176,911	\$34,495,246	\$15,907,344

Table 3. Total CY 2022 Employment, Personal Income, Output, and Tax Contributions for All Kentucky Public-Use Airports

Model	Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
KY-only	95,064	\$6,376,364,745	\$19,577,100,979	\$713,929,448	\$381,872,335
Total System	116,035	\$8,038,592,345	\$23,669,023,095	\$786,481,829	\$415,863,538

INDIVIDUAL AIRPORT IMPACTS

Table 4. Employment, Personal Income, Output, and Tax Contributions for Commercial Service Airports⁸

Airport ID	Airport Name	Model	Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
CVG	Cincinnati/Northern Kentucky International Airport	KY-only	36,969	\$2,655,523,030	\$8,120,442,839	\$424,331,096	\$234,125,908
		Total	54,498	\$3,938,908,529	\$11,541,591,297	\$484,843,903	\$262,487,500
LEX	Blue Grass Airport	Total	5,400	\$307,316,881	\$894,899,676	\$28,247,563	\$14,026,972
OWB	Owensboro-Daviess County Regional Airport	Total	424	\$25,023,266	\$67,237,078	\$1,954,862	\$910,973
PAH	Barkley Regional Airport	KY-only	375	\$29,325,918	\$75,551,761	\$2,336,627	\$913,033
		Total	414	\$31,538,201	\$82,645,929	\$2,544,484	\$1,009,604
SDF	Louisville Muhammad Ali International Airport	KY-only	45,742	\$2,986,187,758	\$9,321,512,112	\$223,819,154	\$116,450,741
		Total	48,905	\$3,348,516,548	\$9,940,472,204	\$234,395,771	\$121,521,146
TOTAL	All Commercial Service Airports	KY-only	88,909	\$6,003,376,853	\$18,479,643,465	\$680,689,302	\$366,427,627
		Total System	109,641	\$7,651,303,425	\$22,526,846,184	\$751,986,583	\$399,956,194

Table 5. Employment, Personal Income, Output, and Tax Contributions for General Aviation Airports

Airport ID	Airport Name		Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
DWU	Ashland Regional Airport		52	\$3,233,759	\$10,961,034	\$336,986	\$155,050
SJS	Big Sandy Regional Airport		84	\$4,801,407	\$13,715,395	\$358,166	\$161,157
BWG	Bowling Green-Warren County Regional Airport		116	\$7,222,858	\$20,096,011	\$591,188	\$273,759
LOU	Bowman Field Airport	KY-only	1,559	\$93,064,902	\$275,885,756	\$7,009,340	\$3,367,522
		Total	1,799	\$107,365,930	\$320,605,153	\$8,264,441	\$3,830,158
I93	Breckinridge County Airport		11	\$622,468	\$2,119,170	\$60,835	\$28,162

⁸ Each commercial airport in Kentucky conducts its own economic impact study. Values in this report may vary slightly from those based on databases included in commercially available input-output modelling software or based on specific data collected by the airport (local industry, tax, and tourism).

Airport ID	Airport Name		Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
FFT	Capital City Airport		361	\$20,948,402	\$63,202,075	\$1,823,061	\$838,130
RGA	Central Kentucky Regional Airport		95	\$6,979,074	\$12,998,554	\$451,067	\$194,916
I96	Columbia-Adair County Airport		8	\$484,453	\$1,654,940	\$47,505	\$21,914
O18	Cynthiana-Harrison County Airport		21	\$1,139,627	\$3,398,673	\$106,687	\$47,804
EKX	Elizabethtown Regional Airport		155	\$9,326,408	\$27,154,625	\$811,692	\$367,815
FGX	Fleming-Mason Airport		54	\$3,243,537	\$10,619,301	\$307,402	\$141,857
1M7	Fulton Airport		16	\$1,077,807	\$2,715,551	\$85,413	\$38,488
8GK	Gallatin County Regional Airport		5	\$325,411	\$856,615	\$23,320	\$9,781
K62	Gene Snyder Airport		55	\$3,464,224	\$9,978,674	\$302,448	\$132,299
27K	Georgetown-Scott County Regional Airport		207	\$12,227,650	\$40,958,116	\$1,090,004	\$527,114
GLW	Glasgow Municipal Airport		31	\$2,018,664	\$5,052,642	\$145,771	\$63,101
KY8	Hancock County Airport		17	\$1,008,646	\$3,429,600	\$98,456	\$45,637
EHR	Henderson City-County Airport		338	\$21,429,521	\$61,077,823	\$1,769,746	\$815,816
HVC	Hopkinsville-Christian County Airport		49	\$2,995,614	\$9,280,050	\$278,340	\$122,877
JKL	Julian Carroll Airport		1	\$72,046	\$244,971	\$7,033	\$3,260
M34	Kentucky Dam State Park Airport		44	\$2,737,266	\$4,506,336	\$138,472	\$53,583
1M9	Lake Barkley State Park Airport		6	\$352,565	\$1,213,616	\$34,832	\$15,941
SME	Lake Cumberland Regional Airport		512	\$29,867,360	\$91,546,533	\$2,595,302	\$1,193,868
6I2	Lebanon-Springfield Airport		58	\$3,597,201	\$10,521,163	\$294,462	\$130,827
M20	Leitchfield-Grayson County Airport		15	\$864,554	\$2,939,657	\$84,391	\$39,117
LOZ	London-Corbin Airport		235	\$14,392,980	\$38,983,483	\$1,026,084	\$460,400
2I0	Madisonville Regional Airport		104	\$6,671,805	\$18,512,366	\$551,694	\$255,968
GDA	Marion-Crittenden County		28	\$1,647,626	\$5,311,530	\$154,097	\$70,934
M25	Mayfield-Graves County Airport		12	\$773,636	\$2,049,060	\$62,054	\$27,776
18I	McCreary County Airport		156	\$10,045,568	\$16,410,791	\$513,408	\$197,315
1A6	Middlesboro Bell County Airport		29	\$1,843,394	\$7,359,669	\$203,323	\$89,116
SYM	Morehead-Rowan County Airport		56	\$3,359,508	\$15,159,122	\$3,303,321	\$1,742,754

Airport ID	Airport Name		Employment	Personal Income	Economic Output	State Tax Revenue	Local Tax Revenue
IOB	Mount Sterling-Montgomery County Airport		343	\$20,345,345	\$61,322,585	\$1,789,617	\$826,517
M21	Muhlenberg County Airport		65	\$3,985,901	\$11,513,958	\$324,373	\$143,948
CEY	Murray-Calloway County Airport		13	\$980,377	\$1,973,403	\$69,056	\$30,285
JQD	Ohio County Airport		11	\$706,411	\$1,927,334	\$59,057	\$26,823
PBX	Pike County Airport-Hatcher Field		22	\$1,296,831	\$4,409,486	\$126,586	\$58,676
2M0	Princeton-Caldwell County Airport		13	\$741,352	\$2,504,719	\$71,830	\$33,230
2I3	Rough River State Park Airport		82	\$5,402,336	\$8,886,500	\$273,857	\$106,428
K24	Russell County Airport		7	\$419,803	\$1,249,439	\$37,266	\$17,067
4M7	Russellville-Logan County Airport		42	\$2,289,014	\$6,050,075	\$189,973	\$82,390
BRY	Samuels Field Airport		47	\$2,790,606	\$8,212,911	\$241,092	\$110,056
I50	Stanton Airport		5	\$324,208	\$1,102,371	\$31,647	\$14,669
DVK	Stuart Powell Field Airport		274	\$16,210,661	\$48,947,310	\$1,296,349	\$600,617
TWT	Sturgis Municipal Airport		469	\$27,934,625	\$100,768,959	\$2,504,951	\$1,070,216
AAS	Taylor County Airport		45	\$2,878,085	\$8,473,176	\$269,133	\$120,968
TZV	Tompkinsville-Monroe County Airport		30	\$1,964,243	\$5,373,659	\$164,516	\$74,741
8M7	Tradewater Airport		0	\$0	\$0	\$0	\$0
I35	Tucker-Guthrie Memorial Airport		1	\$72,046	\$244,971	\$7,033	\$3,260
EKQ	Wayne County Airport		28	\$1,680,898	\$5,031,803	\$147,506	\$66,847
CPF	Wendell H. Ford Airport		73	\$5,058,343	\$14,296,538	\$491,879	\$218,244
9I3	West Liberty Airport		14	\$727,523	\$1,997,437	\$66,461	\$29,158
BYL	Williamsburg-Whitley County Airport		80	\$5,339,345	\$13,257,977	\$412,066	\$176,512
TOTAL	All GA Airports	KY-only	6,154	\$372,987,894	\$1,097,457,513	\$33,240,148	\$15,444,710
		Total System	6,394	\$387,288,922	\$1,142,176,910	\$34,495,249	\$15,907,346

BASED AIRCRAFT AT GENERAL AVIATION AIRPORTS
Table 6. Number of Based Aircraft at General Aviation Airports

Airport ID	Airport Name	Based Aircraft
DWU	Ashland Regional Airport	23
SJS	Big Sandy Regional Airport	22
BWG	Bowling Green-Warren County Regional Airport	66
LOU	Bowman Field Airport	235
I93	Breckinridge County Airport	12
FFT	Capital City Airport	56
RGA	Central Kentucky Regional Airport	53
I96	Columbia-Adair County Airport	13
OI8	Cynthiana-Harrison County Airport	28
EKX	Elizabethtown Regional Airport	56
FGX	Fleming-Mason Airport	21
1M7	Fulton Airport	14
8GK	Gallatin County Regional Airport	0
K62	Gene Snyder Airport	15
27K	Georgetown-Scott County Regional Airport	83
GLW	Glasgow Municipal Airport	26
KY8	Hancock County Airport	18
EHR	Henderson City-County Airport	18
HVC	Hopkinsville-Christian County Airport	37
JKL	Julian Carroll Airport	0
M34	Kentucky Dam State Park Airport	16
1M9	Lake Barkley State Park Airport	0
SME	Lake Cumberland Regional Airport	41
6I2	Lebanon-Springfield Airport	18
M20	Leitchfield-Grayson County Airport	13
LOZ	London-Corbin Airport	51
2I0	Madisonville Regional Airport	30
GDA	Marion-Crittenden County	25
M25	Mayfield-Graves County Airport	19
18I	McCreary County Airport	4
1A6	Middlesboro Bell County Airport	28
SYM	Morehead-Rowan County Airport	24
IOB	Mount Sterling-Montgomery County Airport	88
M21	Muhlenberg County Airport	15
CEY	Murray-Calloway County Airport	41
JQD	Ohio County Airport	11

Airport ID	Airport Name	Based Aircraft
PBX	Pike County Airport-Hatcher Field	26
2M0	Princeton-Caldwell County Airport	11
2I3	Rough River State Park Airport	0
K24	Russell County Airport	13
4M7	Russellville-Logan County Airport	20
BRY	Samuels Field Airport	34
I50	Stanton Airport	12
DVK	Stuart Powell Field Airport	72
TWT	Sturgis Municipal Airport	11
AAS	Taylor County Airport	14
TZV	Tompkinsville-Monroe County Airport	39
8M7	Tradewater Airport	2
I35	Tucker-Guthrie Memorial Airport	10
EKQ	Wayne County Airport	10
CPF	Wendell H. Ford Airport	18
9I3	West Liberty Airport	12
BYL	Williamsburg-Whitley County Airport	17
TOTAL		1,541

REFERENCES

BEA (2023). *GDP by state, 1997-2023 annual data. Annual update of the Regional Economic Accounts*. United States Bureau of Economic Analysis. United States Department of Commerce. <https://www.bea.gov/information-updates-national-regional-economic-accounts>

FAA (2011). *Data and Methodology for The Economic Impact of Civil Aviation on the U.S. Economy*. Federal Aviation Administration.

FAA (2023). *CY 2022 Qualifying Cargo Airports, Rank Order, and Percent Change from 2021*. Federal Aviation Administration. Washington, DC. https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/cy22_cargo_airports

IHS Global Insight (2009). *What is the incremental return on investment?* <http://docplayer.net/17031312-Can-we-afford-not-to-invest-in-businesstravel>.

IMPLAN® Model, 2022 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (data and software), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078 www.IMPLAN.com

CDM Smith, Stantec Inc., & Connico, Inc. (2017). *Kentucky Statewide Systems Plan*. Kentucky Transportation Cabinet, Department of Aviation. <https://transportation.ky.gov/Aviation/Pages/Statewide-Aviation-System-Plan.aspx>

National Academies of Sciences, Engineering, and Medicine (2023). *Communication, Implementation, and Outcomes of Airport Economic Impact Studies*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/27227>.

Oxford Economic Forecasting (2014). *Economic and Social Benefits of Air Transport*. https://www.iata.org/press-room/facts_figures/fact_sheets/Documents/fact-sheet-economic-and-social-benefits-of-air-transport.pdf

PricewaterhouseCoopers, LLP (PwC) (2020). *Contribution of General Aviation to the US Economy in 2018*. <https://nbaa.org/wp-content/uploads/advocacy/legislative-and-regulatory-issues/business-aviation-essential/General-Aviation-Contribution-to-the-US-Economy-20200219.pdf>

STR (2022). *STR: U.S. hotel ADR and RevPAR reached record highs in 2022*. <https://str.com/press-release/str-us-hotel-adr-and-revpar-reached-record-highs-2022>

Thomas P. Miller & Associates (2017). *The Kentucky Aerospace & Aviation Industry Study*. Kentucky Commission on Military Affairs & the Commonwealth of Kentucky. <https://kcma.ky.gov/Documents/2017%20Kentucky%20Aerospace%20-%20Aviation%20Study.pdf>

“What is IMPLAN?” *IMPLAN Blog*, IMPLAN Group, LLC, 4 August 2022, [IMPLAN.com/ https://blog.implan.com/what-is-implan](https://blog.implan.com/what-is-implan)