



Economic Impact

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June 2024

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Study Summary

Blue Grass Airport (LEX) is central Kentucky's main commercial service airport. It provides scheduled airline and private aviation services to residents and businesses in the region. The airport focuses daily on fulfilling its vision of providing a welcoming approach to connecting Kentucky and the world. It is a vital gateway for air travel in Kentucky.

Utilizing an economic model and study approach that has demonstrated success at airports across the U.S., the study team gathered data directly from the on-airport organizations and users of aviation services at LEX through surveys and in-person interviews. The study team employed an economic model that accounted for the recirculation of economic impacts within Kentucky's economy, which creates additional benefits. For example, when an airport rental car company purchases vehicles from a Kentucky car dealer, this re-spending helps support additional economic output and employment within Kentucky. This re-circulation of economic activity continues to multiply the impacts until they leak beyond the boundaries of Kentucky. These multiplier impacts were calculated using the Impact Analysis for Planning (IMPLAN) economic model, using Kentucky-specific parameters. The total economic impact of LEX, as estimated by the IMPLAN model, was substantial. In brief, in 2023, Blue Grass Airport:

- Supported 4,745 jobs
- Generated nearly \$180 million in annual payroll
- Produced \$709 million in annual economic output

In addition to these quantifiable economic impacts, the study team explored the unique value LEX provides the residents and businesses of Kentucky through case studies highlighting the airport's hard-to-quantify benefits. These case studies examined how LEX promotes aviation as a career, the support given to Honor Flight, and how LEX aids organ transplants and emergency medicine in the central Kentucky region.

Blue Grass Airport—Positively Impacting Lexington

Blue Grass Airport is operated by an appointed 10-member airport board of directors representing Lexington-Fayette Urban County. The mayor of Lexington, or the mayor's designate, occupies one seat on the Board, and the mayor appoints the remaining nine members with confirmation by the Urban County Council. The nine members may serve up to two four-year terms, staggered to maintain long-term institutional knowledge. Two of those nine members must live within a three-mile radius of LEX.

The airport is self-funded through its airline activity, service providers, tenants, and passenger demand, and it operates with the mission of bettering the surrounding community and its economy. Four airlines—Allegiant, American Airlines, Delta Air Lines, and United Airlines—offer nonstop service to destinations throughout the U.S., including several major airline hubs. These airlines enplaned more than 680,000 passengers in 2023, making it the third busiest airport in Kentucky, behind Cincinnati/Northern Kentucky International Airport and Louisville Muhammad Ali International Airport.

Blue Grass Airport is a key transportation hub for Lexington, the Horse Capital of the World. Lexington earns this title through its long history of involvement with the equine industry. For example, the oldest North American Thoroughbred auction

house—Fasig-Tipton Company—is headquartered in Lexington. Just across the street from LEX is Keeneland Association, Inc., the world's largest Thoroughbred auction house and a horse racing venue that holds annual events. Central Kentucky hosts a variety of prestigious equine events, including the Kentucky Three-Day Event and the Breeders' Cup World Championships, drawing enthusiasts and competitors from around the globe.

The bourbon industry is also a cornerstone of Kentucky's economy and cultural heritage, producing 95 percent of the world's bourbon. The Kentucky Bourbon Trail is a popular tourist attraction that showcases this legacy. It features a collection of renowned distilleries, including Woodford Reserve, Jim Beam, and Maker's Mark, offering visitors an immersive experience in bourbon-making. Visitors engage in guided tours and tastings, making the Bourbon Trail a vital part of the tourism industry.

The main campus of the University of Kentucky (UK) is located in Lexington. With more than 30,000 students and a faculty and staff exceeding 3,200, the air transportation services offered by LEX are crucial for the school. Students and faculty routinely book airline tickets for travel to and from LEX. Alumni, as well as several of UK's athletic teams, make use of commercial and general aviation to attend sporting events.

The business community also benefits from the services offered by LEX, especially those with corporate headquarters in Lexington. Notable examples include A&W Restaurants, which established its headquarters in Lexington following its acquisition by its franchise owners in 2011, and Lexmark, the imaging product company that started in Lexington in 1991. Other companies with headquarters in Lexington include Tempur-Sealy International (the world's largest bedding provider), Link-Belt Cranes (a leader in the design and manufacturing of cranes), and Valvoline (an automotive retail company). Toyota also has its largest manufacturing plant in the world in neighboring Georgetown, Kentucky and employs more than 8,000 team members.

Study Approach

Blue Grass Airport is an essential economic engine for Fayette County and central Kentucky. There are various ways to measure LEX's value to the region. One such method is an economic impact study that evaluates the airport's economic benefits in terms of employment, payroll, and economic output. This is an effective communication tool for quantifying certain aspects of the airport's benefits, but it doesn't capture everything LEX provides. For insight into the unique value of LEX, three case studies were selected to highlight significant benefits of LEX that are hard to assign a financial value.

To better understand the numbers behind this economic impact study, the following section provides an overview of the economic model used and the process behind obtaining the inputs for the model.

The Economic Modeling Process

Airport economic impacts are either estimated using data gathered from LEX and its tenants or calculated using an economic input-output model. This input-output model, described in more detail below, provides three **measures** of economic impact, broken down into several **categories** and expressed as three related **types** of economic impact.

Measures of Economic Impact

Economic impacts are expressed using three measures—employment, payroll, and output.

- **Employment** is based on the total number of full-time jobs plus part-time jobs, where two part-time positions are equivalent to a single full-time position.
- **Payroll** represents the costs associated with the annual salary, wages, and benefits earned by all employees and business owners included under the employment measure.
- **Output** is the quantity of goods and services generated annually by an airport, along with its associated activities and businesses, expressed in dollars. Output is estimated using an organization's annual sales or operating costs, which assumes that its output is approximately equivalent to what it expends.

Payroll and output cannot be combined because elements of economic benefit related to payroll are also contained, to some extent, in the output estimate. Each of the three impact measures (employment, payroll, and output) stand alone as part of the quantification of an airport's total economic impact.

Categories of Economic Impact

The three measures described above are used to evaluate several categories of economic impact. These categories are based on the source of economic activity and require various forms of inputs, which are described in detail below.

- **On-airport activity** includes airport tenants that are businesses with employees, such as airlines, fixed-base operators (FBO), flight schools, charter outfits, flight departments, concessionaires, and airport restaurants. Also included are governmental agencies, such as public airport sponsors, air traffic control organizations, other Federal Aviation Administration (FAA) units, and other state and federal agencies that serve or use aviation.
- **Capital Improvement Projects (CIP)** are undertaken by airports to improve or maintain their property and facilities, such as runway rehabilitation or terminal improvements. In addition, businesses and other agencies also undertake capital improvements. These projects employ people in jobs such as construction, architecture, engineering, and consulting.
- **Visitor impacts** result from expenditures by non-local people arriving via commercial airlines or general aviation aircraft. Visitor spending supports jobs in the region, such as in the hospitality industry.

Types of Economic Impact

Data gathered from the categories described above are used as inputs for a linear input-output economic impact model. That model estimates three types of economic impact associated with airports using each of the previously described economic impact measures.

- **Direct impacts** account for the initial point where the money from aviation-related activity first starts circulating in the economy. This includes impacts from on-airport activity (including capital improvements) and visitor spending. On-airport activity includes the benefits associated with businesses and government organizations located at the airport, which are directly related to the provision of aviation services. On-airport impacts include the employment, payroll, and spending of businesses such as FBOs, flight schools, aircraft repair facilities, and airport management and operations staff. Visitors contribute to direct impacts through their off-airport spending (any on-airport spending

is included in the on-airport impacts), including purchases that might occur at restaurants or hotels. Direct impacts serve as the inputs for the economic model.

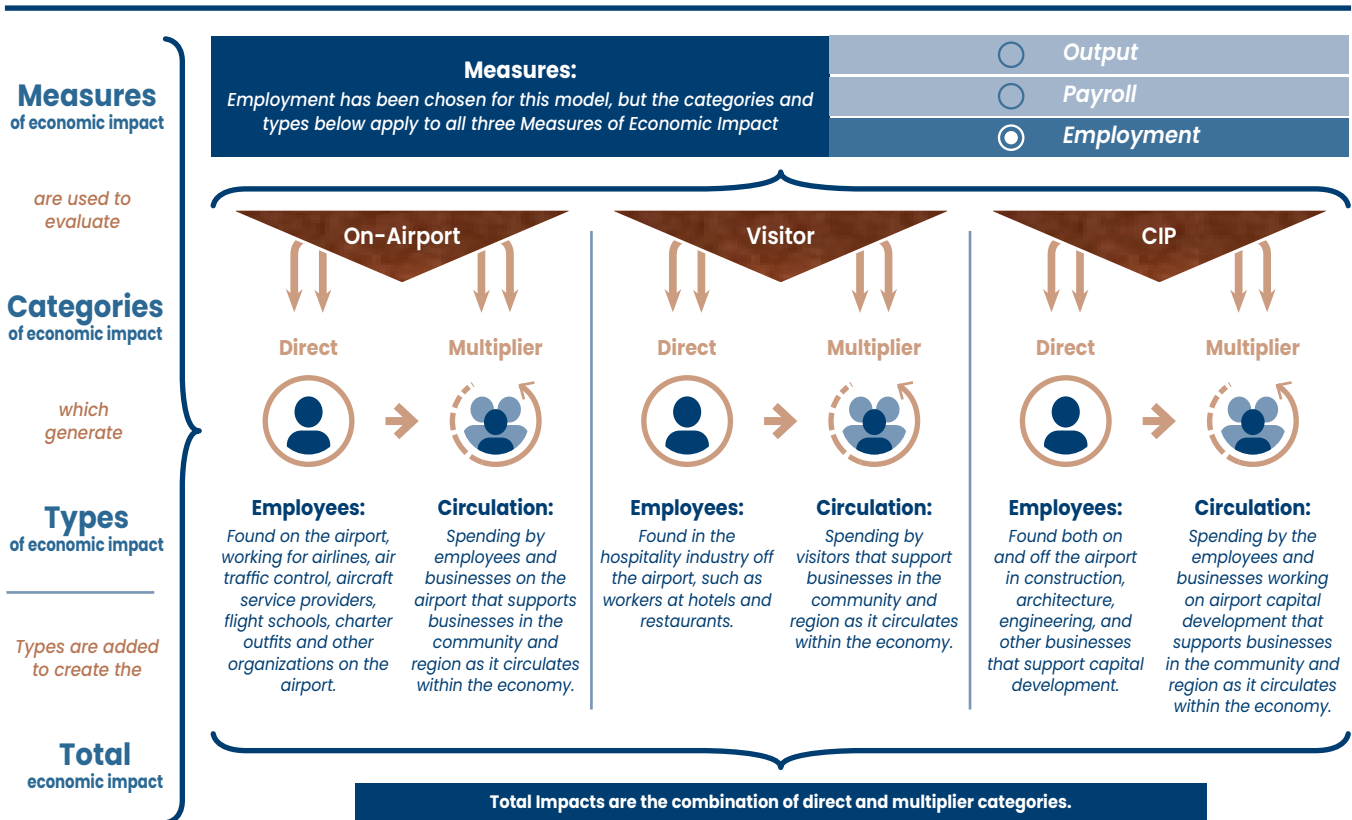
- Multiplier impacts** result from the re-spending and re-circulation of direct impacts within the economy. This re-spending of money can occur multiple times by both individuals and businesses. For example, as airport employees spend their salary on housing, food, utilities, and services, those expenditures circulate through the economy, resulting in increased spending, payroll, and employment throughout the region. As this money is spent over and over again, some of it leaks beyond the boundaries of the study area and thus no longer benefits the inhabitants of that region. The economic model uses parameters specific to the study region (in this case, Kentucky) to estimate the leakage effect associated with these multiplier impacts, thereby tabulating only those impacts that benefit the people and businesses of the study region. Multiplier impacts are the output of the economic model.
- Total impacts** are the sum of all direct and multiplier economic impacts attributable to an airport.

Direct impacts are measured through surveys of businesses, government units, and visitors. Because multiplier impacts are not as easy to measure as direct impacts, they are estimated instead. It is important to employ a reliable method of estimating multiplier impacts, and one leading method used to estimate them is the input-output model.

Figure 1 illustrates the associations between these economic impact measures, categories, and types. It explains the categories and types of economic impact for the measurement of employment. Payroll and output have similar relationships.

Figure 1:

Airport Economic Impact Modeling Approach



Various tools are used to develop the economic impact estimates reported in this study. Generally, the direct impacts illustrated in **Figure 1** are measured through surveys of on-airport businesses, government units, and visitors passing through the airport.

Because multiplier impacts occur beyond the airport, they are not as easy to measure as direct impacts. Instead, they are estimated using an economic model. Various economic models are available for this purpose. The study team used the Impact Analysis for Planning (IMPLAN) input-output model to quantify multiplier impacts in this study. IMPLAN is a linear model that estimates purchases and sales among hundreds of sectors of the economy. The U.S. Forest Service, in cooperation with several other government agencies, initially developed the IMPLAN system to generate non-survey input-output models for regions as small as a single county. This modeling process is considered one of the leading methods for estimating the total economic impact of an industry and has been used to estimate economic impacts for individual airports and systems of airports throughout the country.

The IMPLAN model contains a large economic database used to generate input-output tables. It includes data from sources such as Dun and Bradstreet, the U.S. Department of Commerce, and the U.S. Census Bureau. IMPLAN multipliers and data tables specific to Kentucky's industrial sectors were applied to this study. Using the direct impacts as the input, the IMPLAN model produces multiplier impacts as output.

This is the overall approach used to assess Blue Grass Airport's economic impact. The next section details how the study team specifically applied this approach to Blue Grass Airport.

Data Collection Methods

For most of the direct impacts, the study team obtained data directly from the relevant sources, generally through surveys but also through existing databases. The methods used to gather this data are explained below for each category of economic impact.

On-Airport Data

The process for gathering on-airport economic impact data started with a survey of LEX management. In addition to soliciting economic information from LEX, the survey also asked for a list of business tenants and their estimated employment. Business tenants were defined as any business or government organization on the airport with employees. The study team sent a similar survey to each of the listed business tenants. In-person follow-ups were conducted to maximize the response rate to the survey.

The surveys sent to LEX and the business tenants requested the following information:

- Type of aviation activity conducted by the tenant
- Number of full-time and part-time employees
- Estimated total annual wages and benefits paid to employees in 2023
- Estimated total annual operating expenses, excluding depreciation, in 2023
- Estimated total capital improvement expenditures for 2020, 2021, 2022, and 2023
- Estimated total annual gross sales, if applicable, in 2023

Some tenants provided actual financial results through the most recent month of 2023, and the study team extrapolated a full year's worth of data from this actual data. The study team also assessed each business tenant to determine if it was aviation related. Any business that did not rely on the airfield to some degree was not included in the economic impact analysis.

For the aviation-related business tenants, the study team classified each into one of 17 groups to aid in analysis:

- Aircraft Maintenance (no turbine work)
- Aircraft Maintenance (turbine work)
- Airline
- Airport Management
- Air Traffic Control
- Charter
- Concession
- Corporate Flight Department
- Federal Government
- Fixed-Base Operator (including ground handling)
- Flight Instruction
- Hangar Rental/Development
- Nonprofit
- Parking
- Rental Car
- State/Local Government
- Transportation Security Administration

Grouping the business tenants this way allowed the study team to evaluate survey responses on a per-employee basis by comparing the results to Mead & Hunt's extensive database of survey responses from past studies of airports across the country. Additionally, it was necessary to treat the business tenant properly in the IMPLAN model.

Of the 45 on-airport business tenants, 43 responded to the study survey, yielding a response rate of 96 percent. This high response rate resulted in very little missing data that the study team had to estimate. The estimates that were developed relied primarily on the actual data provided by the on-airport tenants. In those cases, the study team produced per-employee ratios using the known survey data. These ratios were applied to the number of jobs at the business or organization to derive payroll, output, and capital improvement project estimates.

In some cases where there was insufficient survey data from a particular type of business, the study team relied on data from Mead & Hunt's database of past survey results to develop per-employee ratios used to estimate payroll, output, or capital improvement projects for a particular business.

Capital Improvement Project Data

Capital Improvement Project (CIP) economic impacts were based on project expenditures, which were obtained through surveys of the airport and its business tenants. Because CIP costs can vary considerably, economic impact studies frequently use methods to smooth out the peaks and valleys that CIPs can create. This makes it easier to compare economic impacts from different time periods. The typical method for accomplishing this is to use an average of CIP expenditures from past years instead of a single year. For this analysis, the study team gathered and averaged CIP data from 2020 to 2023.

Direct employment associated with CIPs was obtained through ratios of jobs per \$1 million of CIP expenditures from the IMPLAN model, using ratios specific to Kentucky. Average employee pay, based on 2022 Bureau of Labor Statistics data for Kentucky, was applied to each of these jobs to obtain direct payroll.

Visitor-Related Data

To estimate economic impacts from visitors, two key pieces of data are needed. The first is the number of visitors to Lexington, and the second is the average amount each visitor spends during their trip to Lexington. From these two data points, the study team estimated annual visitor spending (number of visitors x average spending), which was treated as direct output attributable to visitors. The study team estimated direct employment related to visitors through the IMPLAN model, which provided a ratio of jobs per \$1 million of visitor spending, based on Kentucky data. The study team used 2022 Bureau of Labor Statistics data for Kentucky to estimate the average payroll for jobs tied to visitor spending. The methods used to obtain the two key pieces of data (number of visitors and average spending) is slightly different for visitors arriving by airline as compared to those arriving by general aviation aircraft. Therefore, each is described separately in the following sections.

Commercial Service Visitors

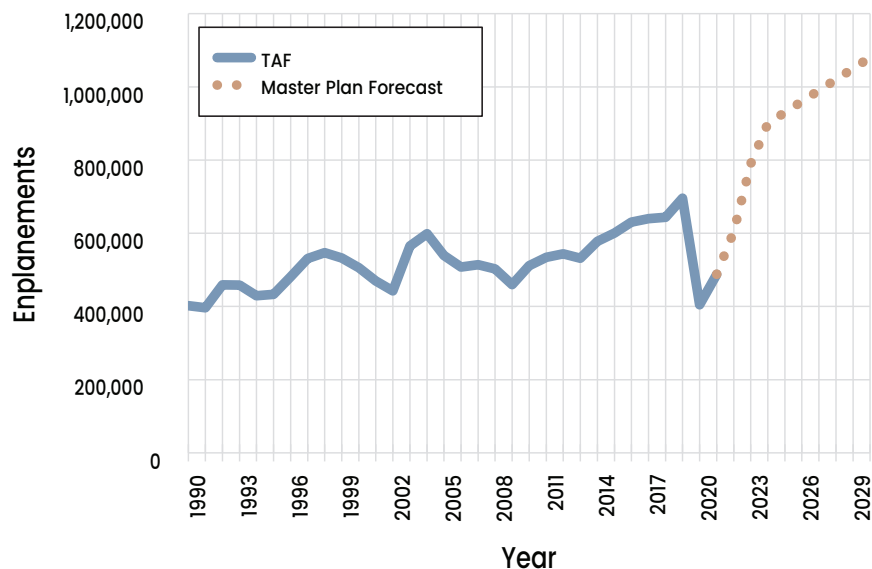
A significant contributor to the economy of Lexington and the surrounding region is the money spent by visitors coming to the area by airlines that serve Blue Grass Airport. To estimate these expenditures, this study estimated the number of annual visitors that airlines brought to the region and what each visitor spent on average during their trip. Each estimation method is explained in the following sections.

Airline Visitors to Lexington

From 2010 to 2019, airlines at Blue Grass Airport enplaned no less than 500,000 annual enplanements, according to data from the FAA's Terminal Area Forecast (TAF). When the pandemic hit, enplanements dipped to approximately 400,000 in 2020, but have since trended upward, surpassing 600,000 in 2022. As shown in **Figure 2**, the Blue Grass Airport Master Plan predicts that enplanements will continue to climb.

Figure 2:

Historic and Forecasted Enplanements at LEX, 2010 to 2030



Source: Federal Aviation Administration Terminal Area Forecast (TAF), Blue Grass Airport Master Plan

These enplanements consist of residents of the region traveling to business and leisure destinations, as well as visitors coming to Lexington and the surrounding region where they spend money in the local economy. It is the visiting segment of passenger enplanements that this study quantified to estimate their contributions.

This study examined two means of determining the number of visitors using LEX. The first involved estimating the percentage of enplanements that are visitors using the U.S. Department of Transportation’s origin and destination survey data. This uses a sampling of airline ticket sales to estimate the percentage of travelers that are originating their trip at a particular location or that the location is their destination. The data provides origin and destination (O&D) splits for each quarter of the year. The percentage of travelers at LEX that are classified as destination are assumed to be visitors. The most recent full-year data is 2022 and estimates that 39 percent of LEX travelers are coming to Lexington as a destination (visitor). **Table 1** shows how that information is used with an estimate of 2023 enplanements to calculate the number of visitors in 2023.

Table 1:
Estimate of LEX Visitors Using U.S. Department of Transportation Origin & Destination Data

Year to Date Enplanements (Jan. 2023 to Sept. 2023)	2023 Enplanements (estimated)	O&D Percentage (visitor)	Visitors
495,934	661,245	39%	257,886

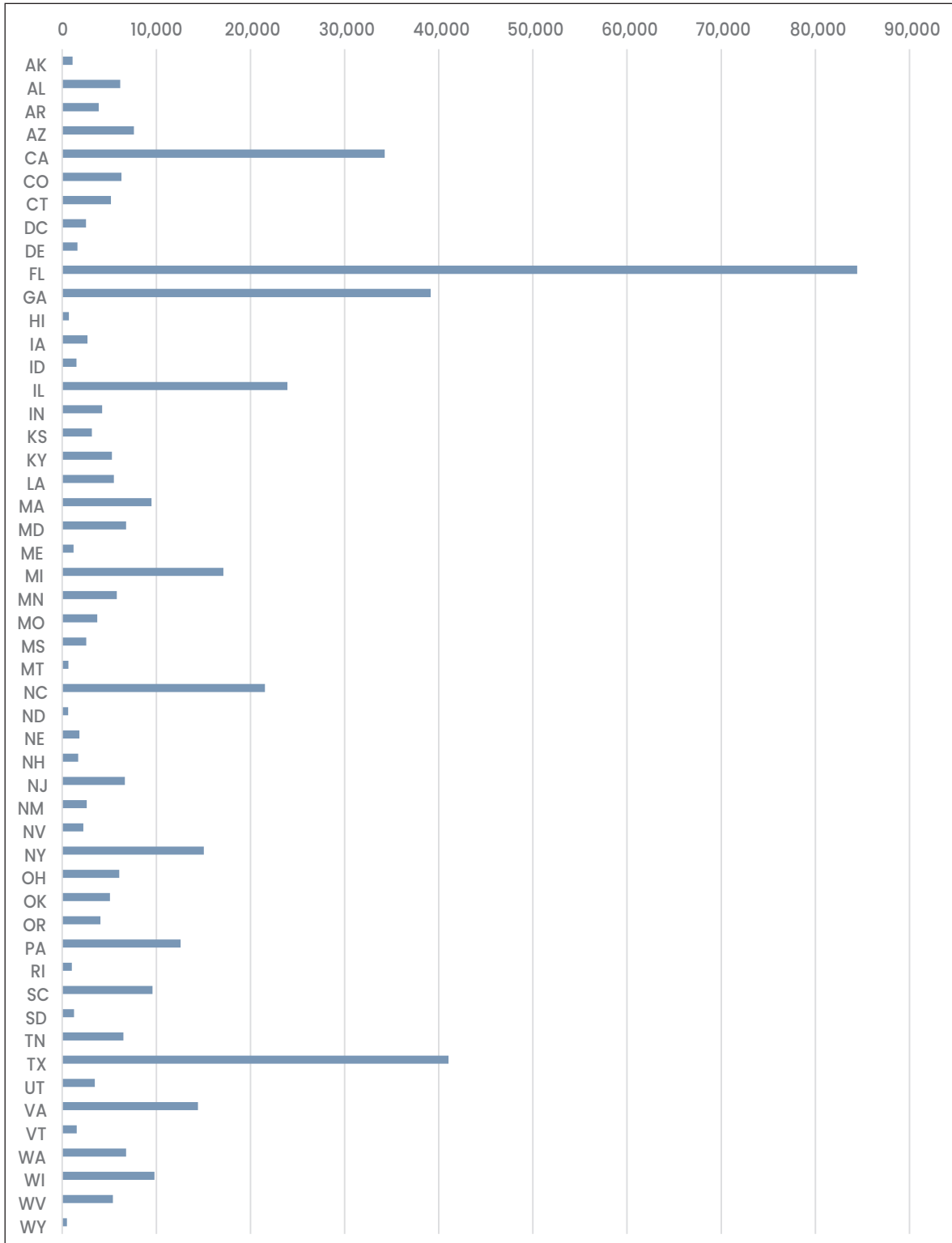
Source: Federal Aviation Administration Terminal Area Forecast, Blue Grass Airport

The nine months of enplanement data was brought up to a full 12 months by multiplying by 1.25. This provided an estimated 2023 enplanements of 661,245. Applying the U.S. DOT’s O&D destination (visitor) percentage of 39 percent yields an estimated 257,886 visitors coming through LEX in 2023.

The second means of estimating visitors involves the use of Mead & Hunt Location Based Data. This is a proprietary database that uses extensive amounts of data from several data sources to characterize travelers based on tracking personal devices, such as phones and tablets.

At the time this study was conducted, Mead & Hunt Location Based Data was available for LEX visits through September 2023. **Figure 3** shows this visit data for 2022 to illustrate a full year’s worth of visits, broken down by the visitor’s state of residence and the month of travel. Florida contributed the greatest number of visits, facilitated by Allegiant flights to Florida and the size of the equine industry in the state. The second largest contributor to LEX visits was Texas, another state with strong ties to the equine industry. Rounding out the top five states with visits to LEX were Georgia, California, and Illinois.

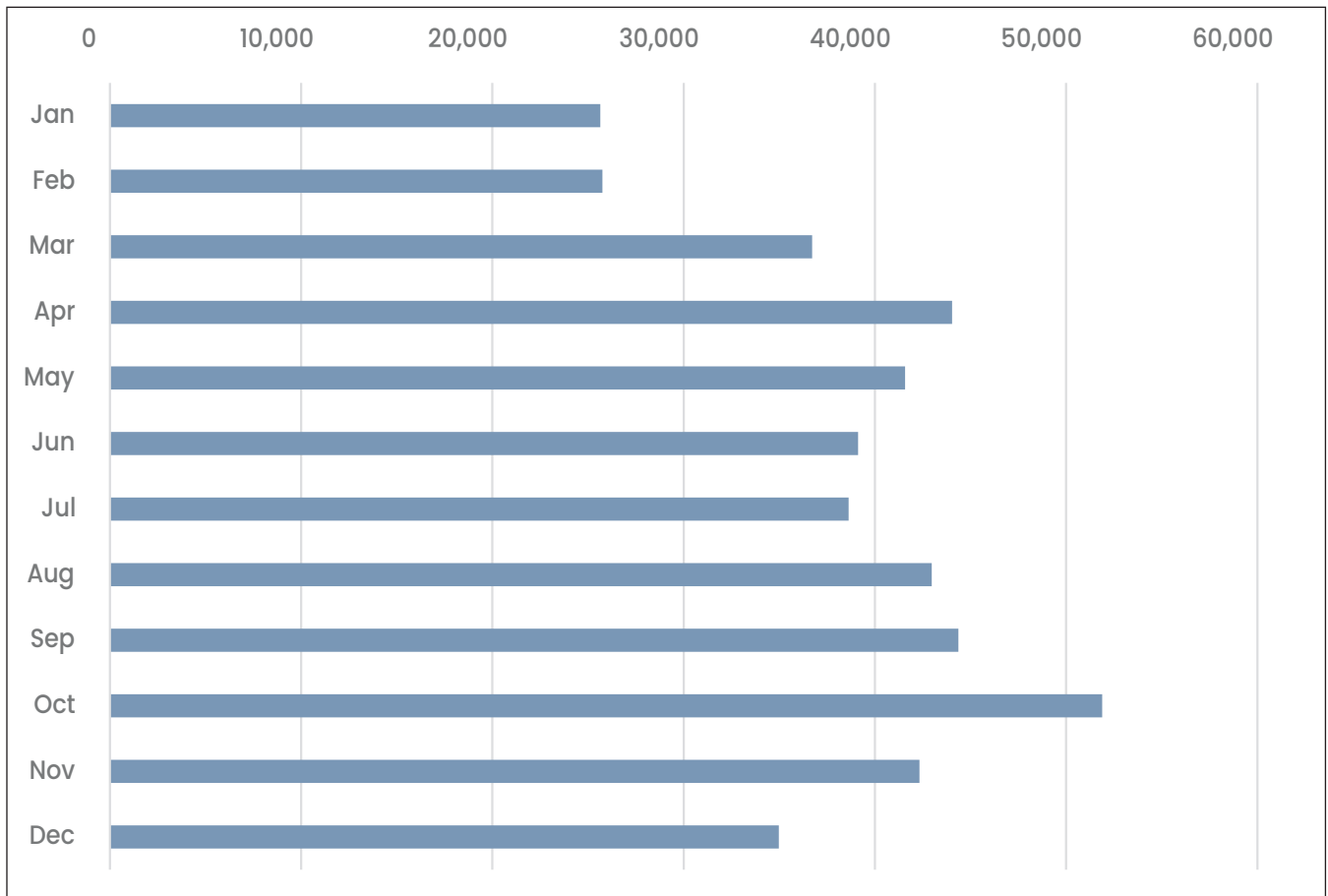
Figure 3:
Number of 2022 LEX Visits by State of Origin



Source: Federal Aviation Administration, U.S. Department of Transportation, and Blue Grass Airport

Another noticeable pattern, shown in **Figure 4**, is that October is the busiest month in 2022. October coincides with Keeneland’s Fall Meet, a popular horse racing event. October is also, typically, a big month for college football, and the University of Kentucky football team draws alumni and visiting teams’ fans to its home games throughout the football season, with a segment of those alumni using LEX.

Figure 4:
Distribution of 2022 LEX Visits by Month of Travel



Source: Mead & Hunt

Mead & Hunt Location Based Data for travelers using LEX in 2022 and 2023 is shown in **Table 2**. To estimate the number of visits in the last quarter of 2023, a comparison was made between the first three quarters of 2022 and 2023. **Table 2** shows the visits from January to September for 2022 and 2023, along with their respective totals. For this time period, the total number of visits in 2023 was 14.3 percent higher than 2022. Part of this 14.3 percent increase can be attributed to recovery from the pandemic, but the study team questioned the likelihood that this increase would continue for the remainder of 2023.

Table 2:
LEX Visits by Month

Month	Visits (Jan. to Sept.)		Percent Increase	Visits (Oct. to Dec.)		2023 Visits
	2022	2023		2022	2023 (est.)	
January	12,819	15,332				15,332
February	12,874	15,819				15,819
March	18,362	24,159				24,159
April	22,014	24,448				24,448
May	20,792	21,654				21,654
June	19,556	23,383				23,383
July	19,315	24,951				24,951
August	21,489	21,038				21,038
September	22,181	22,849				22,849
October				25,944	27,799	27,799
November				21,164	22,677	22,677
December				17,491	18,741	18,741
Total	169,400	193,631	14.3%			262,850

Source: Mead & Hunt

The study team noticed indications that LEX was no longer suffering from the results of the pandemic as early as the second half of 2022. Visit numbers for August 2023 are down from the August 2022 figure, and September data for 2023 was only 3 percent higher than the 2022 visit numbers. Based on this evidence, maintaining the 14.3 percent growth demonstrated in the first three quarters of 2023 is likely too aggressive. Instead, this growth rate was conservatively cut in half and applied to the 2022 visit data for October, November, and December to obtain the corresponding monthly visit estimates for 2023. For example, the 25,944 visits in October 2022 were increased by a factor of 1.0715 (half of the 14.3 percent growth rate) to yield 27,799 visits in October 2023.

The resulting estimate of 262,846 visitors for 2023 is within 2 percent of the estimate obtained using enplanement and O&D data. The study uses this estimate of visitors (conservatively rounded to 262,800) since it relies on more extensive data compared to the 10 percent of ticket sampling that the O&D estimate employs.

Airline Visitor Average Expenditures

The average spending by each airline visitor was obtained through a survey of LEX airline passengers. During October 2023, more than 400 passengers were surveyed in the terminal hold rooms while they waited to board their departing aircraft. Additional surveys were obtained by passengers voluntarily scanning a QR code from a survey announcement poster and completing the questionnaire on their phones.

The survey data was reviewed to identify any inconsistent responses (e.g., a survey that identified as a resident but reported a zip code outside of Kentucky) or stood out as outliers based on an analysis of the spending data. For example, one survey respondent explained their large expenditures were because “We bought horses for \$2 million.” Even with the large sample size obtained in this survey, a single large outlier like this could skew the results. Ultimately, eight surveys were discarded for various reasons, leaving 474 surveys for the spending analysis, as shown in **Table 3**.

Table 3:
Commercial Service Survey Statistics

Survey Summary	Responses
Survey Responses	482
Outlier Surveys	8
Analyzed Surveys	474

Source: Mead & Hunt

Table 4 breaks down the surveys analyzed into the resident and visitor categories, with visitors subdivided into business and leisure categories. As has been observed across the nation, leisure travel at LEX appears to be recovering from the pandemic more rapidly than business travel.

Table 4:
Surveys Analyzed

Respondent Category	Number of Responses
Residents	194
Visitors	280
Business Visitors	108
Leisure Visitors	172
Total Respondents	474

Source: Mead & Hunt

The 280 visitor responses were used to estimate the average spending by visitors while in the Lexington region. A sample of this size yields a margin of error that is less than 6 percent at a 95 percent confidence level. This means that a sample of this size is expected to provide statistical results that are within 6 percent of the actual results 19 out of 20 times.

It should be noted that the 280 visitor surveys accounted for the spending of more than 280 visitors. This is because some respondents recorded the spending for the group they were traveling with, whether that was friends, family, or business associates.

Table 5 summarizes the spending by category of LEX visitors, rounded to the nearest \$5. The table shows that business visitors, as expected, tend to spend more per day during a trip as compared to leisure visitors. However, leisure visitors, on average, visit for nearly a day longer than business visitors, bringing their average spending per trip close to what business visitors spend during their trips.

When the spending of all visitors is taken into account, it comes to an average of \$700 per visitor during the trip. This average does not include airfare or any expenditures that take place on the airport, such as rental car or concession spending by visitors.

“ It takes us at least a half hour to get to Blue Grass but not much over an hour to get to either CVG (Cincinnati) or Louisville. There are obviously more flights to choose from of the latter two and depending on the final destination, it’s often one less segment—yet I still much prefer to fly out of LEX and will always try to make LEX my departing airport, mainly because it’s just less stressful than the big ones. ”

Bob Shay, Passenger

Table 5:
LEX Visitor Spending Averages

Spending Category	Spending per Visitor per Day		
	All Visitors	Business Visitors	Leisure Visitors
Lodging	\$75	\$115	\$60
Food & Beverage	\$60	\$65	\$55
Transportation/Fuel	\$20	\$20	\$15
Recreation & Entertainment	\$30	\$35	\$30
Retail	\$20	\$20	\$25
Other	\$5	\$5	\$5
Total	\$210	\$260	\$190
Average Days Stayed	3.34	2.77	3.66
Average Spending per Visitor	\$700	\$720	\$695

Source: Mead & Hunt

General Aviation Visitors

General aviation (private or corporate aircraft) visitors contribute to the economy of a region through expenditures made during their trip. The spending that takes place on the airport, such as fuel purchases, is captured in the on-airport impacts attributed to the fuel supplier and other on-airport service providers. However, expenditures made off the airport, such as at hotels or restaurants, support the businesses and employees where these expenditures occur. The methods used to estimate these direct off-airport impacts resulting from general aviation visitors to Blue Grass Airport are explained below in detail.

General Aviation Visitors to Lexington

Estimating general aviation visitors is traditionally a challenging endeavor because of the lack of data available to develop an estimate. Traditional methods rely on counts of itinerant general aviation aircraft operations (which can be questionable), estimates of the percentage that carry visitors, and the number of visitors per aircraft. This study employs an improved approach that instead uses Mead & Hunt Location Based data. This is a proprietary database that uses extensive

Figure 5:
Locations for Counting General Aviation Visitors to LEX in 2023



Source: Google Earth

amounts of data from several sources to characterize travelers based on tracking personal devices, such as phones and tablets, and is regarded as much more accurate than the traditional methods. It also has the added benefit of providing more information about the airport’s general aviation visitors beyond just the number of visitors.

To gather this data, a geographic region of the area of interest is defined. In this case, the areas of interest are the parts of LEX used by general aviation. The majority of general aviation activity takes place at Signature Aviation, so this was the primary area of interest. However, a smaller but still significant amount of general aviation activity also takes place at WestLEX General Aviation Services, which is located apart from Signature Aviation on the opposite side of the primary runway, as shown in **Figure 5**. Due to this geographic difference, the 2023 general aviation visitors using WestLEX were counted separately from those that used Signature.

Furthermore, because of the lower visitor numbers at WestLEX, the ability to drill down into the data is more limited than the data from Signature Aviation. As a result, WestLEX visitor data is for all of 2023, while the data from Signature Aviation was obtained for each month of 2023.

Table 6 lists the number of visitors in 2023 at each location. The data clearly shows that most general aviation visitors come through the Signature location, which is logical since WestLEX is intended to serve aircraft based at LEX as opposed to visitors to the region.

Table 6:
General Aviation Visitors to LEX in 2023

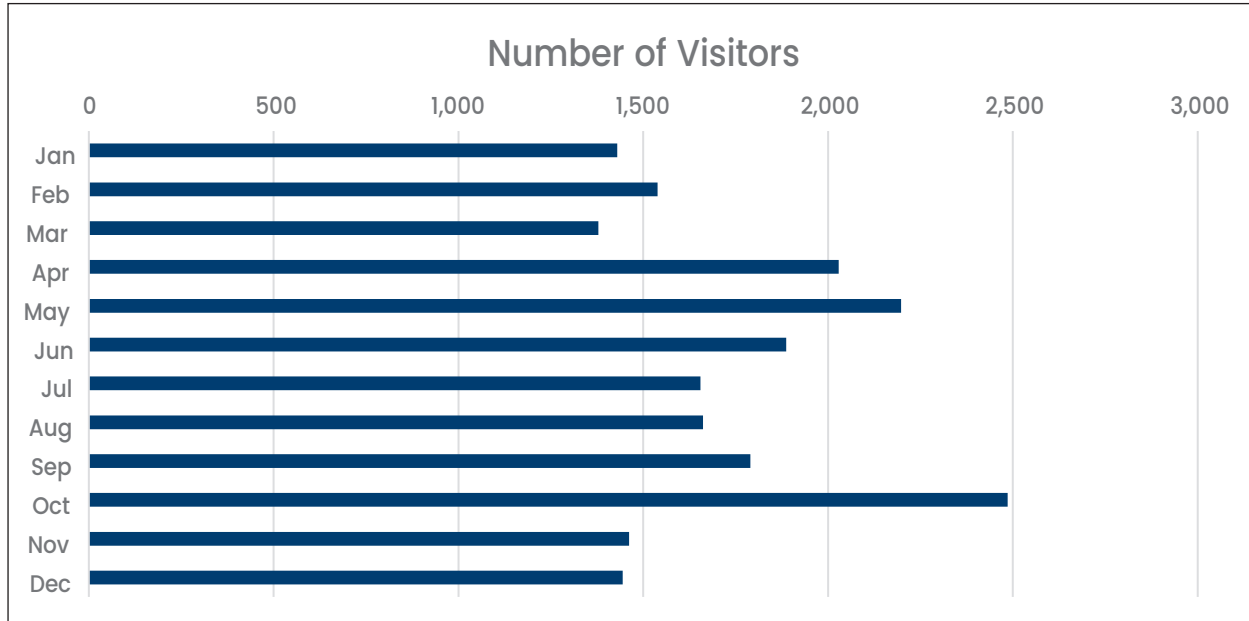
Location on Airport	2023 Visitors
Signature Aviation	29,177
WestLEX General Aviation Services	2,884
Total	32,061

Source: Mead & Hunt

To better understand this visitor data, it was examined in more detail. **Figure 6** shows the visitors from Signature Aviation broken out by month throughout 2023.

The peak activity shown in **Figure 6** is during October, which corresponds with Keeneland’s Fall Meet, a popular horse racing event. October is also a big month for college football with fans and alumni attending the University of Kentucky’s home football games. April is also a heavily traveled month when Keeneland holds its Spring Meet. The Kentucky Three-Day Event is also held in April, drawing visitors to Lexington. While the Kentucky Derby is held in Louisville, many spectators fly into LEX for the May event.

Figure 6:
Number of General Aviation Visitors Using Signature Aviation in 2023 by Month

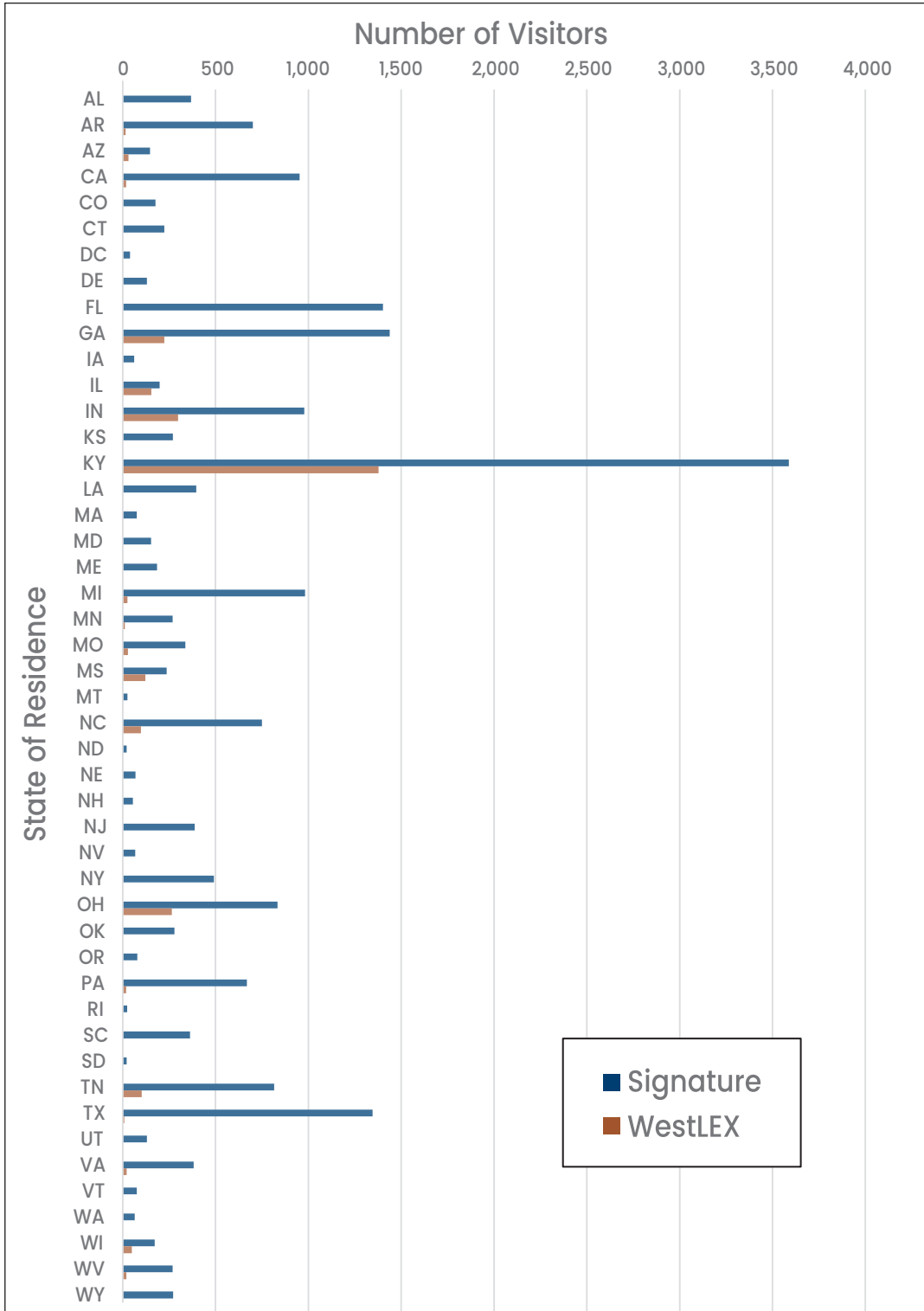


Source: Mead & Hunt

The study also looked at the states that visitors called home. **Figure 7** shows the number of visitors from each state for each airport location. Much like commercial service visitors, general aviation visitors also come from states with ties to the equine industry. This includes large numbers of visitors from Florida, Georgia, and Texas.

The Signature location sees visitors from more states because of the greater number of visitors passing through its facility and because it handles larger aircraft than WestLEX, which typically equates to longer range so they can reach more distant states. The WestLEX location tends to serve smaller general aviation aircraft with shorter ranges, so most visitors tend to be from Kentucky and neighboring states, such as Ohio, Indiana, or Illinois.

Figure 7:
Distribution of 2023 LEX General Aviation Visitors by State



Source: Mead & Hunt

General Aviation Visitor Average Expenditures

The average spending for each general aviation visitor was obtained through survey data. From October 2023 until December 2023, visitors and flight crews using either Signature or WestLEX had the opportunity to complete a survey that asked for the purpose of their visit, the type of aircraft flown, how much they spent during their trip, and how many people their expenditures included. These surveys were reviewed and evaluated for outlier and erroneous results. **Table 7** summarizes the responses received and used in the final analysis.

Table 7:
General Aviation Survey Statistics

Survey Summary	Responses
Survey Responses	28
Outlier Surveys	1
Analyzed Surveys	27

Source: Mead & Hunt

Of the 28 surveys received, 27 came from the WestLEX location, and a single response was received from the Signature location. The study team elected to discard the single response from the Signature location and analyze the data received from the WestLEX location. Since it is known that the general aviation traffic is different at the two locations, the study team decided to benchmark the WestLEX survey results against the findings from a known source. The study team has a large database of thousands of general aviation visitor responses obtained from other economic impact studies, hereafter referred to as the national data. The national database was used to compare and supplement the survey data received from visitors to WestLEX.

The 27 survey responses were analyzed on the basis of trip purpose, as shown in **Table 8**.

Table 8:
Analysis of WestLEX Survey Results by Trip Purpose

Survey Results of WestLEX Visitors	Trip Purpose			
	Business	Leisure	Flight Training	Fuel/Maintenance
Number of Surveys	6	16	3	2
Off-Airport Spending	\$660	\$7,495	\$780	\$0
Off-Airport Visitors	12	31	8	2
Off-Airport Spending per Visitor	\$55	\$242	\$98	\$0

Source: Mead & Hunt

These outcomes are a mix of expected and unexpected results. As a point of comparison, **Table 9** shows the average per visitor spending results as compared to the findings from the national database of general aviation visitor spending.

Table 9:
Comparison of WestLEX Survey Results to National Results by Trip Purpose

Visitor Survey Group	Purpose of Flight			
	Business	Leisure	Flight Training	Fuel/Maintenance
WestLEX	\$55	\$242	\$98	\$0
National	\$191	\$253	\$118	\$225
Percent Difference	-71%	-4%	-17%	-100%

Source: Mead & Hunt

It is apparent that the WestLEX survey results for Business and Fuel/Maintenance flights deviate significantly from the national averages, likely due to the small sample size for each group. To address these shortcomings, **Table 10** shows a hybrid visitor spending average that uses results from the WestLEX survey and the national survey data with weightings based on the WestLEX survey results to obtain a weighted visitor spending average. The weighted average of spending per visitor yields \$214 per visitor.

Table 10:
Weighted Average of Visitor Spending by Purpose of Flight

Purpose of Flight	Weight	Spending per Visitor
Business	21%	\$191
Leisure	61%	\$242
Flight Training	11%	\$98
Fuel/Maintenance	7%	\$225
Weighted Average	100%	\$214

Source: Mead & Hunt

This study also examined the WestLEX survey results by general aircraft type. The average spending per visitor is shown in **Table 11**.

Table 11:
Analysis of WestLEX Survey Results by Aircraft Type

	Aircraft Type		
	Piston	Turboprop	Jet
Number of Surveys	24	2	1
Off-Airport Spending	\$7,925	\$520	\$490
Off-Airport Spenders	43	7	3
Off-Airport Spending per Visitor	\$184	\$74	\$163

Source: Mead & Hunt

While it may seem counterintuitive that people using jet aircraft spend less than people using piston aircraft, our surveys across the U.S. have consistently found this to be the case. When accounting for the idea that people use jet aircraft to save time, this disparity in spending starts to make sense. Those using jet aircraft can accomplish trips (both business and leisure-related) in less time, requiring fewer or no overnight stays and fewer meals, leading to lower off-airport expenditures per visitor.

Table 12 compares the national spending averages per visitor by aircraft type with the averages from **Table 11**.

Table 12:
Comparison of WestLEX Survey Results to National Results by Aircraft Type

Visitor Survey Group	Aircraft Type		
	Piston	Turboprop	Jet
WestLEX	\$184	\$74	\$163
National	\$216	\$135	\$182
Percent Difference	-15%	-45%	-10%

Source: Mead & Hunt

Similar to the comparison by trip purpose (**Table 10**), the comparison by aircraft type shows the LEX results are below the national results for all types of aircraft, so it was decided to use averages from the national data and weight them according to aircraft use patterns observed at LEX.

One method of evaluating aircraft use patterns is to look at flights on instrument flight plans. The FAA collects data on aircraft that use instrument flight plans when flying to and from airports. This data is referred to as the FAA Traffic Flow Management System Counts (TFMSC). While only a small percentage of general aviation aircraft use instrument flight plans, those that do tend to be the aircraft that are traveling from airport to airport, as compared to aircraft that are conducting flight training. It's the aircraft that travel from airport to airport that carry visitors, so the TFMSC data is regarded as representative of the traffic carrying visitors. **Table 13** shows the number of aircraft operations by aircraft type at LEX for the 12 months ending in November 2023.

Table 13:

**Traffic Flow Management System Counts
Operations at LEX from December 2022–November 2023**

	Jet	Turbine	Piston	Total
Number of Operations	4,051	1,177	2,966	8,194
Percent of Operations	49%	14%	37%	100%

Source: FAA Traffic Flow Management System Counts

Table 14 applies the weights from the LEX TFMSC data to the national spending averages to obtain an average visitor spending of \$165.

Table 14:

Weighted Average of Visitor Spending by Aircraft Type

Aircraft Type	Weight	Spending per Visitor
Piston	37%	\$184
Turboprop	14%	\$135
Jet	49%	\$182
Weighted Average	100%	\$165

Source: Mead & Hunt

Tables 10 and **14** establish a visitor spending average range from \$165 to \$214. The average of these two values (rounded to the nearest \$10) is \$190, and this is the visitor spending average used to estimate overall spending by general aviation visitors using LEX.

Economic Model Development

Once the direct impacts data are obtained, the next step is to feed those direct impacts into the linear input-output model to estimate the multiplier impacts associated with LEX. This is accomplished by classifying each direct impact so that proper Kentucky multipliers are applied. **Table 15** lists the classifications and their associated multipliers for employment, payroll, and output.

Table 15:

Blue Grass Airport IMPLAN Multipliers

Direct Input Classification	Employment	Payroll	Output
Aviation	2.12	1.73	1.51
Concessions	1.37	1.59	1.75
Government	2.43	1.68	2.22
Capital Improvement Projects	1.95	1.74	1.83
Commercial Service Visitors	1.45	1.63	1.65
General Aviation Visitors	1.36	1.61	1.80

Source: Mead & Hunt

To illustrate how the multipliers are used, assume a business tenant reported direct employment of eight full-time jobs and four part-time jobs for a total full-time equivalent (FTE) of 10 jobs (8 + 4 x 0.5). If this business tenant were a flight school, it would be classified as aviation, and an employment multiplier of 2.12 would be used to estimate the total number of jobs attributed to the flight school.

$$10 \text{ FTE} \times 2.12 = 21.2 \text{ Total FTE} = 10 \text{ Direct FTE} + 11.2 \text{ Multiplier FTE}$$

If the business were instead a rental car company, it would be classified as a concession and use an employment multiplier of 1.37 to yield 13.7 total FTE.

$$10 \text{ FTE} \times 1.37 = 13.7 \text{ Total FTE} = 10 \text{ Direct FTE} + 3.7 \text{ Multiplier FTE}$$

This process is repeated for all the direct impacts for employment, payroll, and output to yield estimates of multiplier and total impacts.

This process accounts for two primary effects of multiplier impacts. One effect is the re-spending of dollars by businesses accounted for in the direct impacts. These businesses spend dollars taken in on suppliers within the defined region (Kentucky for this study), which creates multiplier impacts. This process can occur multiple times before the dollars are expended beyond the defined region, at which point they have leaked outside of the study area and no longer add to the multiplier impact.

Kentucky has a significant aerospace industry presence. In 2023, exports of aerospace products and parts exceeded all other industries in Kentucky. The \$13.3 billion in aerospace product exports accounted for a third of all of Kentucky's exports for the year. The strong aerospace industry in Kentucky explains the retention of aviation-related transactions in the state, as evidenced by the high employment and payroll multipliers for aviation, as shown in **Table 15**.

The other effect is the re-spending of dollars by employees of the businesses accounted for in the direct impacts. These people spend their salaries and wages on everyday expenses, such as groceries, vehicle upkeep, medical bills, and rent or mortgages. When these purchases occur within the defined area of the study—Kentucky—they contribute to the multiplier impact.

Economic Impact of Blue Grass Airport

Blue Grass Airport is a major contributor to the economic vitality of the Lexington region. This section demonstrates the extent of that economic vitality, with explanations focused on the types of impacts—direct, multiplier, and total.

Direct Impacts

The direct impacts from Blue Grass Airport are shown in **Table 16**, broken down by economic impact category. It is interesting to note that the largest segment of direct employment was attributed to commercial service visitors, while on-airport direct impacts contributed the largest portion of economic output. The significant employment impacts from commercial service visitors are typical for a commercial service airport like LEX. The strong on-airport direct output indicates LEX has a solid foundation of businesses operating at the airport, including a healthy mix of general aviation and airline operations.

Table 16:

Blue Grass Airport Direct Economic Impacts

Direct Impact Category	Employment	Payroll	Output
On-Airport	889	\$53,113,000	\$201,952,000
Capital Improvement Projects	148	\$6,165,000	\$30,122,000
Commercial Service Visitors	1,748	\$45,972,000	\$183,960,000
General Aviation Visitors	83	\$2,183,000	\$6,099,000
All Direct Impacts	2,868	\$107,433,000	\$422,133,000

Source: Mead & Hunt and IMPLAN

A more detailed description of each impact category follows.

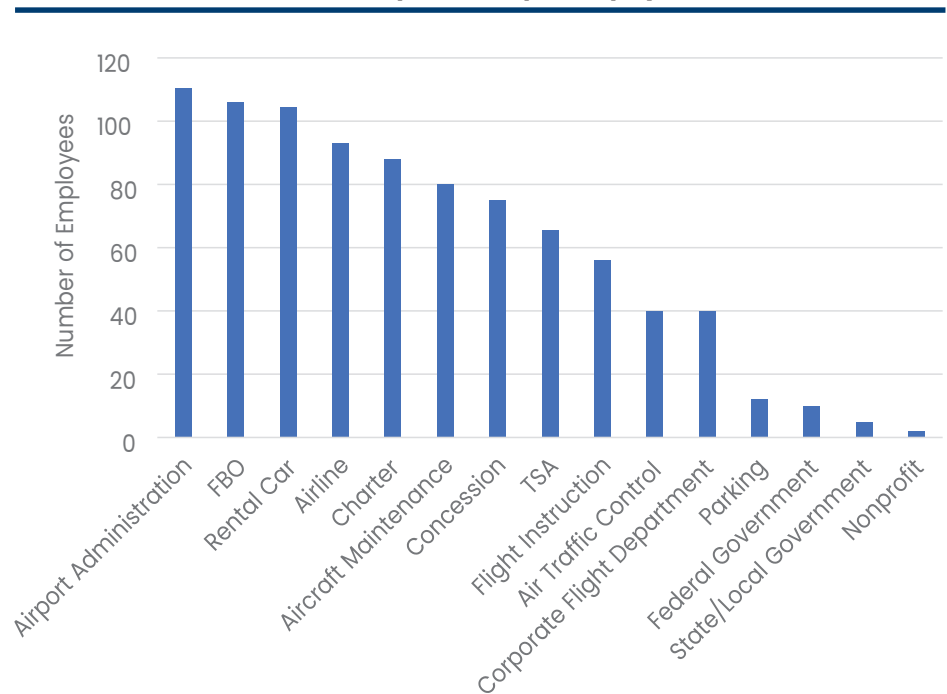
On-Airport

The on-airport direct impacts are the most obvious impacts, with evidence of jobs and economic activity clearly seen daily around LEX in the airline, concession, and general aviation operations. As shown in **Table 16**, on-airport direct impacts account for 889 jobs, an associated payroll of \$53 million, and output of more than \$201 million. Major contributors to this economic activity include Signature Aviation, Triton Airways, and Unifi. While the airlines at LEX also contribute to the direct on-airport impacts, their biggest impact results from the visitors they bring to the region, as described in a later section.

Figure 8 shows the distribution of on-airport jobs at LEX among 15 general categories. The largest employment sector is airport administration, the full- and part-time staff that oversee and operate LEX on behalf of the Lexington-Fayette Urban County Airport Board. This is followed closely by the FBO operations at LEX, which also include ground-handling companies that provide services to the airlines. With airlines outsourcing more of their operations, the FBO sector accounts for more than 100 employees at LEX. The other sector that employs more than 100 people at LEX is the rental car industry.

Figure 8:

Blue Grass Airport On-airport Employment



Source: Mead & Hunt and IMPLAN

Also noteworthy is that while the on-airport category is not responsible for the most direct employees, it is responsible for the most payroll and output. This indicates that on-airport jobs tend to be high paying and very productive, which greatly enhances economic growth. This is one of many reasons why Blue Grass Airport actively advocates for aviation and its career potential (see *Aviation Career Development at Blue Grass Airport* under the Case Study section for details).

Capital Improvement Projects

Capital Improvement Projects (CIP) contributed direct impacts of 148 jobs with a payroll of \$6 million and output of \$30 million. These impacts are an annual average of CIP expenditures by the airport and business tenants from 2020 to 2023 to smooth out peaks and valleys in CIP spending.

LEX comprised the majority of this impact, with several significant projects undertaken during the study period. LEX constructed an aircraft rescue and fire fighting facility, improved its runway safety areas, and rehabilitated Runway 4/22, for which it received a 2022 Airport Business Project of the Year award.

Commercial Service Visitors

The impacts from commercial service visitors are quite significant. This category of direct impact contributes more jobs to the economy than any other category, with 1,748 positions attributed to commercial service visitor-related spending (see **Table 16**). These jobs are found off-airport, predominantly in the hospitality industry, with hotels and restaurants benefiting from these visitor-related expenditures.

As shown in **Table 17**, commercial service visitor spending was based on the previously described estimates of visitor numbers and average visitor spending (see **Table 2** and **Table 5**).

Those two estimates were multiplied together to obtain an airline visitor spending estimate. **Table 17** brings this data together and demonstrates the basis for the \$184 million estimate of LEX visitor spending.

Table 17:
Estimate of LEX Visitor Spending

2023 Visitors	Average Spending per Visitor	2023 Visitor Spending
262,800	\$700	\$183,960,000

Source: Mead & Hunt

“The baggage claim is always moving quickly, getting a rental vehicle almost always moves quickly, and the road getting out is easy to navigate. There are several restaurants that have very friendly staff and are always open to great conversation and the food is always great too, along with the bourbon store which is always a favorite of mine to stop in. I will continue to only use LEX as long as I possibly can!”

J. Lee Cummings, Passenger

“Great place to visit.”

“Good for local economy.

Easy travel to/from. WestLEX doing great job.

Keep up the work with no extra fees.

That brings in more business to the area.”

“Best airport in KY!”

General Aviation Survey Respondents

The 2023 visitor number was rounded to 262,800 to avoid implying a higher degree of precision than should be associated with this estimate.

General Aviation Visitors

The economic impacts associated with general aviation visitors stem from their off-airport spending during their trip (expenditures made at the airport, such as rental cars, are included in the on-airport impacts).

General aviation visitor spending was estimated using the estimates of general aviation visitors and average visitor spending previously determined (see **Table 6** and **Table 14**). As shown in **Table 18**, the study team estimated that general aviation visitor spending contributed more than \$6 million to the local economy.

Table 18:
Estimate of LEX General Aviation Visitor Spending

2023 Visitors (rounded)		Total 2023 General Aviation Visitors	Average Spending per Visitor	2023 General Aviation Visitor Spending
WestLEX Visitors	Signature Visitors			
2,900	29,200	32,100	\$190	\$6,099,000

Source: Mead & Hunt

Returning to **Table 16**, \$6 million in general aviation visitor spending supported 83 jobs with a payroll of more than \$2 million. These are jobs primarily found in the hospitality industry, such as restaurants and hotels, and are located off-airport.

When all categories of direct impacts are combined (see **Table 16**), 2,868 jobs with a payroll of more than \$107 million are connected to LEX activities. Direct output from LEX exceeds \$422 million.

Multiplier Impacts

Multiplier impacts result from the recirculation of direct impacts in the economy. The businesses and their employees spending their income in the region generate these multiplier impacts.

Table 19:
Blue Grass Airport Multiplier Economic Impacts

Multiplier Impact Category	Employment	Payroll	Output
On-Airport	923	\$37,106,000	\$136,779,000
Capital Improvement Projects	141	\$4,585,000	\$24,960,000
Commercial Service Visitors	783	\$28,962,000	\$120,256,000
General Aviation Visitors	30	\$1,746,000	\$4,866,000
All Multiplier Impacts	1,877	\$72,399,000	\$286,861,000

Source: Mead & Hunt and IMPLAN

As explained previously, Kentucky’s extensive aerospace industry helps keep aviation-related spending in the state, resulting in the on-airport category having the highest multiplier impacts. These businesses tend to have high-paying jobs with corresponding large outputs, so the resulting multiplier impacts for on-airport activities exceed all other categories. **Table 19** shows that multiplier impacts for all categories amounted to 1,877 jobs with an associated payroll of more than \$73 million and output of \$286 million.

Total Impacts

The total impacts attributed to Blue Grass Airport are the combination of the direct and multiplier impacts. **Table 20** shows the total impacts.

Table 20:
Blue Grass Airport Total Economic Impacts

Total Impacts Category	Employment	Payroll	Output
On-Airport	1,812	\$90,219,000	\$338,731,000
Capital Improvement Projects	289	\$10,750,000	\$55,082,000
Commercial Service Visitors	2,531	\$74,934,000	\$304,216,000
General Aviation Visitors	113	\$3,929,000	\$10,965,000
All Impacts	4,745	\$179,832,000	\$708,994,000

Source: Mead & Hunt and IMPLAN

When all categories are accounted for, LEX is responsible for 4,745 jobs that earn nearly \$180 million annually and produce approximately \$709 million in output.

The Unique Value of Blue Grass Airport

While solid numbers to explain the value of Blue Grass Airport (LEX) are useful, communicating how \$700 million in economic output impacts a particular individual can be challenging. Often, a better way to help an individual relate to the airport's benefits is to provide anecdotal examples with which the individual can identify. This section addresses the qualitative benefits of LEX, along with three case studies that help illustrate specific examples that can be more relatable than economic impact numbers.

Qualitative Benefits

The airport contributes economic impacts in the form of employment, payroll, and output. In addition to these quantifiable benefits, there are additional benefits that make it challenging, or, in some cases, impossible, to assign a value. Nevertheless, these qualitative benefits are important contributions from Blue Grass Airport.

These qualitative benefits take many different forms. The examples illustrated below are a sampling of the many ways Blue Grass Airport benefits the region beyond its economic contributions.

Air ambulance flights operate daily out of Blue Grass Airport. These operations serve all necessary medical purposes, including medical personnel transport, patient transfers, and lifesaving emergency flights. By serving these flights, medical professionals can reach remotely located patients and save lives throughout the region. Beyond Lexington's geographic area, the airport has also given other regions quick and efficient access to the medical facilities within the Lexington community.

In addition to Blue Grass Airport's team of onsite Police, Fire and Emergency Medical Services, occasionally, local and state police departments operate at Blue Grass Airport to ensure the community's safety. This includes aerial search efforts, prisoner transport, and police and firefighter training activities. Military aircraft training and exercises are conducted at the airport on a consistent basis. The airport has served as a convenient facility for the region's first responders and military personnel, providing an additional measure for protecting the region.

Beyond the quantitative general aviation (GA) impacts, there are also qualitative benefits that GA brings to the region. These activities include recreational flights. The airport is a frequent destination for general aviation enthusiasts visiting the region or seeking fixed-base operator (FBO) services, such as aircraft maintenance or fueling. Signature Aviation is the full-service FBO located on the airfield and provides fueling service, deicing, maintenance, and ramp space for parking. The airport is home to approximately 65 GA hangars, which also contribute to the volume of GA activity that the airport sees daily.

Business aviation and chartered flights are additional users of the airport, generating significant revenue and stimulating the region's economy. Local businesses base their flight departments at the airport to facilitate business travel. LEX is a convenient location for those in the region wanting to charter a flight, as it provides the necessary facilities to accommodate such travel arrangements.

The airport has had a major impact on the local economy by serving as a destination for those traveling to the region for world-renowned equestrian events and the Kentucky Derby held annually in Louisville. Aside from the equestrian industry, Blue Grass Airport supports aviation activity for Lexmark, Tempur-Sealy, University of Kentucky, Toyota Motor Manufacturing Kentucky, Lockheed Martin, and many other central Kentucky businesses.

Blue Grass Airport makes it a priority to support the Lexington community, and it stays involved with local programs and organizations. The airport hosts several events annually, including Honor Flight Kentucky send offs and arrivals for military veterans, general aviation barbecues, and presentations to community leaders and organizations. Additionally, LEX leadership partners with community organizations such as Commerce Lexington, American Red Cross Bluegrass Area Chapter, Aviation Museum of Kentucky, Breeders' Cup, Kentuckians for Better Transportation, Lexington Bluegrass Area Minority Business Expo and Urban League of Lexington-Fayette County to maintain support and involvement with local like-minded organizations.

The promotion of aviation in the central Kentucky region is important for the airport. Blue Grass Airport supports the Eastern Kentucky University (EKU) aviation program through many efforts, including providing internship and volunteering opportunities to their students. The EKU program is based at Central Kentucky Regional Airport, located about 32 miles southeast of LEX near Richmond, Kentucky. Staff from LEX have also served as lecturers for EKU aviation classes. LEX staff work to provide tours for youth programs in the area, such as the Boy Scouts, to reach and inspire younger audiences.

The airport has been recognized as a great employer in the region and has been awarded one of the best places to work in Kentucky by the Worksite Wellness Council of Louisville. Other awards from the Worksite Wellness Council of Louisville that recognize Blue Grass Airport's wellness program include multiple Fleur De Lis awards, along with Platinum and Gold awards. The airport was also one of six airports to receive the 2022 *Airport Business* Projects of the Year for its extraordinary efforts to complete the complex rehabilitation of Runway 4/22 in August 2021.

Case Studies

The study team gathered information for three case studies that helped show how Blue Grass Airport does more than create jobs and produce economic activity. These case studies show how the airport and its people look to the future aviation workforce, engage with the community through the support of Honor Flight Kentucky, and aid the organ transplant operations of local hospitals.

Aviation Career Development

For the past 77 years, Blue Grass Airport has provided a key transportation hub for the Lexington region. It has also served as a training ground for the future aviation industry workforce. LEX accomplishes this through both obvious and subtle ways. The obvious mechanisms include the various flight schools instructing future helicopter and fixed-wing pilots and Thoroughbred Aviation Maintenance, which provides targeted training programs for aircraft maintenance technicians. However, many people may not fully appreciate, or even be aware of, the more subtle aviation promotion that occurs at LEX.

Influencing the Next Generation of Aviators—An Example

Among the subtle influences found at LEX, formal and informal programs nurture the next generation of flight enthusiasts. A classic example is Lieutenant Junior Grade (LTJG) Lincoln Kilgore, who is going through flight training with the U.S. Navy in Pensacola, Florida. He credits Blue Grass Airport for guiding him down his path of success, including helping with his acceptance to Officer Candidate School (OCS)—a prerequisite to his Navy flight training. To understand how, let's take a quick look at LTJG Kilgore's background.

From Pilot to Naval Aviator

LTJG Kilgore, originally from Paintsville, Kentucky, fell in love with aviation as a three year old on his first airline flight from LEX to Florida. His flying career started with a discovery flight from nearby Big Sandy Regional Airport (SJS). His grandmother enrolled him in flight school at Paintsville-Prestonsburg-Combs Field (9KY9), a privately-owned airfield where he earned his private pilot certificate shortly after graduating from high school. His keen interest in aviation led him to Blue Grass Airport.

After enrolling at Eastern Kentucky University (EKU), LTJG Kilgore volunteered at the Aviation Museum of Kentucky, located on LEX property. In 2017, LTJG Kilgore served as a museum docent, answering visitors' questions, providing tours, and manning the gift shop. This led to him volunteering at the museum's aviation summer camp, where he passed along his aviation knowledge to those new to aviation. He served as a flight simulator instructor, using his knowledge as a pilot to teach basic aircraft operations, demonstrate take offs and landings, and show navigation techniques on cross-country flights. He coached camp participants as young as six to as old as 98 through aeronautical maneuvers on the simulator. He answered questions from prospective student pilots, explaining how he achieved his dream of becoming a pilot. And while he was helping the next generation explore aviation, he was also picking up valuable skills of his own. Most importantly, he met some phenomenal people who shared his interest in aviation.

His experience at the museum and the people he met helped him obtain a job at WestLEX, the airport-owned general aviation services provider. Starting in 2018, he moved aircraft and refueled planes until 2021, when he graduated from EKU. But, as valuable as the experience of working around airplanes was, he said that his most valuable takeaway was the aviation network he developed. He had the opportunity to build relationships with staff from LEX, connect to his co-workers at WestLEX, and learn from the aviation mechanics of Thoroughbred Aviation Maintenance. Additionally, he had time to develop friendships with members of the Lexington Flying Club and staff at NexGen Aviation, a flight school and charter operator based at LEX.

Following graduation from EKU in the spring of 2021, LTJG Kilgore applied for and was accepted to OCS. He completed OCS training in December 2021 and then headed to Pensacola, Florida for primary flight training.

“...The magnanimity of how Eric Frankl, Erik Guttersen, and the museum folks treat people. They really care about people and it's something that I try to emulate.”

LTJG Lincoln Kilgore



Figure 9: This McDonnell Douglas A-4 Skyhawk on static display at the Aviation Museum of Kentucky may have motivated other aspiring naval aviators besides LTJG Kilgore.

LTJG Kilgore credits many people with his success, starting with his mom, Nancy, and grandmother, Bonnie. To that list, he adds Larry Short, his first flight instructor, and individuals from the Aviation Museum of Kentucky.

"I always say that people like operations manager Hunter Moore, Gerald Landreth, Calvin Smith, Ed Murphy—all the folks in the museum—if it weren't for them, I wouldn't have gotten the job at WestLEX," LTJG Kilgore stated. Once he started working for LEX, he found that airport staff, such as airport President & CEO Eric Frankl and Aviation Services Manager Erik Guttersen, were instrumental in mentoring him and helping with his career. He is convinced that recommendations from these individuals were critical in getting accepted to OCS, where he was commissioned into the Navy. He related that the example they set continues to motivate him in his leadership role and interactions with his enlisted sailors.

LTJG Kilgore graduated from primary flight training at the top of his 26-member class in late 2023, earning him the privilege of choosing his follow-on training. He selected a coveted tactical air slot, meaning he would have a chance to fly jet fighters, while many in his class were assigned to fly P-8s, a twin-engine maritime patrol and anti-submarine aircraft. LTJG Kilgore has orders to Meridian, Mississippi, where he will undergo advanced training in the T-45 Goshawk and earn his wings of gold. He will then be assigned to a fleet squadron for transition to an operational jet, where he will fulfill his oath to defend the country and our Constitution.

LTJG Kilgore is one example of how Blue Grass Airport is nurturing the future of aviation. Not only does the airport help introduce the next generation to aviation, but the staff and leadership of LEX set an example for them to emulate no matter what field they choose to pursue.

Honor Flight Kentucky

Blue Grass Airport and its staff are faithful supporters of the Lexington community. Every year, LEX hosts various events and lends support to organizations that promote the welfare of Kentuckians. One event, in particular, that reaches several generations and evokes a sense of Kentucky pride like no other is Honor Flight Kentucky.

Honor Flight Kentucky is one of many independent hubs that support the Honor Flight Network. The Honor Flight's mission is to fly World War II, Korean War, and Vietnam War veterans to Washington, D.C., for an all-expenses-paid day where they experience memorials intended to honor their service and sacrifice. Honor Flight Kentucky focuses on veterans in central, eastern, and southern Kentucky and currently has a waiting list of more than 500 eligible veterans.

Time is against Honor Flight Kentucky. As the Greatest Generation and subsequent generations of veterans pass away, the opportunity for them to experience the memorials in Washington, D.C., diminishes. Honor Flight Kentucky endeavors to give that experience to as many vets as possible before it is too late.

Honor Flight Kentucky volunteers work hard to make this possible by obtaining sponsors for each flight. Kentucky's Touchstone Energy Cooperatives and Toyota Motor Manufacturing Kentucky have been steadfast sponsors for Honor Flights. Money is also raised through private donors and No Greater Honor 5K Runs.

Honor Flight Kentucky works with American Airlines to provide several flights every year. Chartered aircraft take approximately 70 veterans, along with an equal number of guardians (who pay their way) to guide each veteran. The flight crew and event organizers round out the flight manifest.

Blue Grass Airport works throughout the year to assist in the coordination of these events. This includes providing an event space, hosting breakfast, providing necessary sound equipment and staging, and assembling the organizations, such as Rolling Thunder, Civil Air Patrol, and others, that arrive to give the veterans a well-deserved sendoff. Honor Flight volunteers are instrumental in organizing the welcome home event that greets the returning veterans. Crowds as large as 1,000 people cheer the veterans as they pass through the LEX terminal. Along with groups like the Boy and Girl Scouts, and veteran groups, Honor Flight volunteers encourage individuals to come out to welcome these heroes home and take the opportunity to thank them for their service.

This is particularly important, as many veterans, especially those from the Vietnam era, never received a proper reception when they came back from the war zone. In a small way, this makes up for the mistreatment from decades ago. One way to illustrate this is to look at the example of Captain Linda Cunningham, a U.S. Army veteran who served from 1979 to 1989 and has been a veteran on an Honor Flight, served as a guardian, and volunteers with Honor Flight Kentucky.

"We literally marched from TSA to the far end of the airport and the crowd was still six people deep. All of them wanting to shake your hand and tell you thank you...and it was just so impactful."

CPT Linda Cunningham, Veteran

Honor Flight Veteran

CPT Cunningham's initial involvement with Honor Flight began when she was invited to participate in the first all-female Honor Flight. The flight, which took place in June 2022, accommodated 134 female veterans who served from the Vietnam era up to the War on Terror. With so many veterans, there wasn't space to seat guardians, so veterans served as each other's guardians. CPT Cunningham said that their tour of Washington, D.C. included a stop at the Military Women's Memorial, where each veteran was inducted to the memorial. Her group also attended a changing of the guard at the Tomb of the Unknown Soldier. Other stops included the Marine Corps War Memorial, where her group received a 21-gun salute, and CPT Cunningham collected one of the brass casings from the salute.

"Being a guardian was every bit as emotionally impactful and rewarding as being a veteran, especially watching those Vietnam veterans come off that flight, and be thanked, and be appreciated."

CPT Linda Cunningham, Veteran

Upon their return to Lexington, CPT Cunningham said they experienced one of the largest greeting crowds in Honor Flight history. There were multiple chapters of Daughters of the American Revolution, bagpipers, friends, and family members, many holding welcoming signs and all cheering for the returning veterans.

"Men veterans wear that baseball hat that screams, 'I am a veteran.' Women, for the most part, don't do that, and so we become invisible. This was a chance to see the whole world say, 'Yes, you are a veteran, and we appreciate you.' That's an invaluable gift." She compared the experience to Vietnam veterans who are grateful for Honor Flight, giving them the welcome home they never got when they returned from war.

Honor Flight Guardian

CPT Cunningham was so moved by her experience on her Honor Flight that she felt compelled to serve as an Honor Flight guardian, where she would pay her own way on an Honor Flight to assist a veteran during his/her experience.

She had the opportunity to serve as an Honor Flight guardian in April 2023. She was paired at random with a female veteran who served in the Army roughly the same time CPT Cunningham did. She arranged to have lunch with her veteran to get to know each other before their flight. She mentioned that her veteran even had a connection to LEX, working as an air traffic controller at the airport after getting out of the Army. During their visit to Washington, D.C., CPT Cunningham said the visits to the Vietnam Memorials were particularly moving because her veteran had family members who served during Vietnam.

Upon returning from her guardian Honor Flight, CPT Cunningham decided to do even more for Honor Flight and became an Honor Flight volunteer.

Honor Flight Volunteer

Her first duty as an Honor Flight volunteer was helping organize and execute the sendoff for the September 2023 Honor Flight. She plans to continue her volunteer efforts by serving as a bus captain for the May 2024 Honor Flight, where she will be responsible for the busload of veterans and guardians. But that isn't the only volunteering that CPT Cunningham does for Honor Flight. She has helped them update their databases, supported their 5K fundraising efforts, and agreed to serve on their board of directors.

CPT Cunningham said, "I can't think of a more worthy organization to give my time to. What that trip does for the veterans is priceless." And it can't happen without the support of LEX staff. "We take over the Blue Grass Airport when the flight comes home," said CPT Cunningham. "For me, the most important part of the day is that homecoming, and that doesn't happen without the airport."



Figure 10: CPT Linda Cunningham is greeted at LEX upon her return from her first Honor Flight.

Efforts such as these turn Blue Grass Airport from a transportation hub into a community center. Veterans will remember the airport as where they received their long overdue welcome home, where children met some of their first heroes, and where the Lexington community comes together to take pride in who they are and the example they set for future generations.

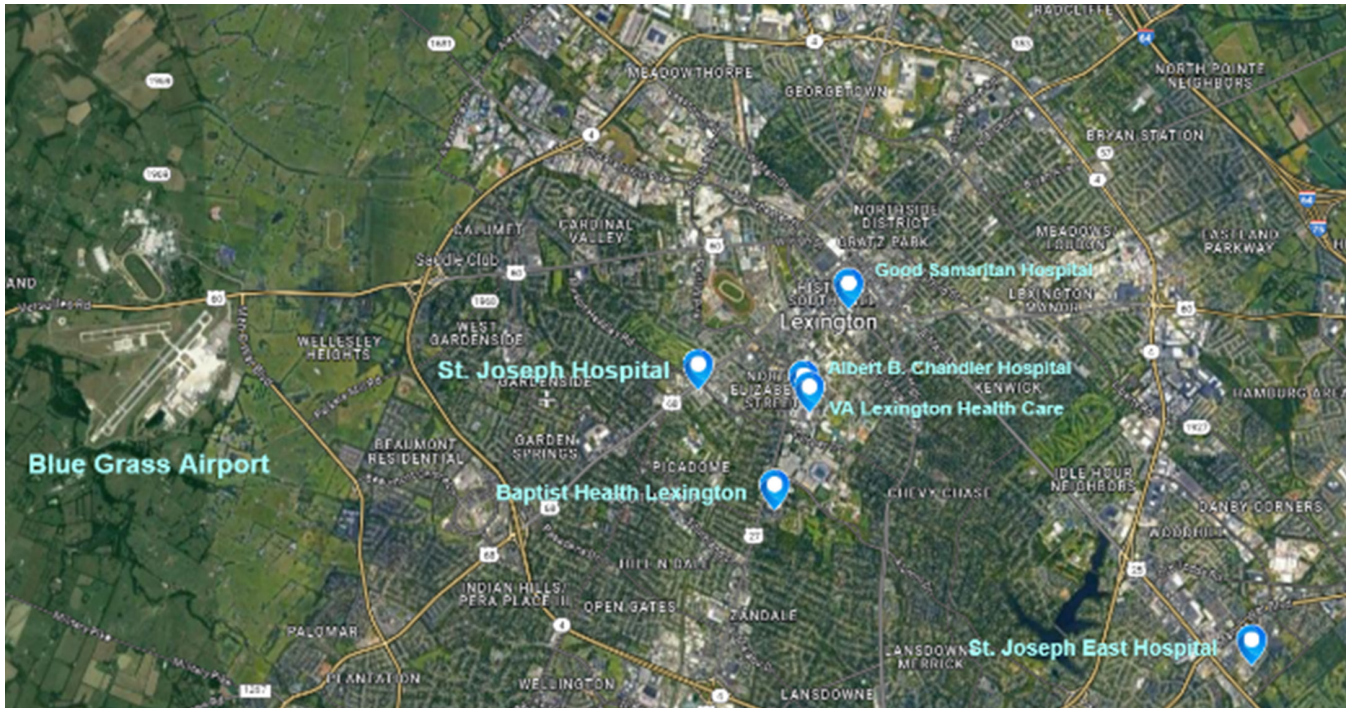
Healthcare Use of Aviation

The use of aviation by the healthcare industry is a significant benefit that Blue Grass Airport provides to the community. This case study looks at how LEX supports the medical community of Lexington and the surrounding area.

Supporting Emergency Flights

Lexington has a huge catchment area for health services, partly due to the city's large number of hospitals and health services (see **Figure 11**). According to Blue Grass Airport's Public Safety Medical Director, Dr. Ryan Stanton, MD, FACEP, a good number of Lexington's hospitals make use of aviation, especially helicopters. He also serves as the Kentucky and Florida medical director for AirMed International, an air medical transport company that has conducted more than 25,000 medical air missions. He said that medical helicopters refuel at LEX because of the airport's proximity to these hospitals. These aircraft also use LEX when weather conditions preclude the use of hospital helipads. While the majority of medical flights are in helicopters, there are a small number of patient transport flights, and the University of Kentucky organ transplant program frequently flies into and out of LEX.

Figure 11:
Location of Lexington Area Hospitals Relative to Blue Grass Airport



Source: Mead & Hunt

Lexington has the only Comprehensive Stroke Center in the region. Very few places conduct mechanical thrombectomies (a surgical procedure that physically removes the blood clot causing a stroke), so the people of Lexington are fortunate to have this option available, and this service attracts many stroke patients. Time is critical for stroke patients, where outcomes can range from full recovery to permanent disabilities if medical attention isn't administered quickly enough.

Dr. Stanton mentioned that Baptist Health has handled as many as 10 stroke emergencies in a day. He pointed out that when a stroke takes place in, for example, Pikeville, Kentucky, the patient is two and a half hours away by ground transport but only 45 minutes by air ambulance, and that time difference is often crucial for the patient's outcome.

In addition to a ground ambulance not being fast enough, transporting a patient via a ground ambulance from a distant community to Lexington deprives that community of the ambulance for the duration of the trip. Especially for smaller communities with limited resources, the temporary loss of their ambulance can jeopardize the health and safety of other patients in the community.

Blue Grass Airport is the closest airport to all of Lexington's hospitals. It has the best instrument approaches among any airport in the region. Compared to other airports in the region, it can clear its runway and taxiways of snow faster and more frequently. With the addition of WestLEX, the airport offers more service options, Dr. Stanton said, and the people at WestLEX are excellent to work with and provide outstanding service.

One final advantage of LEX Dr. Stanton mentioned is the military presence, which enhances medical preparedness through events such as chemical stockpile emergency preparedness (CSEP) training drills and the presence of critical care air transport teams (CCATT). The Blue Grass Airport Regional Aircraft Rescue and Fire Fighting (ARFF) Training Center on LEX property also enhances medical preparedness.

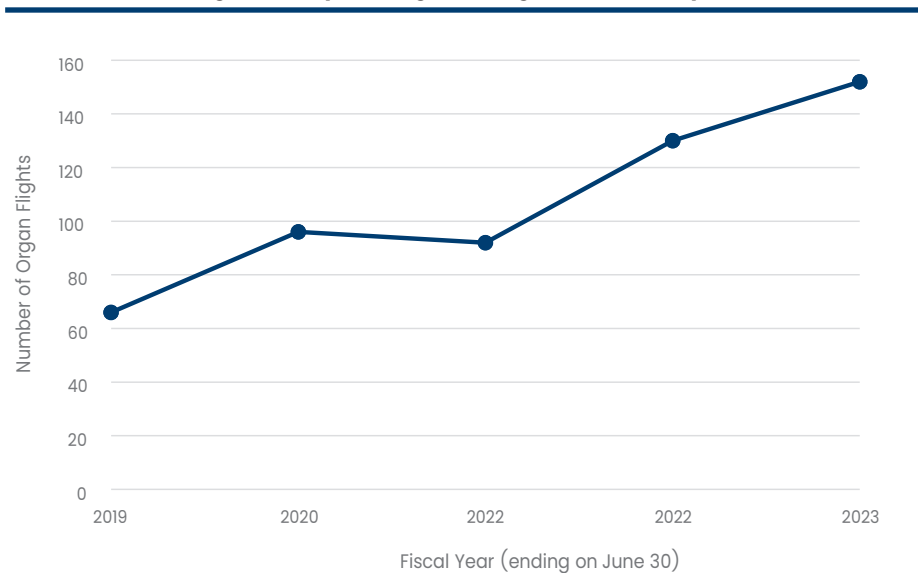
Supporting Organ Transplants

Another important aspect of LEX is its support of the University of Kentucky’s (UK) organ transplant program. The UK Transplant Center is the largest of three transplant facilities in Kentucky. The other two facilities are in Louisville. According to Melinda Fox, transplant administrator for the UK Transplant Center, the program averages approximately 200 organ transplants annually, and 80 percent of those organs pass through LEX on the way to the hospital. These transplants cover all the solid transplants—hearts, lungs, livers, pancreas, and kidneys—and include double organ transplants. The UK Transplant Center also takes credit for the most donor organs in Kentucky. By volume, Fox said it is among the top 25 percent of transplant centers in the U.S.

Bethany Banks, transplant assistant administrator for the Transplant Center, explained that time is critical for organ transplants. Typically, hearts and lungs must be transplanted within six hours of recovery, while liver and pancreas transplants are completed within 12 hours of recovery. Kidneys are the most resilient organ, able to live up to 36 hours once donated.

In the past, Banks said, the time factor limited the availability of viable organs to those close enough to benefit the recipient. However, with advancements in technology and a shift in how organs are allocated nationally, the pool of viable organs expanded, but the time factor remained the same. As a result, the UK Transplant Center has increased its use of aviation, particularly LEX, over time. As shown in **Figure 12**, the number of organ transplant flights using LEX since fiscal year 2019 has risen more than 130 percent, surpassing 150 flights in fiscal year 2023.

Figure 12:
Organ Transplant Flights Using Blue Grass Airport



Source: UK Transplant Center

Charter flights are frequently used to transport organs because their on-demand services address the time factor that is so critical in transplant operations. Charter flights also provide adequate space, which is often needed when the medical recovery team accompanies the organ during the flight. On occasions, these charter flights are forced by weather conditions to divert to a general aviation airport. Medical teams consistently prefer LEX over these general aviation airports because they are not as conveniently located to UK facilities as LEX.

The UK Transplant Center also makes use of commercial airline flights into LEX. Since kidneys can last up to 36 hours after removal from the donor, it is not unusual for these organs to be flown as belly cargo on commercial airline flights.

In short, LEX is a key component of the healthcare system in the Lexington area. Without LEX, the hospitals of Lexington would not be able to provide several of the organ transplant services currently available and medical helicopter flights would suffer a degradation in service. This clearly illustrates the unique value that Blue Grass Airport provides to the people of Lexington and the surrounding area.

Summary

Blue Grass Airport is a significant contributor to the economy of Lexington and central Kentucky. This study has demonstrated that LEX directly supports 2,868 jobs, with an associated payroll of more than \$107 million. As shown in **Table 21**, when multiplier impacts are included, more than 4,700 jobs are tied to LEX and its related activities. Those jobs have a payroll of nearly \$180 million and generate an economic output exceeding \$700 million.

Table 21:
Blue Grass Airport Total Economic Impacts

Impact Type	Employment	Payroll	Output
Direct Impacts	2,868	\$107,433,000	\$422,133,000
Multiplier Impacts	1,877	\$72,399,000	\$286,861,000
Total Impacts	4,745	\$179,832,000	\$708,994,000

Source: Mead & Hunt

Beyond these quantifiable impacts, Blue Grass Airport contributes beneficially to the lives of the people of Kentucky through qualitative impacts. Several of these benefits were illustrated through the case studies highlighting how LEX supports the community, including hosting Honor Flights, providing critical assistance to healthcare services, and serving as a launching pad for future aviators.

This all points to the fact that Blue Grass Airport is one of Kentucky's most valuable assets and will continue contributing to the economic development of the region.



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