Aviation Economic Impact Study

Executive Summary

The Tennessee public-use airport system plays a critical role in supporting the state and regional economies of Tennessee. The airports themselves are important as they provide both commercial airline and general aviation (GA) service within the state, throughout the U.S., and across the globe. They are also important job centers and serve as gateways for out-of-state visitors to reach all corners of the state. Together the operation of airports (including airport administration, airport tenants, and capital improvements), visitor spending (from those using both commercial airline service and GA airports), and air cargo services contribute significantly to the state's economy.

The Tennessee Aviation Economic Impact Study is composed of multiple, interrelated analyses that evaluate the economic contribution of the state's public-use airports. The study began with a detailed data collection effort to gather the key inputs that drive individual airport's economic impacts as well as determine the overall state aviation economic impact. These inputs included documenting on-airport activities, such as airport administration, airport tenants that service aircraft, crew and passengers; and construction, as well as money spent off-airport by out-of-state visitors who arrive in Tennessee using commercial airline service or GA airports. An additional analysis determined the dependence of Tennessee industries on cargo transported through the state's airports. These inputs were organized and filtered through a nationally-recognized input/output (I/O) economic model (IMPLAN)[1] to estimate how money generated at and by airports flows through regional and statewide economies of Tennessee.

Data for this study were collected for calendar year 2019, which pre-dates the COVID-19 pandemic, and represents a snapshot in time for that year. The study results present the role of airports in a vibrant Tennessee economy. Key findings from this economic impact analysis include:

- Tennessee's airports directly employ 1,250 people in the administration and operation of the airport and are home to over 400 businesses. These businesses, in turn, employ an additional 31,640 people.
- The economic impact attributable to this on-airport activity accounts for almost $12 billion.
- Almost seven million out-of-state visitors traveled through one of the state's commercial service or GA airports, contributing $9 billion to the state's economy.
- Tennessee's airports also contribute to the state's economy with freight/cargo services, which support over 82,000 jobs and $19 billion in economic impact.
- In total, Tennessee airports support 221,000 jobs that pay workers $13 billion in wages and benefits, contribute $21 billion in value added to Tennessee's gross state product income, and generate $40 billion in business revenue.

1 IMPLAN Group, LLC. IMPLAN [v3 2018]. Huntersville, NC. IMPLAN.com.

Introduction

Background and Purpose

The Tennessee Department of Transportation (TDOT) Aeronautics Division developed this Aviation Economic Impact Study to provide an understanding of the quantitative and qualitative contributions of public-use airports to the state. The findings of the Aviation Economic Impact Study demonstrate the aviation system's significant impact on airport communities as well as the statewide economy. The Aviation Economic Impact Study is an element of the Tennessee Aviation System Plan (TASP), a much broader study that examines Tennessee's aviation system needs and its contributions to the state.

The purpose of the Aviation Economic Impact Study is to provide TDOT, airports, policymakers, and stakeholders with analysis of the contributions to provide an understanding of aviation's role in the economy, beyond serving as a mode of transportation. This information is essential to the decision-making process in supporting the financial needs of maintaining and improving airports and recognizing the tremendous benefits that are derived as a result of the operation of the airports in support of the economy.

The TDOT Aeronautics Division previously published an Aviation Economic Impact Study in 2014. Due to the age of this previous report, differences in methodology, and changes in aviation and the economy, no comparisons were made between the current report and the previous report.

COVID-19

The 2019 economic impact analysis was originally conceived to be a baseline against which TDOT would be able to measure the contributions of airports to state and regional economies. However, the onset of the COVID-19 pandemic in early 2020 changed this consideration.

The year 2019 preceded the pandemic, and also represented a point of recovery from the great recession of 2008-2010. As a result, operating budgets, airport tenants, and the number of visitors arriving by air to Tennessee characterized the most recent high level of economic impacts of airports. From an aviation perspective, commercial aviation activity and non-essential travel plummeted in 2020 due to COVID-19. Moreover, economic databases and models predate 2020 and represent the Tennessee economy before the onset of COVID-19, which affects the labor income, value added, and total business revenue stimulated by Tennessee's airports. Thus, while the pandemic continues and the industry looks toward recovery, this economic impact study is aspirational of how airports can support state and regional economies in a strong economy. This study does not, however, reflect current economic or aviation conditions.

Study Airports

The Tennessee Aviation Economic Impact Study covers 78 public-use airports across the state, including six commercial service and 72 GA airports. Of the 78 airports, 74 are publicly-owned and four are privately-owned. The Tennessee Aviation Economic Impact Study airports are listed in ***Table 1*** alphabetically by their associated city along with their names, FAA identifiers (IDs), and TASP role.

Table 1: Tennessee Aviation Economic Impact Study Airports

Associated City	Airport Name	FAA ID	TASP Airport Role
Commercial Service Airports			
Bristol/Johnson/Kingsport	Tri-Cities Airport	TRI	Commercial Service
Chattanooga	Lovell Field	CHA	Commercial Service
Jackson	McKellar-Sipes Regional Airport	MKL	Commercial Service
Knoxville	McGhee Tyson Airport	TYS	Commercial Service
Memphis	Memphis International Airport	MEM	Commercial Service
Nashville	Nashville International Airport	BNA	Commercial Service
General Aviation Airports			
Athens	McMinn County Airport	MMI	Community Business
Benton	Chilhowee Gliderport	92A	Turf
Bolivar	William L Whitehurst Field	M08	Community Service
Camden	Benton County Airport	0M4	Community Service
Centerville	Centerville Municipal Airport	GHM	Community Service
Chattanooga	Dallas Bay Sky Park	1A0	Community Service
Clarksville	Outlaw Field	CKV	Regional Service
Cleveland	Cleveland Regional Jetport	RZR	Regional Service
Clifton	Hassell Field	M29	Community Service
Collegedale	Collegedale Municipal Airport	FGU	Community Service
Columbia/Mount Pleasant	Maury County Airport	MRC	Regional Service
Copperhill	Martin Campbell Field	1A3	Community Service
Covington	Covington Municipal Airport	M04	Community Service
Crossville	Crossville Memorial Airport/Whitson Field	CSV	Community Business
Dayton	Mark Anton Airport	2A0	Community Service
Dickson	Dickson Municipal Airport	M02	Community Business
Dyersburg	Dyersburg Regional Airport	DYR	Regional Service
Eagleville	Puckett Field	50M	Turf
Elizabethton	Elizabethton Municipal Airport	0A9	Regional Service
Fayetteville	Fayetteville Municipal Airport	FYM	Community Service

Table 1: Tennessee Aviation Economic Impact Study Airports

Associated City	Airport Name	Airport ID	TASP Airport Role
Gainesboro	Jackson County Airport	1A7	Community Service
Gallatin	Music City Executive Airport	XNX	Regional Service
Greeneville	Greeneville Municipal Airport	GCY	Regional Service
Halls	Arnold Field	M31	Community Service
Hohenwald	John A. Baker Field	0M3	Community Service
Humboldt	Humboldt Municipal Airport	M53	Community Service
Huntingdon	Carroll County Airport	HZD	Community Business
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	Community Service
Jamestown	Jamestown Municipal Airport	2A1	Community Service
Jasper	Marion County Airport - Brown Field	APT	Community Service
Johnson City	Johnson City Airport	0A4	Community Service
Knoxville	Knoxville Downtown Island Airport	DKX	Community Business
Lafayette	Lafayette Municipal Airport	3M7	Community Service
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	Community Service
Lebanon	Lebanon Municipal Airport	M54	Regional Service
Lewisburg	Ellington Airport	LUG	Community Business
Lexington-Parsons	Beech River Regional Airport	PVE	Community Business
Linden	James Tucker Airport	M15	Community Service
Livingston	Livingston Municipal Airport	8A3	Community Service
Madisonville	Monroe County Airport	MNV	Community Service
McKinnon	Houston County Airport	M93	Community Service
McMinnville	Warren County Memorial Airport	RNC	Community Service
Memphis	General Dewitt Spain Airport	M01	Community Business
Millington	Charles W Baker Airport	2M8	Community Service
Millington	Millington-Memphis Airport	NQA	Regional Service
Morristown	Moore-Murrell Airport	MOR	Regional Service

Table 1: Tennessee Aviation Economic Impact Study Airports

Associated City	Airport Name	Airport ID	TASP Airport Role
Mountain City	Johnson County Airport	6A4	Community Service
Murfreesboro	Murfreesboro Municipal Airport	MBT	Regional Service
Nashville	John C Tune Airport	JWN	Regional Service
Oneida	Scott Municipal Airport	SCX	Community Business
Paris	Henry County Airport	PHT	Community Business
Portland	Portland Municipal Airport	1M5	Community Service
Pulaski	Abernathy Field	GZS	Community Business
Rockwood	Rockwood Municipal Airport	RKW	Community Service
Rogersville	Hawkins County Airport	RVN	Community Service
Savannah	Savannah-Hardin County Airport	SNH	Community Business
Selmer	Robert Sibley Airport	SZY	Community Service
Sevierville	Gatlinburg-Pigeon Forge Airport	GKT	Regional Service
Sewanee	Franklin County Airport	UOS	Community Service
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	Community Business
Smithville	Smithville Municipal Airport	0A3	Community Service
Smyrna	Smyrna Airport	MQY	Regional Service
Somerville	Fayette County Airport	FYE	Community Service
Sparta	Upper Cumberland Regional Airport	SRB	Regional Service
Springfield	Springfield Robertson County Airport	M91	Community Business
Tazewell	New Tazewell Municipal Airport	3A2	Community Service
Tiptonville	Reelfoot Lake Airport	0M2	Community Service
Trenton	Gibson County Airport	TGC	Community Service
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	Regional Service
Union City	Everett-Stewart Regional Airport	UCY	Community Business
Waverly	Humphreys County Airport	0M5	Community Service
Winchester	Winchester Municipal Airport	BGF	Regional Service

Economic Impact Categories and Measures

Throughout this report, three components of economic impact are reported, in addition to the total economic impact. These are shown in ***Figure 1*** and include:

- **Direct**: Initial effects that occur on- and off-airport, including airport administration and tenant employment, construction spending, and spending from visitors and companies using their transportation services.
- **Supplier Sales**: Portions of direct revenues used to purchase goods and services from Tennessee businesses (also referred to as "indirect" impacts).
- **Income Re-spending**: Income earned by workers from direct and supplier sales transactions that are then spent in Tennessee (also referred as household spending or “induced” impacts).

Figure 1: Economic Impact Categories and Measures

When total economic impacts are presented, they represent the summation of the direct, supplier sales, and income re-spending effects for the state.

To provide different perspectives on economic impacts, there are four measures used to describe the economy. Direct, supplier sales, and income re-spending impacts are provided for the following economic measures:

- **Jobs:** Jobs are the total number of persons employed that are associated with business revenue and payroll, regardless of whether they are full-time or part-time.
- **Payroll:** For this study, payroll is defined as total employment compensation, including wages and other benefits (e.g., health care insurance payments, retirement contributions, etc.). Payroll is a subset of value added and is also known as “labor income” or “total compensation.”
- **Value Added:** Value added measures the economic productivity of each aviation-related business establishment in Tennessee (for purposes of the Aviation Economic Impact Study), calculated as business revenue earned minus the costs of purchasing goods and services from other businesses. Value added is a company or industry contribution to Gross State Product, or GSP, which is a local concept synonymous with GDP. It includes all labor compensation, profits, and business taxes paid.
- **Business Revenue:** Business revenue incorporates expenditures needed to administer airports, sales of goods and services by airport tenants, budget expenditures by public sector agencies located on airports, the cost of capital expenditures, and visitor spending in Tennessee's hospitality-related sectors. This is also commonly referred to as business “output” or sales.

The dollar measures for business revenue, value added, and payroll cannot be added to each other because payroll is a component of value added, which is a component of business revenue. Throughout this report, all dollar values have been rounded and all monetary values are reported in 2019 dollars.

The following scenario shows the relationship between economic measures and categories. An airport generates revenue (business revenue) from a based aircraft owner paying rent for an aircraft hangar, buying fuel, or for other services the airport provides. The airport uses that revenue to maintain and operate the airport, pay taxes, and provide wages and benefits (payroll) to their employees (jobs). The direct economic impact of the airport includes the number of on-airport employees, such as those employed by the airport and businesses on the airport, their total payroll, and associated revenues. As a result of these revenues, the airport can also purchase goods and services from other Tennessee businesses (supplier sales) for lawncare, computers and printers, security, etc. People employed by the airport, either directly through payroll or through purchased services, then spend their wages in the community (income re-spending).

The Aviation Economic Impact Study was conducted on both the statewide and regional level to recognize the unique composition of Tennessee economies throughout the state. Geographies are important for both examining factors such as cost of living, salaries, and industries among urban, rural, and recreational areas of the state as well as recognizing the differences in how spending occurs within a state versus individual regions.

Data Collection Process

The first step in assessing airports' individual economic impacts, as well as the total statewide economic impacts of the Tennessee aviation system, is to quantify the direct economic impacts of each study airport. Direct impacts of each airport were determined from data collected from airport managers related to airport administration, on-airport tenants, and capital improvements. In addition to the on-airport impacts, off-airport impacts, such as visitor spending, were quantified. For the purposes of the Tennessee Aviation Economic Impact Study, 2019 data was compiled through an extensive surveying process. Both hard-copy and online surveys were distributed to key individuals and entities at system airports, including airport managers, on-airport tenants, commercial service passengers, and GA passengers and pilots. Online surveys were distributed and accessible via web URL and QR code options. Surveys were unique to each audience, focusing on the unique economic impact that each audience contributes. Site visits were also conducted at each system airport to provide the study purpose, answer questions, and collect and confirm survey data. The detailed procedures used to conduct each of the different surveys are documented in the subsections below.

It is important to disclose the impacts of the COVID-19 pandemic on the economic impact data collection procedures and site visits. Site visits began in January 2020 and at the time it was anticipated that all site visits would be conducted in-person. In-person site visits quickly pivoted to virtual platforms due to the rapidly spreading COVID-19 virus to comply with local, state, and federal regulations and safety guidelines. Despite the unforeseen circumstances of the COVID-19 pandemic, all but two of the 78 Aviation Economic Impact Study airports had a site visit. Of the 76 site visits, 52 airports had in-person site visits and 24 had virtual site visits. COVID-19 did not have an impact on the actual data collected from the site visits and surveys as the 2019 data predates the pandemic and its subsequent impacts.

Airport Manager Survey

To start the data collection process, airport manager surveys were distributed during TDOT Airport Capital Improvement Plan (ACIP) meetings in October and November 2019. This survey served two primary functions: 1) to collect information on airport expenses, tenants, and employment, as well as qualitative airport benefits and facts; and 2) to collect contact information for on-airport tenants for ensuing data collection and surveying efforts.

PROCEDURE

Each fall, the TDOT Aeronautics Division hosts a series of regional ACIP meetings to address airport concerns, provide guidance about the ACIP process, and provide updates about new policies and procedures. ACIPs are the primary planning tools for each airport to systematically identify, prioritize, and assign proposed funding to critical airport development and associated capital needs. To begin the Tennessee Aviation System Plan (TASP) and Aviation Economic Impact Study and kick-off the data collection effort, the October and November 2019 ACIP meetings were used to distribute information related to these concurrent efforts. Airports received a packet of information regarding the studies, including a hard copy of and a flash drive containing the Airport Manager Survey. Airports were instructed to fill out the survey in advance of their scheduled site visit, where their answers to the survey would be reviewed and any questions answered. Completing the survey before the site visit allowed airport managers to review questions and collect relevant data to respond to the survey, streamlining meetings and the data collection process. Site visits began in January 2020 and continued through April 2020. The airport manager surveys included questions regarding TASP information, such as type of airport activity, based aircraft, and based operations.

The Airport Manager Survey was distributed to all 78 study airports and 76 airports completed the Aviation Economic Impact Study portion. Reelfoot Lake Airport (0M2) did not have any economic data to report and Puckett Field (50M) declined to provide a completed survey.

KEY DATA

The Airport Manager Survey set the foundation for the remaining Aviation Economic Impact Study data collection efforts. Survey responses included the following sets of airport-specific information:

- Economic impact (specific to 2019)
    - Airport sponsor employment (full-time vs part-time) by occupational category
    - Number of individuals outsourced or on contract
    - Firms on contract, including value of annual contract and number of employees
    - Expenditures
        - Annual wages and benefits to all employees or average annual salary/wage per employee
        - Airport capital improvements (2016-2019)
        - Operating expenses (2019)
- Airport general aviation activity
    - Percent of 2019 transient (non-local) GA operations
    - Average number of passengers (including pilots) per 2019 transient GA operation
    - Average length of stay per 2019 transient GA operation
    - Purpose of travel for out-of-state visitors who arrive via GA
- Contact information and employment estimates for each on-airport tenant
- Contact information and employment estimates for each off-airport business that base an aircraft at the airport
- Contact information for each local business that relies on the airport
- Contact information for each non-local business that relies on the airport

Airport Tenant Survey

Airport tenant surveys were distributed to collect information on businesses based at airports, also known as on-airport tenants. Systemwide, on-airport tenants have the most significant economic impact at airports compared to other airport-reliant businesses.

PROCEDURE

As noted in the *Airport Manager Survey* section above, each airport's tenants were first identified as part of the Airport Manager Survey. Airport managers provided general information on the airport's tenants inclusive of tenant contact information and employment data. When airport managers were contacted about scheduling their site visit, they were also provided a copy of the tenant survey for distribution to the airport's tenants prior to the site visit. The individual who conducted the site visit also distributed tenant surveys to all available tenants, and if time permitted, the individual completed the survey with the tenants. Accurate tenant data is imperative to determining the direct and total economic impact of airports. Surveys were collected from

October 2019 to April 2020 and during this more than 400 on-airport tenants were identified.[2] Data from on-airport tenants that did not submit a fully completed survey was supplemented with information from the appropriate airport manager surveys and remaining gaps were filled using the database within the IMPLAN model calibrated for Tennessee regions. Once data was collected from all on-airport tenants it was compiled and sent back to airport managers for confirmation of accuracy. Economic impact modeling commenced following data confirmation by the airport managers. An explanation of IMPLAN and its use in determining direct and total economic impacts is provided in a later section.

KEY DATA

Tenant survey data includes the following information:

- General business or company contact information
- Type of business conducted at the airport (aviation and non-aviation related)
- Number of 2019 full-time and part-time employees
- Expenditures
    - Total annual payroll (2019)
    - Real estate taxes (2019)
    - Capital improvements (2015-2019)
    - Any additional information on local economic benefits or services provided

Commercial Service Passenger Survey

Commercial service airports enable visitors to travel from all over the world to Tennessee. When traveling for business or vacation visitors spend money at airports and in local economies. The commercial service passenger surveys were conducted to measure off-airport economic impacts as part of the Aviation Economic Impact Study. The information compiled from submitted commercial service passenger surveys was used to develop spending profiles for out-of-state visitors and evaluate the economic impact of out-of-state spending.[3]

PROCEDURE

Commercial service passenger surveys were disseminated as intercept surveys at five of Tennessee's six commercial service airports; McKellar-Sipes Regional Airport (MKL) did not have sufficient commercial service passenger traffic to conduct a representative sample of surveys and was excluded from commercial passenger analysis. The intercept surveys were conducted both online and in-person. The online intercept surveys were accessible by visitors via web URL and QR code. In some cases, the online survey was displayed as part of the airport's free public Wi-Fi sign-in process, prompting visitors to respond to the survey before connecting to the Wi-Fi network. Online commercial service passenger surveys were distributed at Memphis International Airport (MEM), Lovell Field (CHA), and Tri-Cities Airport (TRI) from September 2020 through October 2020. In addition, at Lovell Field (CHA) and Tri-Cities Airport (TRI), in-person intercept surveys were also collected by the consultant team. In-person surveying was also conducted at McGhee Tyson Airport (TYS) and Nashville International Airport (BNA). In-person surveys were collected as departing passengers approached ticket counters prior to entering TSA security

[2] In addition to the more than 400 tenants, employment counts for 23 tenant categories were provided from Nashville International Airport (BNA), which did not provide information on individual tenants.
[3] As a statewide economic impact study, only visitors from out of state who bring dollars into the state of Tennessee were counted. Intrastate travelers who move dollars from one region in the state to another do not add to the Tennessee economy.

screening. In-person surveys were collected intermittently from July 2020 through November 2020. In total, 3,607 commercial service passenger surveys were collected, of which 2,353 were usable, including data for 4,416 total visitors. Surveys were removed from the samples because they were not responsive, or answers were not logical, such as paying for lodging but not reporting spending for food. The net survey results for each of Tennessee's five commercial service airports exceeded the threshold required for a 95% confidence interval with a 5% error rate.[4]

KEY DATA

Commercial service passenger data collected includes the following information:

- Airport at which the survey was received
- Status as an out-of-state visitor
- If from out-of-state:
    - City and state of primary residence
    - Expenditures made in Tennessee by type, such as lodging, entertainment, etc.
- Size of travel party
- Length of trip (nights spent in Tennessee)
- Purpose of trip (business, vacation, etc.)
- Travel contingency plans had the airport not been available for use
- Overnight accommodations type

Transient General Aviation Pilot and Passenger Survey

Similar to the Commercial Service Passenger surveys, the Transient General Aviation (GA) Pilot and Passenger Survey was conducted to collect information on out-of-state visitor travel and spending patterns by GA passengers and pilots. The survey was deployed to capture responses from out-of-state passengers and pilots traveling via GA aircraft to and from GA airports in the state.

PROCEDURE

Transient GA Pilot and Passenger Surveys were distributed online and as hard copies between January 2020 and April 2020. Hard copies of the survey were distributed to GA airport managers and fixed-based operators (FBOs) to be completed by passengers and pilots. Airport managers and FBOs encouraged survey participation, distributed surveys, collected completed surveys, and sent the completed surveys to the project team for analysis. The hard-copy surveys included a web URL and QR code for the purpose of taking the survey online. In addition, the web URL, QR code, and project information was all made available on posters displayed in highly visible locations at GA terminals and/or FBO facilities. Poster locations included pilot lounges, information desks, and lobby areas.

KEY DATA

Transient GA pilot and passenger data collected includes the following information:

- Airport at which the survey was received
- Status as an out-of-state visitor; if from out-of-state the following information was collected
    - City and state of primary residence
    - Expenditures made in Tennessee by type, such as lodging, entertainment, etc.
- Size of travel party

[4] Assuming randomness of the survey sample.

- Length of trip (nights spent in Tennessee)
- Trip purpose (business, vacation, etc.), if business-related the following information was collected
    - Company's major product or service
    - Major product or service of company being visited
- Travel contingency plans had the airport not been available for use

Modeling Methodologies and Use of IMPLAN

Data from the survey efforts is essential to determining the economic impact and is an input into the model used to quantify the impacts. This section documents key assumptions and methods from the economic modeling process. It clarifies the difference between statewide and regional economic impact analysis, discusses the methods used, and discusses the concept and derivation of the multiplier effect, before concluding with the key assumptions of the tax impact analysis.

The IMPLAN Version 3 2018 economic model system was used to calculate each airport's multiple contributions to the statewide and its individual regional economy. IMPLAN is the most widely used input-output model in the United States with data derived from the Bureau of Economic Analysis (BEA), Bureau of Labor Statistics (BLS), U.S. Census, and the U.S. Department of Commerce. The model reflects the current economic measures (i.e., jobs, payroll, value added, and business revenue) for up to 546 industry classifications, which roughly correspond to two- to five-digit groups in the North American Industry Classification System (NAICS).

Tennessee Regions

The four regions of the Tennessee Department of Transportation (TDOT) were used for the Aviation Economic Impact Study regional analyses and are an important consideration relative to acknowledging each region’s distinct industry mixes, wage rates, business revenue, and sales per employee. This information is available from IMPLAN (discussed subsequently) for use in developing data for non-responsive tenants and filling in gaps in certain impact categories. The regional perspective accounts for variation in productivity factors, cost-of-living, and wages in regions that vary in geographic and economic characteristics. The four TDOT regions used in the regional analysis for the 2019 Aviation Economic Impact Study are shown in ***Figure 2***. The counties in each region are listed in ***Table 2***.

Figure 2: TDOT Regions

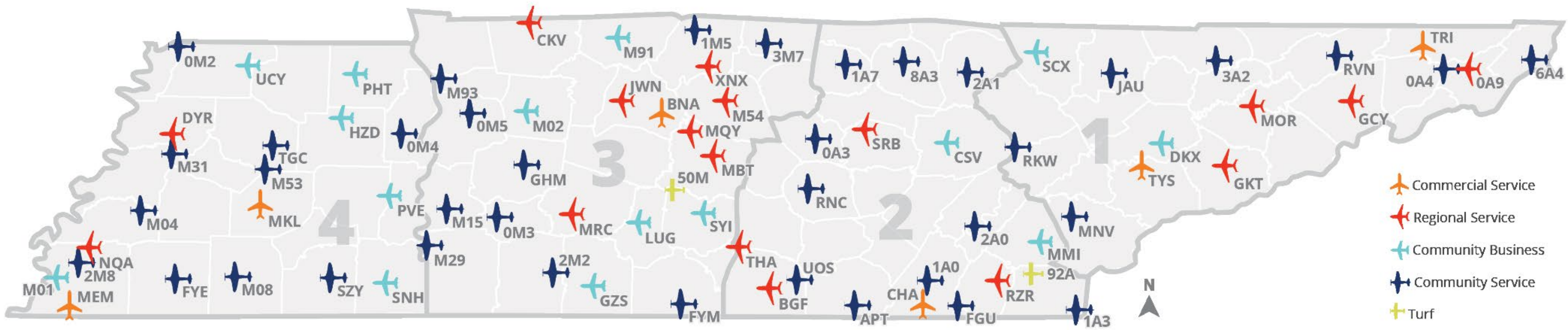


Table 2: The Four Regions in Tennessee and Associated Counties

Region	County Name
Region 1 (Knoxville)	Anderson, Blount, Campbell, Carter, Claiborne, Cocke, Grainger, Greene, Hamblen, Hancock, Hawkins, Jefferson, Johnson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Sullivan, Unicoi, Union, Washington
Region 2 (Chattanooga)	Bledsoe, Bradley, Cannon, Clay, Coffee, Cumberland, Dekalb, Fentress, Franklin, Grundy, Hamilton, Jackson, Marion, McMinn, Meigs, Overton, Pickett, Polk, Putnam, Rhea, Squatchie, Van Buren, Warren, White
Region 3 (Nashville)	Bedford, Cheatham, Davidson, Dickson, Giles, Hickman, Houston, Humphreys, Lawrence, Lewis, Lincoln, Macon, Marshall, Maury, Montgomery, Moore, Perry, Robertson, Rutherford, Smith, Stewart, Sumner, Trousdale, Wayne, Williamson, Wilson
Region 4 (Jackson)	Benton, Carroll, Chester, Crockett, Decatur, Dyer, Fayette, Gibson, Hardeman, Hardin, Haywood, Henry, Lake, Lauderdale, Madison, McNairy, Obion, Shelby, Tipton, Weakley

Impacts of airports consist of the direct impacts, derived primarily from the survey effort and confirmed by airport representatives, plus multiplier impacts. Supplier purchases and income re-spending are modeled at both a regional and statewide scale to allow for presentations of regional and statewide impacts for each airport, as well as statewide impacts for the Tennessee airport system. The regional results provide airport managers, elected officials, residents, and stakeholders with a more localized profile of airports' economic impacts. The regional analysis also treats the markets for supplier sales and income re-spending industries as limited to the regions in which airports are located. The regional perspective accounts for variation in productivity factors, cost-of-living, and wages in regions that vary in geographic and economic characteristics.

Regional impacts of airports consist of the direct impacts plus regional multiplier impacts. Statewide impacts are the same direct impacts plus statewide multiplier impacts.

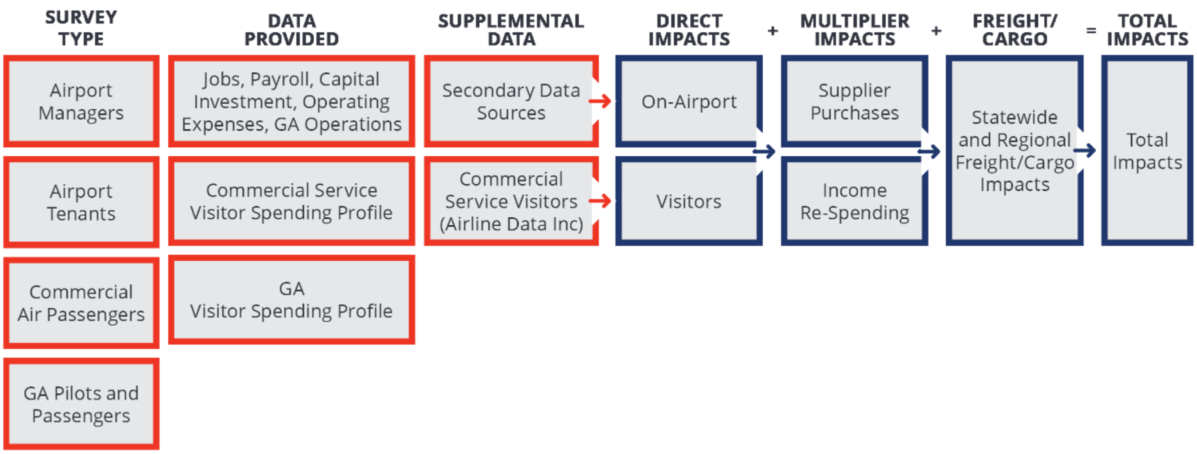
Modeling Process for On-Airport Impacts and Visitor Spending

The first step in developing an economic analysis is establishing direct impacts for airport operations, airport managers, construction activity, and the spending of visitors. Direct data for each of these components were based on surveys of airport managers, tenants, and visitors. Secondary sources were used to fill in missing direct impacts. For example, when the tenant survey returned employment, county level industry data assembled by IMPLAN were used to calculate direct payroll and business sales based on employment and the industries identified in the survey. Similarly, when visitor spending and construction expenditures were collected by survey, corresponding employment and payroll were calculated using the IMPLAN database.

To estimate GA visitor spending, the study combined: (1) a survey of Tennessee GA passengers' spending; (2) previously completed analyses of GA visitor spending for airport systems across the U.S.; (3) Tennessee and county level GDP; and (4) local expertise. The reason for these multiple steps is that the survey did not provide enough responses to estimate impacts for the different classifications, but did allow for differentiating spending by category (lodging, food and beverage, entertainment, local transportation and retail). Previous analyses were averaged to establish baseline spending by the Federal Aviation Administration's general aviation airport categories. These averages by were adjusted by state GDP to match Tennessee's overall economy and then adjusted to account for local economic factors by using GDP per capita for each county compared to statewide per capita GDP. Lastly, spending data were reviewed by TDOT to ensure that they made sense for each airport and local economy.

The number of GA visitors at Tennessee airports were provided by airport managers, and the number of commercial visitors per airport are based on FAA data. After direct effects were calculated and vetted by the TDOT Aeronautics Division and airports, IMPLAN was applied to estimate multiplier impacts, including supplier purchases made by directly-affected businesses and public entities (indirect impacts) and respending of workers' income earned from direct and supplier sales (induced impacts). ***Figure 3*** illustrates an overview of the analytical process from collecting to modeling data.

Figure 3: Overview of Data Collection (Red) and Economic Modeling (Blue) Processes



Note: GA Visitor Spending Profile was prepared by NPIAS category. Sources: EBP; Kimley-Horn, 2021

DATA REQUIREMENTS AND MODEL ASSUMPTIONS FOR ON-AIRPORT ACTIVITY

On-airport impacts consist of those created by airport administration, airport tenants, and construction expenditures. Descriptions of these on-airport activity groups, along with the assumptions needed to arrive at direct impact estimates are discussed below.

Airport Administration. Airport administration includes airport managers and other staff required to operate airports, including business operations (which may be on the airport or in a city or county office, depending on who is the airport sponsor), grounds care (including snow removal and lawn care), routine building maintenance, contractors who receive IRS Form 1099-MISC from the airport, and other jobs necessary to manage and run the airport. Data received for airport administration often included jobs, payroll, and annual budgets of airports, as well as the value of contracts to outside firms that provide and/or support administrative functions. On occasion, when only jobs were provided, regional averages (county-level data, primarily from the

U.S. Bureau of Economic Analysis assembled by IMPLAN) were used when needed to estimate payroll and business revenue.[5]

Airport Tenants. For all airports except Nashville International Airport (BNA), employment for tenants was based on survey responses directly from tenants, estimates from airport managers, and/or secondary data sources, which include establishment databases such as Data Axle Reference Solutions (formerly Reference USA).[6] Each tenant was assigned an industry classification based on their survey responses, description of business activity noted by airport management or other sources, web-based research, and/or coordination with TDOT Aeronautics Division staff. Classifying each tenant by industry is important to establish the correct levels of direct economic activity (jobs, payroll, value added, and business revenue) and to estimate supplier sales and income re-spending associated with each business. Direct values for payroll, value added, and business revenue were calculated for more than 400 tenants with the exclusion of the tenants as previously mentioned at Nashville International Airport (BNA).

Tenant Data Analysis for Nashville International Airport (BNA). Calculations for tenant impacts at BNA were distinct from other airports in the Tennessee system. The airport has developed a strong centralized data management system for its tenants and provided 2019 employment by sector on a badge-count basis. Payroll, value added, and business revenue were all calculated based on the employment counts that were provided using the IMPLAN modeling system.

Construction. Capital expenditures or construction spending, as reported by airport managers, were averaged across the previous four years (2016-2019) after all data were converted to 2019 dollars. Averaging smooths out any anomalies (schedule, weather, financing, grant funding, or others) in capital expenditures over time which may be very high for some years and lower in others. Construction data only accounted for expenditures, which were treated as direct business revenue (these are revenues that are received by companies that perform the construction work).

FILLING IN DATA GAPS WITH IMPLAN TO ESTIMATE DIRECT IMPACTS

Much of the direct data obtained from surveys, completed by either airport managers or tenants and businesses, included only one of three measures requested: jobs, payroll, or business revenue. A handful of survey respondents provided two of the three measures, while few provided all three direct measures. The economic relationships anchored in the regional economies are used to fill-in the direct data when values were not provided from the data collection efforts.

IMPLAN was used to estimate payroll and business revenue for on-airport tenants and budget expenditures for public entities that only provided employment totals. Data used by IMPLAN includes county-specific U.S. Department of Commerce and Department of Labor datasets for 546 economic sectors in each county, which were aggregated to the four Tennessee regions. Missing data were filled by regional averages for each appropriate industry. Regional values were used rather than the statewide average to be more reflective of the local economies in which the airports operate and where visitors spend their money. Specific adjustments required to fill in the missing direct impacts and aggregate industries for the IMPLAN modeling are described as follows.

[5] BEA provides estimates of GDP, personal income, and employment by state, metropolitan area, and county through its Regional Economic Information System (REIS). These data are used by IMPLAN, LLC and other input/output vendors to develop county-level industry tables.

[6] https://www.data-axle.com/what-we-do/reference-solutions/

Some types of tenants or airport administration were classified as an industry type for the Aviation Economic Impact Study that is an aggregation of multiple detailed industries. This is done to make the surveys easier to complete by tenants and airport managers. Jobs provided in the survey responses were allocated to each industry within an aggregated industry using the percentages of regional jobs (e.g., 50 percent, 30 percent, and 20 percent). Regional IMPLAN payroll-to-job ratios for individual industries were then applied to these jobs to calculate the payroll for each individual industry. After these calculations were completed, the aggregated industry was then re-totaled to present jobs, payroll, and business revenue. An example of this is an airport tenant reporting they belong to the aerospace industry, which for modeling purposes includes three industries of the IMPLAN industry classifications: aircraft manufacturing, aircraft engine and engine parts manufacturing, and other aircraft parts and auxiliary equipment manufacturing. However, specific industries were used when reported

Employment Provided, Employer Payroll Data Not Provided

Industry level data per region assembled by IMPLAN were applied to calculate missing payroll and business revenue when these data were not reported through tenant or airport manager surveys. In these cases, payroll and business revenue were derived from the number of reported jobs based on the ratios of jobs-to-total labor compensation and jobs-to-business revenue by industry in each region.

Employment and Employer Payroll Data Provided

Payroll information reported by tenant or airport manager surveys were used for the direct payroll impacts. The industry-specific default regional ratio of payroll-to-business revenue from IMPLAN was applied to the payroll data to estimate business revenue. In these cases, jobs were also provided in the survey responses.

As previously noted, some types of tenants or airport administration were classified as an industry type for the Aviation Economic Impact Study that is an aggregation of multiple detailed industries. This is done to make the surveys easier to complete by tenants and airport managers. To allocate the payroll data reported by tenant or airport manager to the component industries of the group they identified, the total payroll revenues were proportioned. In a three-industry aggregation, industry A might account for 50 percent of the regional payroll, industry B, 30 percent, and industry C, 20 percent. The reported payroll information was allocated based on these calculated percentages. Business revenue were estimated according to the relationship between payroll and business revenue for each detailed industry.

Revenue Data Provided, Payroll and Employment Not Provided

For construction expenditures and visitor spending, the only data collected was spending (which equates to total business revenue) without employment or payroll.

- Airport managers were asked to provide construction spending for four years such that an average of construction spending would be represented in this study.
- Visitors were asked how much money they spent while in Tennessee either when using commercial airline service and/or GA.

Based on total spending, regional economic data assembled by IMPLAN were used to calculate jobs and payroll that are supported by this business revenue.

CALCULATING VALUE ADDED WITH IMPLAN

Value added was not requested nor reported by survey respondents given the information is not readily available and complex. This measure is more commonly used in economic impact analysis (and other macroeconomic analysis) than in day-to-day business operations. Direct impacts in terms of value added were calculated based on business revenue and/or payroll using the IMPLAN model.

INDUSTRY SECTORING IN IMPLAN

IMPLAN economic models include 546 distinct sectors, including government, construction, and non-profit sectors as well as a broad range of manufacturing, service, retail, agricultural, and professional services sectors. The IMPLAN model combines a variety of federal data sources to provide a more complete picture of industries and the economy.

On-Airport Direct Impact Sectors

Direct impacts from airport administration were modelled as *aviation support activities*.

Direct impacts from construction on the airport were modelled as impacts in the sectors described as follows:

- Construction of new power and communication structures
- Construction of new highways and streets
- Construction of new commercial structures, including farm structures
- Construction of other new nonresidential structures

Direct impacts of tenants were modelled depending on the business of the tenant. In some cases, descriptions of certain business activities were not sufficiently detailed and an aggregated industry was used (e.g., retail, entertainment, aerospace manufacturing, etc.).

DATA REQUIREMENTS AND MODEL ASSUMPTIONS FOR VISITOR SPENDING

Direct impacts from visitors are generated by travelers who arrive in Tennessee from out of state via commercial airlines and private or business GA aircraft, and spend money in the state. The first step in calculating visitor spending is to estimate the total number of visitors. For commercial service airports, data was purchased from Airline Data, Inc. The company uses FAA data assembled by the U.S. Bureau of Transportation Systems (BTS) to determine the number of visitors from out of state to Tennessee by airport in 2019. The number of GA visitors were estimated from airport managers, who provided data on the number of operations, percent of transient operations (true visitors), and average number of people per operation, which were then reviewed by TDOT Aeronautics Division staff.

The second step is to estimate total visitor spending per airport. The third step was to determine the spending splits of lodging, food, retail, ground transportation, and entertainment applicable to each airport. Two visitor surveys were prepared covering commercial and GA visitors. After direct economic impacts were estimated, IMPLAN multipliers specific to Tennessee were then applied to direct impacts to estimate subsequent multiplier economic impacts.

Visitor spending data came from surveys of airport visitors arriving via commercial service and GA aircraft. ***Table 3*** shows the sectors used to categorize the visitor spending. Visitor spending includes five categories, each representing an aggregate of industry classifications in the IMPLAN model: Accommodations, Entertainment, Ground Transportation, Food & Beverage, and Retail Purchases.

Table 3: Sectors Used to Categorize Visitor Spending

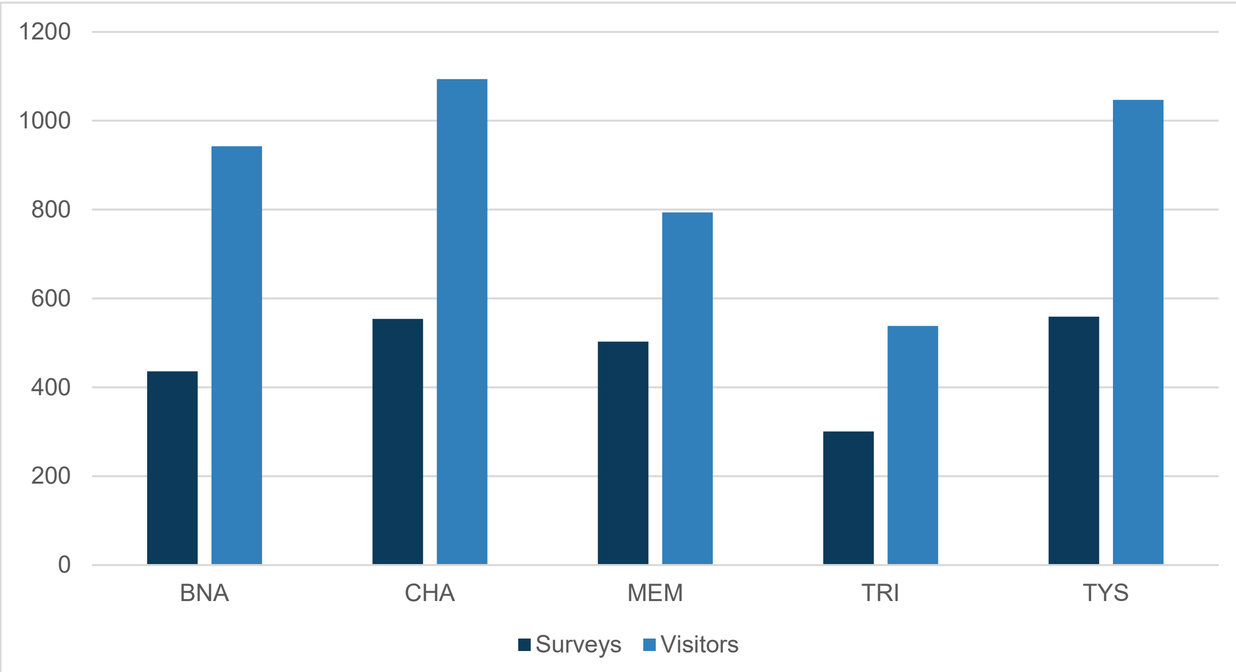
Visitor Spending Categories	Industry Sector
Accommodations	Hotels & motels, including casino hotels
	Other accommodations
Entertainment	Performing arts companies
	Commercial sports except racing
	Racing & track operation
	Independent artists, writers, & performers
	Museums, historical sites, zoos, & parks
	Amusement parks & arcades
	Gambling industries (except casino hotels)
	Other amusement & recreation industries
	Fitness & recreational sports centers
	Bowling centers
Food & Beverage	Full-service restaurants
	Limited-service restaurants
	All other food & drinking places
Ground Transportation (including car rental engaged off airport)	Retail - Gasoline stores
	Transit & ground passenger transportation
	Automotive equipment rental & leasing
	Transportation support activities
Retail	Retail - Electronics & appliance stores
	Retail - Food & beverage stores
	Retail - Health & personal care stores
	Retail - Clothing & clothing accessories stores
	Retail - Sporting goods, hobby, musical instruments, & books
	Retail - General merchandise stores
	Retail - Miscellaneous store retailers

Source: EBP using the 2018 IMPLAN economic model, 2019

ADJUSTING VISITOR SPENDING FOR 2019

Commercial visitor spending surveys were conducted during the 2020 COVID-19 pandemic. Despite the timing, almost 2,400 surveys representing more than 4,400 visitors were collected among the state's five commercial service airports. These counts indicate an average size of slightly less than 1.9 visitors per visiting party. ***Figure 4*** shows the levels of survey responses by airport, which range from more than 300 to almost 600 completed surveys and from more than 500 to approximately 1,100 visitors.

Figure 4: Commercial Visitor Spending Surveys and Passengers



Source: Tennessee Commercial Visitor Spending Survey; Analysis by EBP, 2020

As the objective of this study is to present the economic impacts of Tennessee airports in 2019, adjustments were made to spending levels developed from the survey conducted in 2020 based on a 2018 Tennessee airport benchmark study:

- Average lodging expenditures per visitor was increased to match 2018 levels. During the pandemic, fewer people stayed in hotels and for those who did, costs of hotel rooms were significantly lower in 2020 than in immediately preceding years. To estimate 2019 spending, hotel expenditures were increased by 89 percent above the survey findings at each airport, which was consistent with the benchmark study.

While the count of international visitors arriving through Tennessee airports in 2019 was documented, there was not an appreciable count of international visitors arriving through the state's airports during the pandemic. International visitor spending in 2019 was estimated at 47 percent above 2020 spending by domestic visitors at each airport and after the above-mentioned lodging adjustment, to be commensurate with the 2018 benchmark.

RETAIL MARGINING

While spending on retail reflects the value of the item sold, only a portion of the sale is actual revenue for the retail store. This portion, referred to as margin costs, reflects the "mark-up" value that retail stores add to the price of goods to cover their operating costs and profit. Only the mark-up produces revenue and economic activity for local retailers. Revenue generated by that mark-up supports employee payroll and operating costs of the business (e.g., rents, utilities, capital, and other business expenses)—not gross revenue collected by the retail business or industry. To isolate the revenues that accrue to retailers, the margin percentage was applied to the value of all retail goods sold. For example, if retail sales total $1 million, only $380,000 of these sales may be the mark-up earned by retail establishments, since it may have cost the stores $620,000 to purchase the items for sale from farmers, manufacturers, wholesalers, or distributors. The retail margin rates from the BEA are in a narrow range from 38 percent to 39 percent across TDOT regions. This approach was used to measure the economic impacts of retail spending when working with sales data to estimate jobs and payroll. Additionally, for estimated expenditures at gas stations, a 22 percent margin was applied. With employment provided for retail establishments on airport, the jobs represent direct effects after margining has occurred and additional margining was not required.

Off-Airport Air Cargo

This section provides a brief overview of the economic impact of air cargo in Tennessee. A detailed analysis is found in the appendix.

This analysis considers inbound flows (air cargo deplaned or offloaded in Tennessee) and outbound flows (air cargo enplaned or loaded into planes in Tennessee) to provide a complete picture of the dependence of Tennessee's economy on air cargo. Commodities produced outside the state and flown into Tennessee may be used as intermediate inputs to industries in Tennessee or as final demand by consumer households, driving the economy. Commodities produced in Tennessee and flown out of the state represent income accumulating to the state's economy.

- An example of an **intermediate input** may be an electric car battery produced in Tennessee and flown to Michigan where the vehicle is completed.
- An example of a product shipped **for final demand** is a pharmaceutical product manufactured in Tennessee and flown to Florida (the product itself may be handled by wholesalers and retailers, but it is purchased directly by consumers at drug stores without further processing).

Multiplier Impacts

Business revenue generated by airport administration, on-airport construction activities, on-airport tenants, visitors, and freight movements are direct economic impacts. Once these revenues enter the economy, they circulate among other sectors, creating additional spending on supplier sales and re-spending of worker income. This is referred to as the multiplier effect. The direct business revenues are used in part to hire and pay workers and produce "value added" for the Tennessee economy. As the revenues circulate across the state, additional jobs, payroll and value added are created.

The multiplier effects of supplier sales and income re-spending vary by the combination of counties that constitute regions, and the size and industry mixes of economies in each region. A larger region means that the marketplace for supplier sales and workers' re-spending is larger, and the opposite is true for a smaller region. For example, an airport tenant that needs to buy a manufactured product may not be able to make the purchase nearby (in-region) because the industry is not present in enough scale in its home region. In this case, the dollars would not be counted in the regional multiplier. Similarly, a company's workers may shop for goods and services in a more urbanized region. If an airport tenant purchased the needed product from elsewhere in Tennessee, then the transaction would be part of the Tennessee state multiplier. Similarly, if workers drove to a neighboring region to shop, then those sales would be counted in the state multiplier but not the regional multiplier. For these reasons, multiplier effects of supplier sales and income re-spending are larger when modeling impacts across the state of Tennessee compared to those in sub-state regions.

DERIVING MULTIPLIER IMPACTS

IMPLAN is an input-output (I-O) model widely used in economic impact analysis. I-O models trace the flows of money in an economy of varying sizes by the patterns of industry purchases and sales with other industries (for supplier sales effects) and household spending (used to calculate income re-spending effects), which help explain how revenues earned in direct transactions have additional or multiplier impacts in an economy.

As stated earlier, multiplier effects begin with businesses on-airport or those engaged directly with visitors that use part of their gross revenues to purchase goods and services from other businesses. For example, a restaurant may buy produce from farmers, dry goods from wholesalers, office equipment at stores or manufacturers, and utilize and pay for accounting services. To the extent that these purchases stay in Tennessee, they provide business revenue to other businesses in an airport's home region or to the rest of the state. These revenues are then used by businesses in the supply chain in part to hire workers and pay them wages, and to purchase additional business supplies. Successive rounds of supplier sales occur until the dollars are spent outside of Tennessee. In instances when airport tenants or hospitality businesses initially purchase goods or services from outside the state, the dollars are lost to Tennessee and are not part of the multiplier effects. Similarly, workers at directly affected businesses or part of the supply chain of direct businesses use their wage to purchase goods and services in Tennessee (also known as household spending). Effects in the Tennessee economy from supplier sales and income respending were calculated for economic impacts generated through on-airport activity, visitor spending, and air cargo services.

Tax Impacts

State and local tax impacts were calculated from direct effects of on-airport activities and visitor spending. On-airport taxable activity comes from a wide variety of sources, such as aircraft fuel that is subject to aviation fuel taxes and on-airport concession foods and goods that are subject to sales taxes. Rental car companies also collect sales tax in addition to a rental surcharge tax. A detailed list of aviation activities that are subject to taxes is shown in ***Table 4***.

Visitor expenditures are the largest source of aviation-related tax revenue. This includes revenue from lodging, restaurants, entertainment, ground transportation, and retail sales. Other tax revenue components include property tax collected on private airports and sales tax generated by airport tenants and their employees.

Table 4: Summary of State Tax Revenue Categories from All Aviation Activity Sources

	Detailed Activities
On-Airport Activities	Aviation Fuel Sales, Rental Cars, Retail, Restaurants, Services, and Property Taxes on Private Airports
Visitors	Retail Sales, Lodging, Food and Beverage, Recreation, and Ground Transportation
Employees	Airport Administration, On-Airport Businesses, Visitor Support Businesses, and Off-Airport Air Cargo

Statewide Economic Impact Findings

The goal of the Aviation Economic Impact Study is to quantify the economic impacts of aviation activities and highlight how airports contribute to the Tennessee economy through employment and total economic activity. An economic impact study provides an overview of airport operations and economic conditions at the moment data was collected and can be thought of as a "snapshot" in time. The data collection process, economic modeling, and the state of the economy for this study are based on 2019 conditions. The analysis considers the economic impacts associated with on-airport businesses, visitors who arrive through commercial and GA airports, and off-airport cargo. These generators of economic activity are on-airport activity, visitor spending, and reliance of Tennessee businesses on air cargo services at the state's system airports.

Table 5 summarizes the economic impacts generated by Tennessee's airports by type. As shown, Tennessee airports provided almost 221,000 jobs and generated over $21 billion in value added and nearly $40 billion in business revenue in 2019.

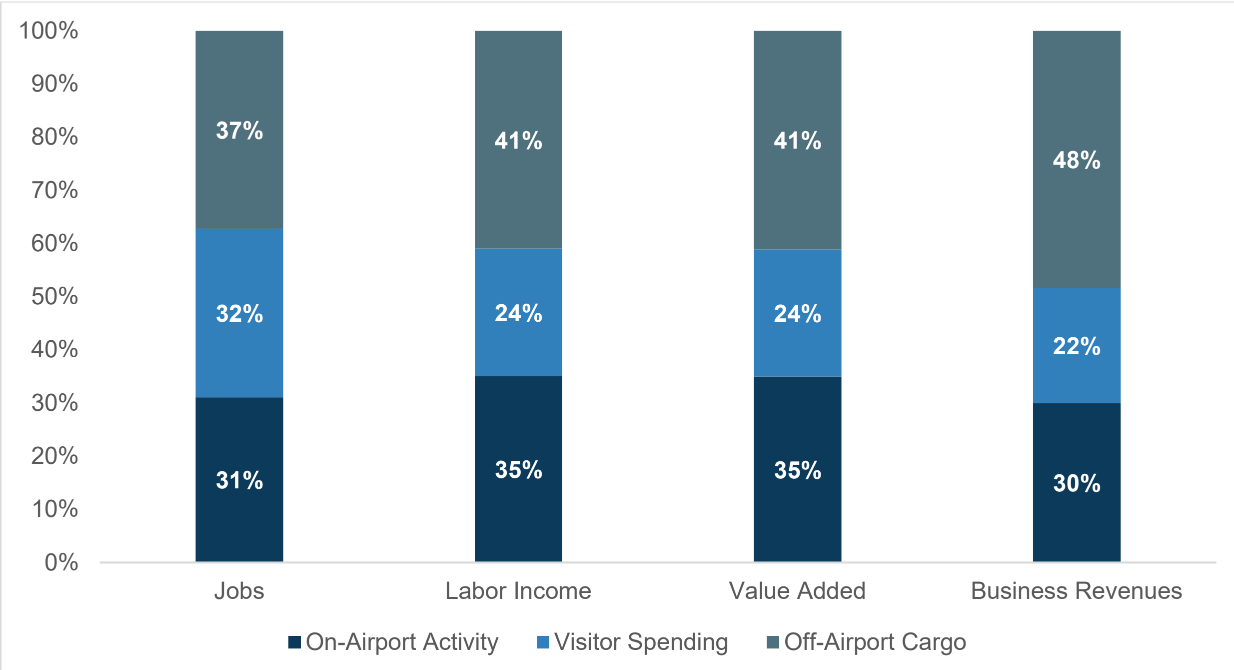
Table 5: Summary of Economic Impacts by Type

Type	Jobs	Labor Income	Value Added	Business revenue
On-Airport Activity	68,616	$4,640,252,000	$7,455,822,000	$11,956,184,000
Visitor Spending	69,965	$3,175,326,000	$5,100,404,000	$8,632,183,000
Off-Airport Cargo	82,357	$5,420,000,000	$8,771,000,000	$19,292,000,000
TOTAL	**220,936**	**$13,235,578,000**	**$21,327,226,000**	**$39,880,367,000**

Note: All dollars are in 2019 value. Columns may not add due to rounding. Source: Calculations by EBP using the 2018 IMPLAN model.

Figure 5 illustrates the share of impacts from on-airport activity, visitor spending, and off-airport cargo within each measure. Off-airport cargo contributes the most across all four economic impact measures. For instance, off-airport cargo contributes 48 percent in business revenue, compared to on-airport activity at 30 percent and visitor spending at 22 percent.

Figure 5: Share of Economic Impacts by Category



Note: All dollars are in 2019 value. Source: Calculations by EBP using the 2018 IMPLAN model.

When compared to Tennessee's overall economy, airports support more than five percent of the state economy across all economic impact measures, as shown in ***Table 6***.

Table 6: Contribution of Tennessee Airports to the State Economy

Measure	State Economy	Total State Aviation Impacts	Percent of State Economy Supported by Aviation
Jobs	4,205,777	220,956	5.3%
Payroll	$244,990,948,000	$13,235,578,000	5.4%
Value Added	$376,582,450,000	$21,327,226,000	5.7%
Business Revenue	$737,721,534,000	$39,880,367,000	5.4%

Note: All dollars are in 2019 value. Sources: U.S. BEA for jobs, payroll, and value added; Business revenue from data assembled by IMPLAN Tennessee database and adjusted to 2019; calculations by EBP using the 2018 IMPLAN model, 2020

The combined economic contribution of on-airport activity, visitor spending, and off-airport cargo reflects the total economic activity generated on airport property or due to related services, as well as the subsequent multiplier effects of supplier purchases and income re-spending throughout the state. The following section provides greater detail on impacts to the statewide economy, including impacts by activity type (on-airport, visitor spending, and off-airport cargo), by measure (jobs, payroll, value added, and business revenue), and by component (direct, supplier sales, and income re-spending).

Statewide Results by Major Activity Type

This section discusses the three types of economic impacts analyzed: on-airport activity, visitor spending, and off-airport cargo, and provides detailed results for each type of impact.

ON-AIRPORT ACTIVITY

On-airport activity is classified into three main service categories, including airport administration, airport tenants, and capital improvements. ***Table 7*** presents the total 2019 economic impacts of on-airport activity by measure (jobs, payroll, value added, and business revenue), and is broken out by direct impacts, supplier sales, and income re-spending. On-airport activity at Tennessee airports generated almost $6.9 billion in direct business revenue, which led to more than $5 billion in additional business revenue across the state due to supplier sales and income re-spending. The $12 billion in total business revenue included $4.6 billion in payroll, which supported nearly 69,000 jobs. In addition, Tennessee airports contributed almost $7.5 billion in value added, which is included in Tennessee's gross state product (GSP).

Table 7: Economic Impacts of On-Airport Activity

	Jobs	Labor Income	Value Added	Business Revenue
Direct	36,006	$2,835,789,000	$4,544,720,000	$6,872,568,000
Supplier Sales	12,806	$760,642,000	$1,126,233,000	$2,100,379,000
Income Re-spending	19,804	$1,043,818,000	$1,784,865,000	$2,983,234,000
TOTAL	**68,616**	**$4,640,249,000**	**$7,455,818,000**	**$11,956,182,000**

Note: All dollars are in 2019 value. Source: Calculations by EBP using the 2018 IMPLAN model.

VISITOR SPENDING

Airports in Tennessee allow out-of-state visitors to travel to the state for personal and business reasons. These visitors use both commercial service and GA airports to arrive at their destinations and typically spend money in the following categories:

- Accommodations
- Food and beverage
- Local ground transportation
- Retail
- Entertainment

Spending by commercial service and GA visitors brought $8.6 billion into Tennessee from international and domestic out-of-state locations. A summary of statewide impacts is shown in ***Table 8***.

Visitor spending supports local businesses, creates jobs, and provides incomes earned by employees that work in these hospitality-oriented businesses. Spending by visitors also has a positive impact on supplier sales and income re-spending as hospitality businesses may purchase goods from Tennessee-based suppliers to operate their businesses and employees spend their income within their region on household purchases. In 2019, approximately 126 million visitors came to Tennessee, with 5.7 million arriving at one of Tennessee's commercial service airports[7] and over 884,000 arriving at one of the state's GA airports[8].

[7] Source: Airline Data, Incorporated; Federal Aviation Administration (FAA)

[8] Source: Airport Manager Survey, TDOT

Table 8: Economic Impacts in Tennessee from Visitor Spending

	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service				
Direct	44,248	$1,750,041,000	$2,808,300,000	$4,667,267,000
Supplier Sales	9,659	$564,966,000	$859,435,000	$1,575,029,000
Income Respending	12,400	$704,035,000	$1,187,443,000	$1,953,757,000
Sub Total	***66,306***	***$3,019,043,000***	***$4,855,178,000***	***$8,196,054,000***
General Aviation				
Direct	2,462	$90,295,000	$138,569,000	$249,313,000
Supplier Sales	522	$29,615,000	$44,865,000	$83,632,000
Income Respending	675	$36,372,000	$61,786,000	$103,182,000
Sub Total	***3,659***	***$156,282,000***	***$245,221,000***	***$436,127,000***
TOTAL	**69,965**	**$3,175,324,000**	**$5,100,399,000**	**$8,632,181,000**

Note: All dollars are in 2019 value. Columns may not add due to rounding. Sources: Tennessee Commercial Visitor Spending Survey, Tennessee Airport Manager Survey, Tennessee General Aviation Airport Visitor Spending Survey; national review of GA spending by Kimley Horn and EBP and review by TDOT; calculations by EBP. Calculations by EBP using the 2018 IMPLAN model.

Commercial Service Visitor Spending

Five of the 78 Tennessee airports covered in this study supported commercial airline service in 2019.[9] Commercial travelers can be parsed into three general categories: (1) Tennessee residents traveling out-of-state or to a destination within the state, (2) out-of-state or international travelers who may deplane at a Tennessee airport and obtain a connection to their ultimate destination without leaving the airport; and (3) out-of-state domestic or international residents who are visiting Tennessee for personal or business reasons.

This study counts the spending of the third category as contributing to the Tennessee economy. Among traveler groups (1) and (2), Tennessee residents are not bringing new money into the Tennessee economy (and therefore not impacting the state economy) and connecting passengers are not spending money in communities of the state. Terminal spending of these passengers is counted in the impacts of on-airport businesses. Spending by commercial service visitors is a function of total number of out-of-state domestic and international visitors and the amount of spending per visitor as developed from the commercial air passenger survey administered for this study.

Table 9 reports spending by commercial service airport visitors attributed to Tennessee airports. In total, commercial service airport visitors spent $4.7 billion off-airport in the Tennessee economy. These are dollars that leave visitors' pockets before retail margins are applied to determine true economic impacts, and before multiplier impacts are applied..[10]

[9] While McKellar-Sipes Regional Airport (MKL) is classified as a Commercial Service airport in the TASP, it did not support enough commercial service to be counted as such as part of this study.

[10] As discussed in more detail in the "Modeling Methodologies and Documentation" section, spending on retail reflects the values of items sold, only a portion of the sales is actual revenue for the retail store. This portion, referred to as margined costs, reflects the "mark-up" value that retail stores add to the price of goods to cover their operating costs and profit. Only the mark-up value produces revenue and economic activity for local retailers.

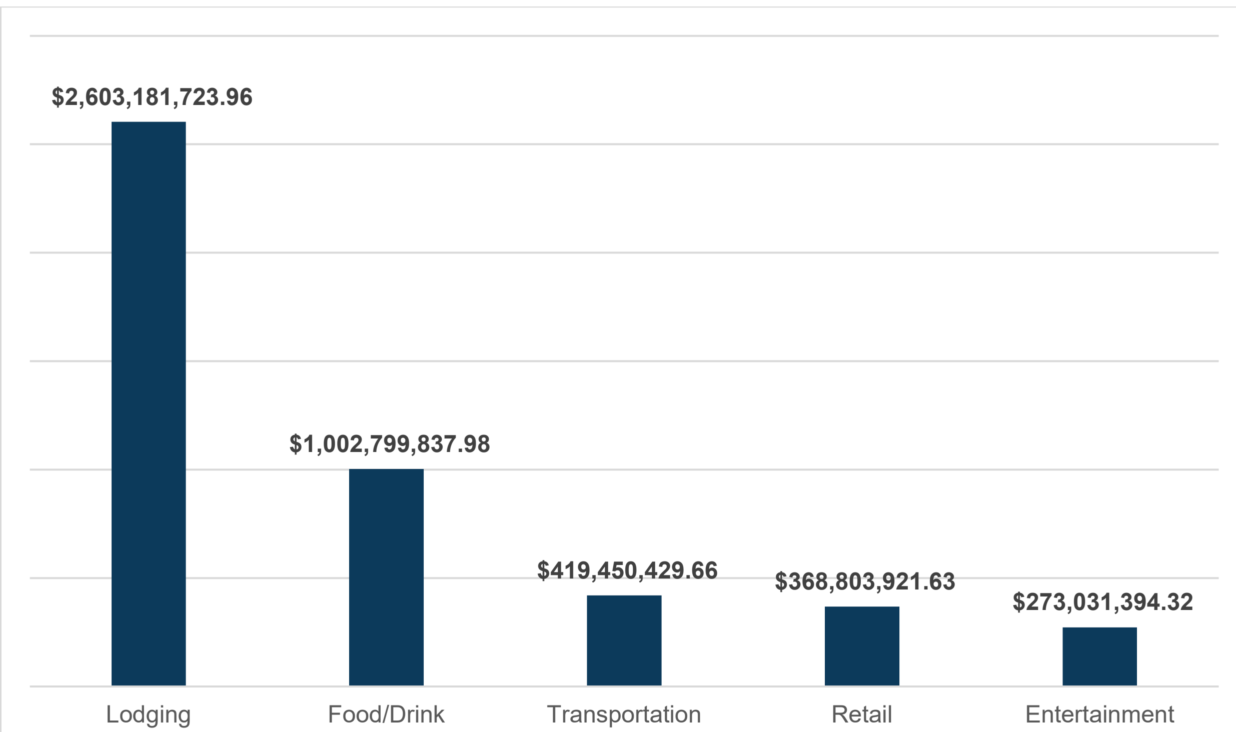
Table 9: Commercial Service Airport Visitor Spending Attributed to Each Airport

Associated City	Airport Name	FAA ID	2019 Visitors	2019 Spending per Visitor	Total Spending
Bristol/Johnson/Kingsport	Tri-Cities Airport	TRI	82,661	$671	$55,447,000
Chattanooga	Lovell Field	CHA	215,148	$655	$140,910,000
Knoxville	McGhee Tyson Airport	TYS	511,256	$939	$480,127,000
Memphis	Memphis International Airport	MEM	990,398	$839	$831,162,000
Nashville	Nashville International Airport	BNA	3,912,389	$808	$3,159,621,000
TOTAL			**5,711,852**	**$817**	**$4,667,267,000**

Note: Columns and rows may not add due to rounding. All dollars are in 2019 value.
Source: Tennessee Commercial Service Airport Visitor Spending Survey; calculations by EBP.

Figure 6 displays the distribution of visitor spending based on the commercial air passenger survey. More than 55 percent of all spending goes to lodging. Of the additional sectors, 21 percent is in food and drinking establishments, nine percent is in local transportation, eight percent is in retail purchases, and six percent is devoted to entertainment.

Figure 6: Direct Commercial Visitor Spending by Spending Category



Note: All dollars are in 2019 value. Source: Tennessee Commercial Service Airport Visitor Spending Survey; calculations by EBP.

General Aviation Visitor Spending

All 78 airports in this study support GA service, including the five commercial service airports. Like commercial service, the analysis for GA visitors counts only out-of-state visitors to Tennessee, called "transient operations" or "true visitors." The proportion of true visitors from all airport operations and the number of passengers per operation are estimated based on the GA passenger survey conducted for this study, knowledge obtained from airport managers, TDOT Aeronautics Division staff, and from FAA data sources, and are averaged according to airport classification.

Overall, approximately $249 million was spent by GA visitors that visited Tennessee in 2019. Many are business travelers who arrived for a day, conducted their business, and left. Others include vacationers who arrived to enjoy the amenities that Tennessee offers. The breakout of GA total visitor spending by airport is shown in ***Table 10***. These are the direct impacts of general aviation airport visitor spending and do not account for downstream multiplier impacts from this spending.

Table 10: General Aviation Airport Visitor Spending Attributed to Each Airport

Associated City	Airport Name	FAA ID	2019 Visitors	2019 Spending per Visitor	Total Spending
Commercial Service Airports					
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	35,352	$212	$7,490,000
Chattanooga	Lovell Field	CHA	61,053	$367	$22,434,000
Jackson	McKellar-Sipes Regional Airport	MKL	21,189	$275	$5,835,000
Knoxville	McGhee Tyson Airport	TYS	97,953	$211	$20,655,000
Memphis	Memphis International Airport	MEM	56,453	$365	$20,597,000
Nashville	Nashville International Airport	BNA	98,211	$519	$50,998,000
General Aviation Airports					
Athens	McMinn County Airport	MMI	5,100	$90	$458,000
Benton	Chilhowee Gliderport	92A	200	$6	$1,000
Bolivar	William L Whitehurst Field	M08	660	$42	$28,000
Camden	Benton County Airport	0M4	750	$50	$38,000
Centerville	Centerville Municipal Airport	GHM	300	$39	$12,000
Chattanooga	Dallas Bay Sky Park	1A0	68	$22	$1,000
Clarksville	Outlaw Field	CKV	14,700	$102	$1,497,000
Cleveland	Cleveland Regional Jetport	RZR	10,841	$154	$1,669,000
Clifton	Hassell Field	M29	90	$29	$3,000
Collegedale	Collegedale Municipal Airport	FGU	735	$30	$22,000
Columbia/Mount Pleasant	Maury County Airport	MRC	15,549	$141	$2,189,000
Copperhill	Martin Campbell Field	1A3	660	$23	$15,000
Covington	Covington Municipal Airport	M04	1,995	$44	$88,000
Crossville	Crossville Memorial Airport/Whitson Field	CSV	7,994	$59	$470,000
Dayton	Mark Anton Airport	2A0	1,200	$85	$102,000
Dickson	Dickson Municipal Airport	M02	4,560	$69	$316,000
Dyersburg	Dyersburg Regional Airport	DYR	6,000	$136	$815,000
Eagleville	Puckett Field	50M	5	$13	<$500
Elizabethton	Elizabethton Municipal Airport	0A9	6,600	$154	$1,016,000
Fayetteville	Fayetteville Municipal Airport	FYM	4,500	$84	$378,000
Gainesboro	Jackson County Airport	1A7	45	$21	$ 960
Gallatin	Music City Executive Airport	XNX	10,860	$154	$1,672,000

Table 10 (continued): General Aviation Airport Visitor Spending Attributed to Each Airport

Associated City	Airport Name	FAA ID	2019 Visitors	2019 Spending per Visitor	Total Spending
Greeneville	Greeneville Municipal Airport	GCY	20,325	$108	$2,193,000
Halls	Arnold Field	M31	90	$11	$1,000
Hohenwald	John A. Baker Field	0M3	111	$25	$3,000
Humboldt	Humboldt Municipal Airport	M53	78	$ 42	$3,000
Huntingdon	Carroll County Airport	HZD	2,150	$78	$167,000
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	540	$53	$29,000
Jamestown	Jamestown Municipal Airport	2A1	360	$32	$11,000
Jasper	Marion County Airport - Brown Field	APT	900	$67	$60,000
Johnson City	Johnson City Airport	0A4	330	$0	$0
Knoxville	Knoxville Downtown Island Airport	DKX	21,605	$176	$3,807,000
Lafayette	Lafayette Municipal Airport	3M7	1,575	$51	$80,000
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	900	$58	$52,000
Lebanon	Lebanon Municipal Airport	M54	7,502	$140	$1,050,000
Lewisburg	Ellington Airport	LUG	4,000	$68	$272,000
Lexington-Parsons	Beech River Regional Airport	PVE	820	$65	$53,000
Linden	James Tucker Airport	M15	186	$9	$2,000
Livingston	Livingston Municipal Airport	8A3	600	$59	$35,000
Madisonville	Monroe County Airport	MNV	2,025	$71	$144,000
McKinnon	Houston County Airport	M93	90	$7	$ 622
McMinnville	Warren County Memorial Airport	RNC	2,190	$70	$152,000
Memphis	General Dewitt Spain Airport	M01	15,750	$217	$3,411,000
Millington	Charles W Baker Airport	2M8	1,050	$108	$114,000
Millington	Millington-Memphis Airport	NQA	21,824	$217	$4,727,000
Morristown	Moore-Murrell Airport	MOR	23,760	$126	$2,996,000
Mountain City	Johnson County Airport	6A4	392	$58	$23,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	2,699	$155	$418,000
Nashville	John C Tune Airport	JWN	76,310	$519	$39,625,000
Oneida	Scott Municipal Airport	SCX	1,636	$83	$135,000
Paris	Henry County Airport	PHT	1,608	$91	$146,000
Portland	Portland Municipal Airport	1M5	1,950	$84	$164,000
Pulaski	Abernathy Field	GZS	3,158	$89	$282,000

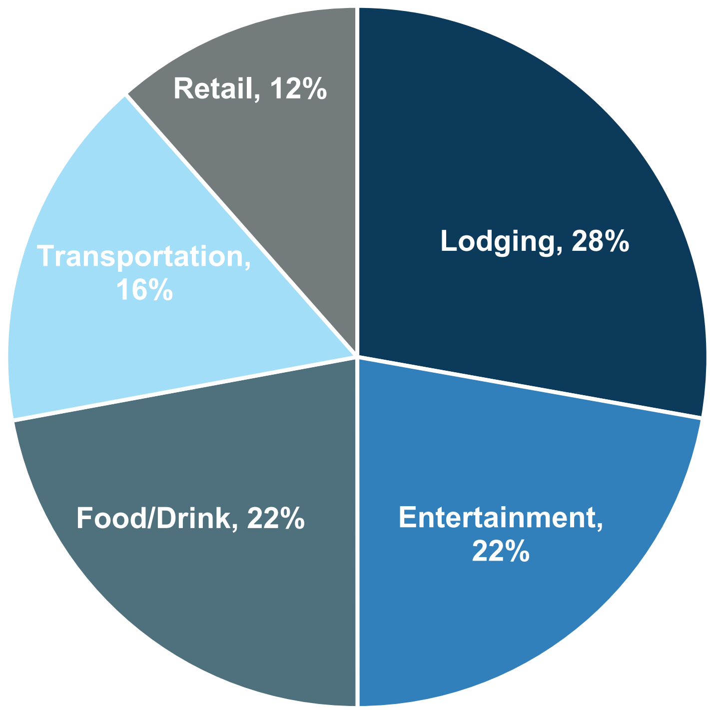
Table 10 (continued): General Aviation Airport Visitor Spending Attributed to Each Airport

Associated City	Airport Name	FAA ID	2019 Visitors	2019 Spending per Visitor	Total Spending
Rockwood	Rockwood Municipal Airport	RKW	1,511	$37	$56,000
Rogersville	Hawkins County Airport	RVN	137	$38	$5,000
Savannah	Savannah-Hardin County Airport	SNH	3,300	$88	$289,000
Selmer	Robert Sibley Airport	SZY	690	$65	$45,000
Sevierville	Gatlinburg-Pigeon Forge Airport	GKT	79,650	$367	$29,267,000
Sewanee	Franklin County Airport	UOS	240	$44	$11,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	5,100	$75	$382,000
Smithville	Smithville Municipal Airport	0A3	450	$68	$31,000
Smyrna	Smyrna Airport	MQY	59,328	$261	$15,471,000
Somerville	Fayette County Airport	FYE	930	$71	$66,000
Sparta	Upper Cumberland Regional Airport	SRB	26,390	$71	$1,873,000
Springfield	Springfield Robertson County Airport	M91	4,100	$96	$393,000
Tazewell	New Tazewell Municipal Airport	3A2	312	$67	$21,000
Tiptonville	Reelfoot Lake Airport	0M2	750	$0	$0
Trenton	Gibson County Airport	TGC	252	$42	$11,000
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	6,150	$142	$875,000
Union City	Everett-Stewart Regional Airport	UCY	8,480	$120	$1,021,000
Waverly	Humphreys County Airport	0M5	210	$64	$13,000
Winchester	Winchester Municipal Airport	BGF	6,000	$88	$530,000
TOTAL			***884,114***		***$249,313,000***

Note: Columns and rows may not add due to rounding. All dollars are in 2019 value.
Sources: Tennessee Airport Manager Survey, Tennessee General Aviation Airport Visitor Spending Survey; national review of GA spending by Kimley Horn, EBP, and TDOT; calculations by EBP.

A breakdown of GA visitor spending by sector is found in ***Figure 7***. Based on the transient GA pilot and passenger surveys conducted for this study, the profile of visitor spending for GA appears more evenly distributed among the five spending sectors compared to the state's commercial visitor spending in 2019. A major reason for this is because GA visitors are more likely to conduct day trips than commercial service visitors. Spending by GA visitors shows 28 percent in lodging, 22 percent in food and drink, 22 percent in entertainment, 16 percent in local transportation, and 12 percent in retail purchases.

Figure 7: GA Visitor Spending by Sector



Note: All dollars are in 2019 value.
Source: Tennessee Transient GA Pilot and Passenger Surveys; calculations by EBP.

Total Impacts of Commercial Service and GA Visitor Spending

In 2019, out-of-state commercial service and GA visitors spent almost $5 billion in the Tennessee economy, which ultimately supported nearly 70,000 jobs after multiplier effects are considered. ***Table 11*** shows that the total impact of commercial service and GA passengers' spending in Tennessee accounts for $3.2 billion in payroll, $5.1 billion in value added, as well as $8.6 billion in business revenue. Direct visitor spending generated approximately 57 percent of the total business revenue, 67 percent of jobs, and 58 percent of both payroll and value added. The relatively high ratio of direct jobs and low ratio of revenues are because the hospitality sector includes a high number of part time and low wage jobs compared to the economy as a whole.

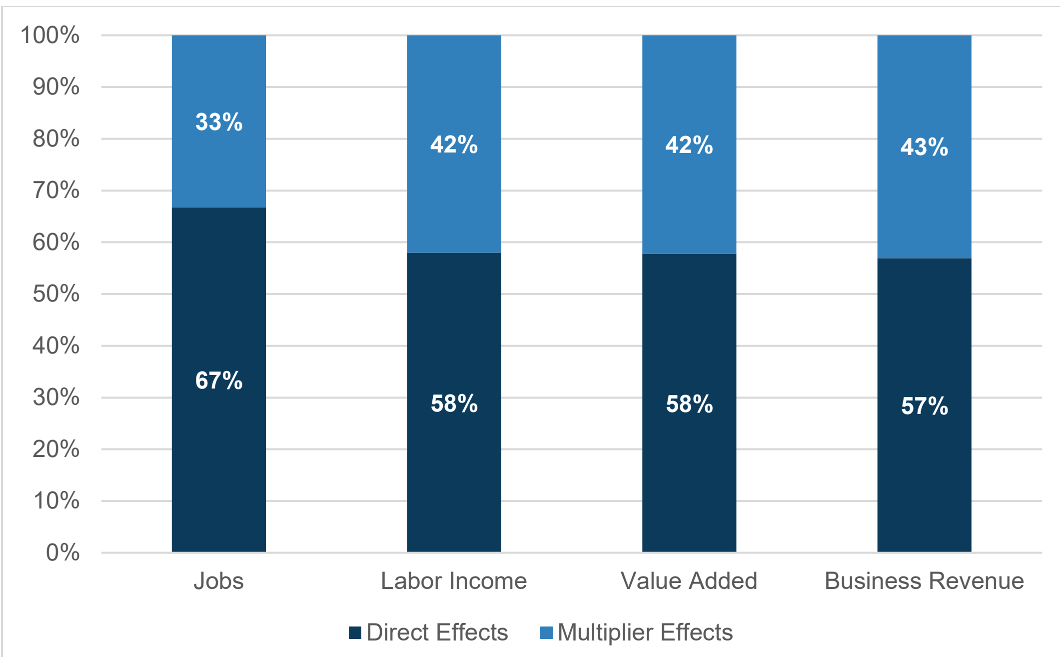
Table 11: Total Impacts of Commercial Service and GA Visitor Spending

	Jobs	Labor Income	Value Added	Business Revenue
Direct	46,710	$1,840,336,000	$2,946,870,000	$4,916,581,000
Supplier Sales	10,181	$594,581,000	$904,300,000	$1,658,662,000
Income Re-spending	13,074	$740,407,000	$1,249,229,000	$2,056,939,000
TOTAL	**69,965**	**$3,175,324,000**	**$5,100,399,000**	**$8,632,181,000**

Note: Columns and rows may not add due to rounding. All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Figure 8 presents direct commercial service and GA visitor spending impacts as a proportion of total direct impacts for all three economic impact generators (on-airport activity, visitor spending, and off-airport cargo).

Figure 8: Direct Economic Impacts of Commercial Service and GA Visitor Spending as a Share of Overall Direct Economic Impact Activity



Source: Calculations by EBP using the 2018 IMPLAN model.

OFF-AIRPORT AIR CARGO

Beyond economic contributions in Tennessee due to airport operations and by facilitating visitor spending, Tennessee airport operations play a key role in the local economy by enabling local manufacturers and agricultural producers to transport finished and intermediate goods to customers across the country and around the world. These airports are essential for local businesses to access both long-distance domestic and international markets in a timely manner. The cargo services supported by airports also allow Tennessee businesses to acquire specialized goods, use the globe to price and acquire commodities, and develop and maintain far-reaching customer bases. The off-airport air cargo analysis assessed the reliance of off-airport industries in Tennessee on cargo that is transported through Tennessee airports and calculated the economic contributions of this air cargo to off-airport businesses on both the statewide and regional bases in 2019. This analysis does not include the impacts of on-airport air cargo jobs, which are covered by other components of the Aviation Economic Impact Study. The results of the analysis show that air cargo services at Tennessee airports supported over 82,000 off-airport jobs in the state and more than $19 billion in business revenue in 2019, as shown in ***Table 12***. This analysis is profiled in detail in the appendix.

Table 12: Off-Airport Air Cargo Economic Impacts

Impact	Jobs	Labor Income	Value Added	Business Revenue
Direct	35,556	$2,728,000,000	$4,505,000,000	$11,437,000,000
Supplier Sales	23,223	$1,439,000,000	$2,185,000,000	$4,281,000,000
Income Re-spending	23,579	$1,253,000,000	$2,081,000,000	$3,574,000,000
Total	**82,357**	**$5,420,000,000**	**$8,771,000,000**	**$19,292,000,000**

Note: Totals may not equal the sum of rows due to rounding. All dollars are in 2019 value.
Sources: Data from FAF, WISERTrade, and IMPLAN assembled and calculated by EBP.

An additional 32,600 direct air cargo jobs have been identified in other elements of the Tennessee Aviation Economic Impact Study. Almost 12,600 cargo-related jobs are on Nashville International Airport (BNA), Lovell Field (CHA), Memphis International Airport (MEM), Smyrna Airport (MQY) and McGhee Tyson Airport (TYS) and are part of the airport tenant analysis.

Also, the FedEx world headquarters in Memphis houses 20,000 jobs in addition to the workers at MEM and are noted in the airport reliant analysis. These additional 32,600 jobs generate $2.5 billion in direct payroll and $4.8 billion in total business revenue, of which $3.43 billion is value added.

TAX IMPACTS

Tennessee's tax analysis was limited to direct impacts and sales and use taxes, as well as to local property taxes. In 2019, Tennessee airports and airport-supported activities contributed an estimated $1.11 billion in state and local tax revenues realized from direct activities at commercial service and GA airports (see ***Table 13***). For this tax analysis, three main types of taxes are relevant for on-airport and visitor activities:

- Aviation fuel tax
- Sales and use tax
- Corporate taxes on airport tenants
- Property tax on privately-owned, public-use airports

Details on sources and calculations for the tax analysis is provided in the appendix.

Table 13: Summary of 2019 State and Local Tax Revenues

Source of State and Local Tax Revenues	Estimated 2019 Annual Revenues	Percent of Total
Visitor Spending	$651,200,000	58%
Airport Tenants	$363,000,000	33%
Airport Employees	$70,100,000	6%
Aviation Fuel Purchases	$29,500,000	3%
Property Tax on Privately-Owned, Public-Use Airports	$27,500	<.01%
TOTAL	**$1,113,827,500**	**100%**

Sources: TDOT for FY 2019 fuel collections data, Tennessee Department of Revenue, Tennessee Advisory Committee on Intergovernmental Relations (TACIR), AirNav fuel prices reported between 12/21/2021 and 1/20/2022 (https://www.airnav.com/fuel/report.html), and airport tenants and visitor surveys. Calculations by EBP.

Aviation Fuel Tax

Pursuant to Tennessee Code Annotated (TCA) 67-4-2701 and TCA 67-4-2707, "a privilege tax of 4.5 percent of the gross charge for the sale, use, consumption, distribution, and storage of aviation fuel used in the operation of airplane or aircraft motors" is levied to help fund Tennessee's Transportation Equity Fund (TEF).[11,12] Tennessee's TEF is a funding account that collects sales tax paid on fuel used by aeronautics, railroads, and towboats that then helps fund and support aviation, railroad, and waterway-related facilities and activities.[13]

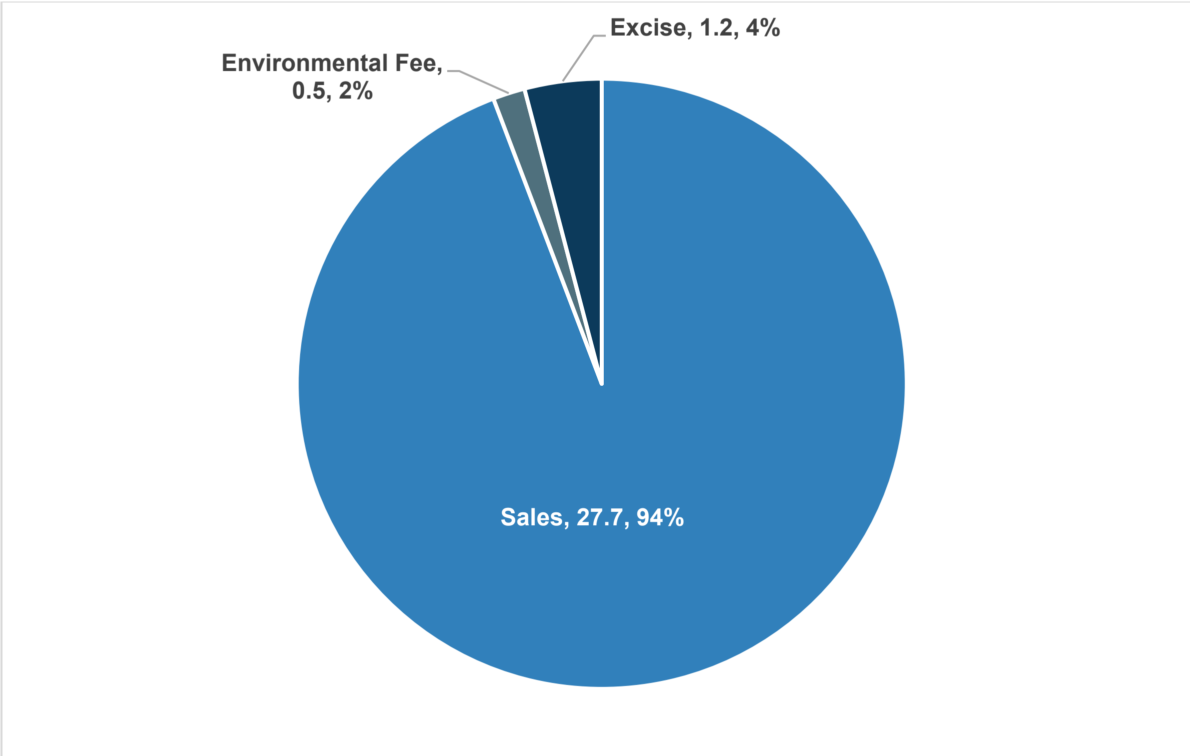
Tennessee's aviation fuel tax is remitted at the point of sale, which largely occurs at the airport at which the fuel is purchased. Aviation fuel taxes in Tennessee include an excise tax and a sales tax, as well as an environmental assurance fee[14]:

- Excise tax on jet fuel for private and commercial aircraft: *$0.01 per gallon applied to gallons of fuel purchased*
- Sales tax on jet fuel for private and commercial aircraft: *4.5 percent applied to value of fuel purchased*
- Environmental assurance fee on jet fuel for both private and commercial aircraft: *$0.004 per gallon applied to gallons of fuel purchased*

An average price of $5.00 per gallon of fuel was used to estimate gallons sold for the purpose of calculating revenue from the excise tax and environmental fee based on data retrieved January 4, 2022 from AirNav.com.[15] Of the three revenue sources, sales tax is the largest, representing approximately 94 percent of fuel-related receipts in 2019, as shown in ***Figure 9***.

[11] Source: Office of the Secretary of State, Tennessee Code Annotated (TCA) 67-4-2701 and TCA 67-4-2707
[12] The aviation fuel tax rate has since been reduced to 4.25 percent by the Tennessee State Legislature. https://www.tn.gov/content/dam/tn/revenue/documents/notices/sales/sales21-11.pdf
[13] Tennessee Department of Transportation. "Tennessee Statewide Multimodal Freight Plan (Pg. 3-2)." 2018. https://forwardsumner.org/wp-content/uploads/2019/10/TDOT_FreightPlan_02.27.18.pdf
[14] A fee imposed on all petroleum products. This is paid in addition to all other required motor fuel taxes/fees. (Source: Tennessee Department of Revenue)
[15] AirNav as published on January 14, 2022. https://www.airnav.com/fuel/report.html

Figure 9: Revenue Generated from Aviation Fuel Taxes and Fees (in millions)



Source: TDOT for FY 2019 collections data, AirNav fuel prices reported between 12/21/2021 and 1/20/2022 (https://www.airnav.com/fuel/report.html)

Use of Fuel Tax Revenues

Aviation fuel tax revenues are put into the TEF to help fund capital improvements at the state's general aviation and commercial service airports, which can include (but are not limited to) the following:

- land acquisitions
- runway safety area improvements
- taxiway extensions and relocations
- pavement resurfacing
- safety and security upgrading
- airfield lighting
- navigational and landing aids
- updating airport layout plans

Revenues from the TEF are distributed to Tennessee airports through the form of grants that are applied for by state airports and are reviewed by TDOT. The money distributed to Tennessee airports through TEF grants is given on a 50-50 basis with commercial service airports receiving 50 percent of the total grant dollars available and GA airports receiving the other 50 percent of the total grant dollars available.[16]

[16] Source: McCracken, Hunter Pressley. "The Economic Implications of Evolving Aviation Funding Policy in Tennessee." Master's Thesis, University of Tennessee, 2015.

Sales and Use Taxes

Sales and use taxes are a key component of aviation's statewide revenue impact. These include taxes on visitor spending (for things like lodging, food, retail, and rental cars), spending by on-airport businesses, and spending by workers in the aviation sector.

Sales taxes in Tennessee are levied at the state and county levels. Total sales tax rates are the sum of applicable sales taxes for the jurisdiction where the purchase takes place. For example, a purchase for lodging accommodations in Nashville (Davidson County) would include the following sales tax components:

- State of Tennessee: 7%
- Davidson County: 2.25%
- Hotel Occupancy: 6%
- Total Sales Tax: 15.25%

Hotel occupancy taxes are a specific type of sales tax that counties establish and then add to regular sales tax for the use of hotels, motels, and other lodging accommodations. The idea behind a hotel occupancy tax is that it helps offset the cost of services provided to visitors (versus residents), allowing a more equal distribution of the cost burden across various users of Tennessee's public services. Lodging is a large airport visitor expenditure within the state and a generator of significant tax revenues. Hotel occupancy tax rates vary by county. Auto rental and alcoholic beverages are also subject to sales taxes both on- and off-airport (see ***Table 14***).

Table 14: Sales and Use, Occupancy, and Auto Rental Tax Rates

	BNA	CHA	MEM	TRI	TYS
County	**Davidson**	**Hamilton**	**Shelby**	**Sullivan and Washington**	**Blount, Knox, and Sevier**
Sales and use (state)	7.00%	7.00%	7.00%	7.00%	7.00%
Sales and use (local)	2.25%	2.25%	2.25%	2.38%	2.58%
Hotel occupancy (local)	6.00%	8.00%	6.70%	6.33%	5.58%
Auto rental surcharge (state)	3.00%	3.00%	3.00%	3.00%	3.00%
Liquor tax (state)	15.00%	15.00%	15.00%	15.00%	15.00%

Sources: Tennessee Department of Revenue; Tennessee Advisory Committee on Intergovernmental Relations (TACIR)

When taking a closer look at off-airport tax revenues from visitor expenditures, over $650 million of revenue was generated between state and local taxes, which is equivalent to 58 percent of the total overall tax revenue calculated for this analysis (***Table 15***).

Table 15: Summary of Tax Revenue from Visitor Spending

	Commercial Service Airports	General Aviation Airports	All Tennessee Airports
State Tax Revenue	$354,500,000	$19,700,000	$374,200,000
Local Tax Revenue	$266,400,000	$10,600,000	$277,000,000
Total State & Local Tax Revenue	**$620,900,000**	**$30,300,000**	**$651,200,000**

Source: Tennessee Department of Revenue

Commercial service airports contribute approximately 95 percent toward tax revenues from visitor spending. Applicable taxes on spending by visitors include one or more of the following: sales and use taxes (state and local), hotel occupancy, auto rental surcharge, and liquor tax. As shown in ***Table 16***, visitors arriving to Nashville International Airport (BNA) make up 68 percent of revenue generated from various visitor spending-related taxes ($420 million), followed by Memphis International Airport (MEM) at 18 percent ($110 million), McGhee Tyson Airport (TYS) at 10 percent ($63 million), Lovell Field (CHA) at three percent ($20 million), and Tri-Cities Airport (TRI) at one percent ($8 million).

Table 16: Tax Revenue Generated from Visitor Spending by Tax Category and Commercial Service Airport

	BNA	CHA	MEM	TRI	TYS	Total by Tax Category
Sales and use (state)	$221,200,000	$9,900,000	$58,200,000	$3,900,000	$33,600,000	$326,800,000
Sales and use (local)	$71,100,000	$3,200,000	$18,700,000	$1,300,000	$12,400,000	$106,700,000
Hotel occupancy (local)	$108,000,000	$6,400,000	$28,500,000	$2,000,000	$14,800,000	$159,700,000
Auto rental surcharge (state)	$8,300,000	$500,000	$2,500,000	$200,000	$1,100,000	$12,600,000
Liquor tax (state)	$11,300,000	$300,000	$2,200,000	$100,000	$1,200,000	$15,100,000
Total	**$419,900,000**	**$20,300,000**	**$110,100,000**	**$7,500,000**	**$63,100,000**	**$620,900,000**

Sources: Tennessee Department of Revenue; Tennessee Advisory Committee on Intergovernmental Relations (TACIR)

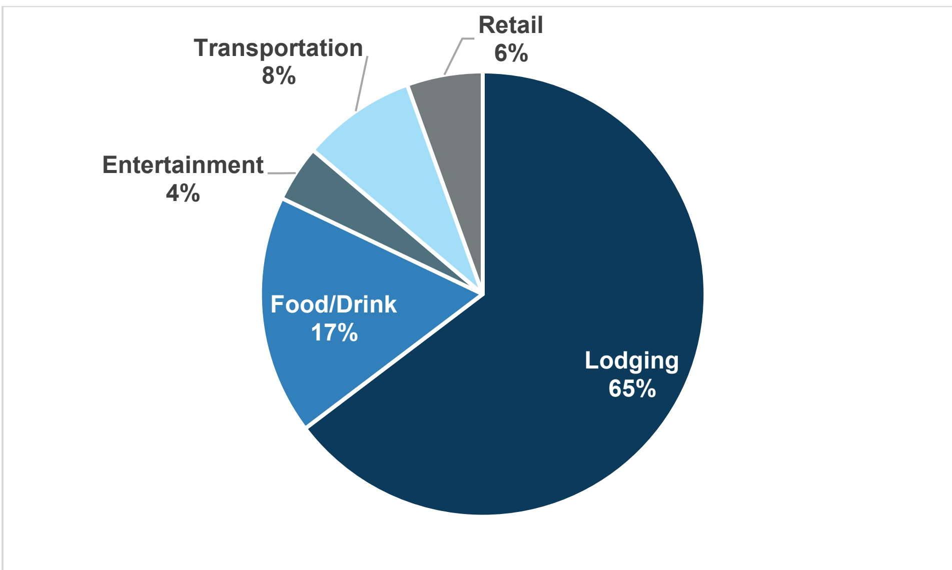
By far, hotel occupancy taxes bring in the largest amount of tax revenue (65 percent) from visitors arriving at commercial service airports (***Table 17*** and ***Figure 10***). Food and beverage tax receipts are the second largest contributor at 17 percent, followed by ground transportation at eight percent, and retail sales at six percent. Entertainment and recreation bring in the least amount of tax revenue at four percent.

Table 17: Tax Revenue Generated from Visitor Spending by Spending Category and Commercial Service Airport

	BNA	CHA	MEM	TRI	TYS	Total by Spending Category
Lodging	$274,600,000	$13,900,000	$67,900,000	$4,900,000	$40,300,000	$401,600,000
Food/Drink	$80,600,000	$2,000,000	$15,700,000	$900,000	$8,900,000	$108,100,000
Entertainment	$12,200,000	$1,300,000	$5,300,000	$600,000	$6,100,000	$25,500,000
Transportation	$33,900,000	$1,900,000	$10,300,000	$800,000	$4,600,000	$51,500,000
Retail	$18,500,000	$1,100,000	$10,900,000	$400,000	$3,300,000	$34,200,000
Total	**$419,800,000**	**$20,200,000**	**$110,100,000**	**$7,600,000**	**$63,200,000**	**$620,900,000**

Source: Visitor Spending Surveys; calculations by EBP, 2020

Figure 10: Percent of State and Local Tax Revenues from Commercial Service Visitor Spending by Spending Category



Source: Visitor Spending Surveys; calculations by EBP, 2020

Visitors arriving at GA airports bring in approximately 5 percent of tax revenue to the Tennessee economy, or $30 million. These visitors are typically non-local passengers arriving by private or corporate aircraft who spend on one or more activities listed in Table 18. Tax Revenue Generated from Visitor Spending Category by GA Visitors and generate a relatively smaller portion of tax-generated revenues.

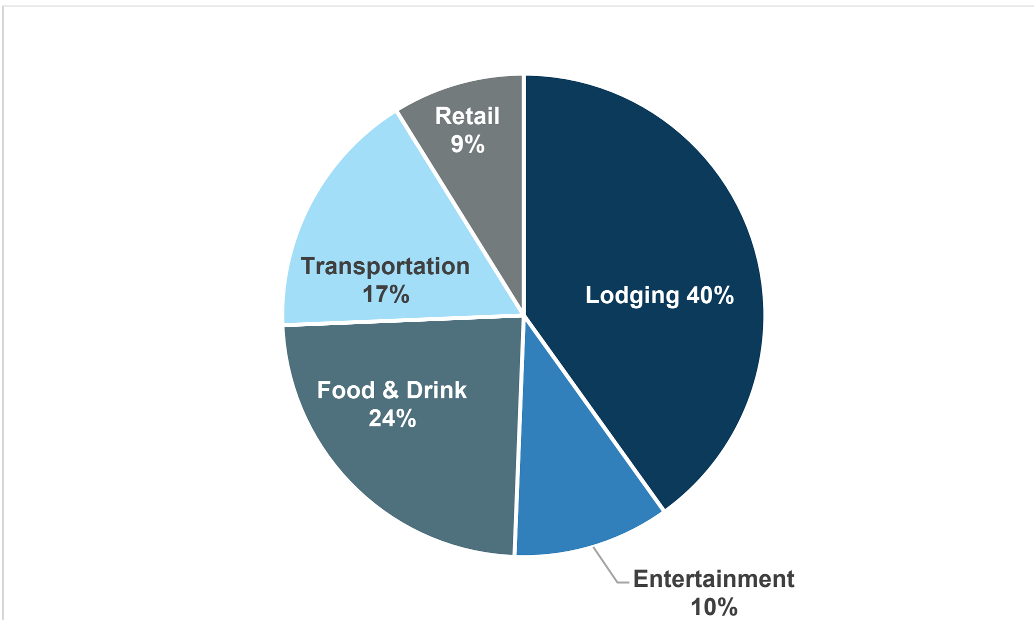
By category of GA visitor spending, lodging is the largest generator of tax revenue accounting for 40% of all revenues, followed by food & beverage (24%), ground transportation (17%) and entertainment and retail (10% and 9%, respectively). The different levels of spending between GA and Commercial visitors reflect the generally shorter length of trips of GA visitors, and, on average, a lower proportion of spending on lodging (***Table 18*** and ***Figure 11***).

Table 18. Tax Revenue Generated from GA Visitor Spending by Spending Category

Visitor Spending Category	Tax Revenue Generated	Percent Tax Revenue Generated
Lodging	$12,152,000	40%
Entertainment	$3,188,000	10%
Food & Beverage	$7,194,000	24%
Transportation	$5,085,000	17%
Retail	$2,688,000	9%
TOTAL	***$30,305,000***	***100%***

Note: Columns may not add due to rounding. Source: GA Visitor Spending Estimates; calculations by EBP, 2020

Figure 11. Percent of State and Local Tax Revenues from General Aviation Visitor Spending by Spending Category



Source: Visitor Spending Surveys; calculations by EBP, 2020

Most of the tax revenues generated by GA visitors originate from sales and use taxes (state and local) at 78 percent ($24 million), followed by hotel occupancy taxes at 15 percent ($5 million), auto rental surcharge at four percent ($1 million), and liquor taxes at three percent ($1 million) (Table 19).

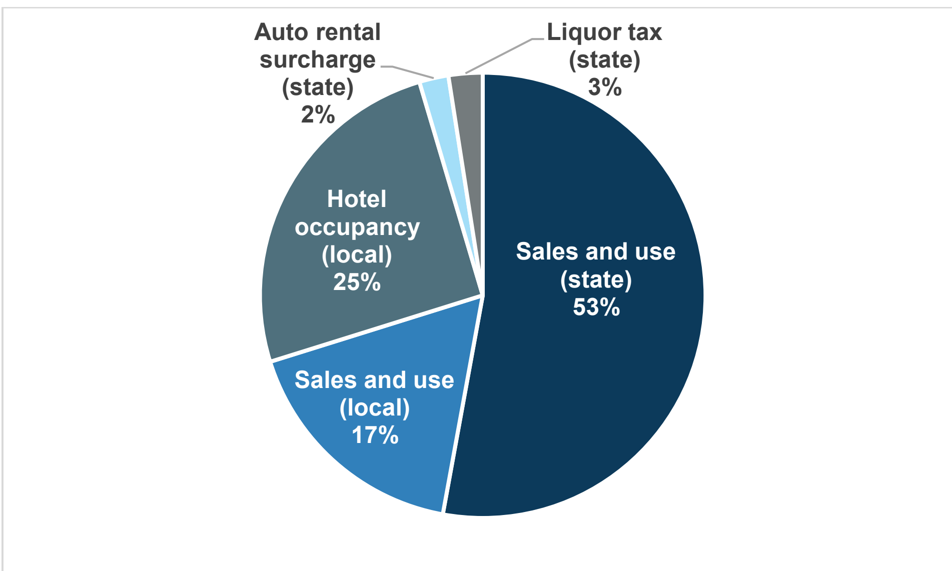
Table 19: Tax Revenue Generated from General Aviation Visitor Spending by Tax Type

Tax Type	Total by Tax Type	Percent of Total
Sales and use (state)	$17,452,000	58%
Sales and use (local)	$6,018,000	20%
Hotel occupancy (local)	$4,617,000	15%
Auto rental surcharge (state)	$1,229,000	4%
Liquor tax (state)	$ 989,000	3%
Total	**$30,305,000**	**100%**

Note: Based on 78 airports with GA operations
Columns may not add due to rounding.
Source: Visitor Spending Surveys; calculations by EBP, 2020

In summary, of tax revenues generated by visitor spending from both commercial service and general aviation visitors, roughly 70% are from sales and use taxes (state and local) and 25% are from hotel occupancy taxes, as shown in ***Figure 12***.

Figure 12: Percent of Revenues by Type of Tax Generated by Commercial and GA Visitors



Source: Visitor Spending Surveys; calculations by EBP, 2020

Tenant Expenditures and Employee Spending

Airport tenants generate tax revenue in three ways. First, businesses pay a 6.5 percent tax on their corporate income (i.e., profit). In Tennessee, this amounts to $14.2 million across all airports. Second, businesses also pay taxes on things like equipment and supplies, which amounts to an additional $348.8 million, for a total of $363 million generated by airport tenants. Third, their employees pay taxes when they spend their paychecks on consumer goods and services in

Tennessee.[17] Through this spending, tenant employees generate an additional $70.1 million in tax revenue (***Table 19***).

Table 20: State and Local Tax Revenue Generated by Tenant Expenditures and Employee Spending

Jurisdiction	Tenant Expenditures	Employee Spending	Total
State Sales and Use Tax	$261,400,000	$52,600,000	$314,000,000
Local Sales and Use Tax	$87,400,000	$17,500,000	$104,900,000
State Corporate Income Tax	$14,200,000	n/a	$14,200,000
Total	**$363,000,000**	**$70,100,000**	**$433,100,000**

Source: Airport Tenant Surveys

Property Tax on Privately-Owned, Public-Use Airports

Tennessee's property tax on privately-owned, public-use airports is the final tax included in this analysis. This type of tax is applied to four airports in the state: Chilhowee Gliderport in Polk County, Dallas Bay Sky Park in Hamilton County, Johnson City Airport in Washington County, and Puckett Field in Bedford County. Overall, tax revenues generated by property taxes imposed on these four airports equals $27,500 (***Table 20***). Property tax revenues are calculated from the tax rate assessed per $100 of assessed value by counties and associated cities. The rates shown in ***Table 20*** reflect the sums of respective county and city rates. Dallas Bay Sky Park brings in the most annual property tax revenue at 63 percent ($17,400), followed by Chilhowee Gliderport at 19 percent ($5,100), Johnson City Airport at 12 percent ($3,400), and Puckett Field at six percent ($1,600).

Table 21: Property Tax Revenue Generated by Privately-Owned, Public-Use Airports

Airport Name	County	Associated City	Assessed Value	Rate per $100 Assessed Value	Annual Property Tax Revenue
Chilhowee Gliderport	Polk	Benton	$155,800	$3.28	$5,100
Dallas Bay Sky Park	Hamilton	Chattanooga	$346,000	$5.04	$17,400
Johnson City Airport	Washington	Johnson City	$87,200	$3.86	$3,400
Puckett Field	Bedford	Eagleville	$59,300	$2.66	$1,600
Total					**$27,500**

Note: Annual property tax revenue is rounded
Source: Local tax assessors (assessments as of 12/11/2020) with calculations by EBP, 2020

Summary

Overall, total state and local tax revenues from direct impacts equal an estimated $1.12 billion for Tennessee in 2019. Of the $1.12 billion, 66 percent ($739 million) make up statewide tax revenues and 34 percent ($382 million) make up local tax revenues (***Table 21***).

[17] Tennessee has no personal income tax, meaning tenant employees do not generate this type of revenue.

Table 22: Summary of State and Local Tax Revenues from All Sources and Airports

	Commercial Service	General Aviation	All Tennessee Airports
State Tax Revenues			
Visitor Spending	$354,500,000	$19,700,000	$374,200,000
Fuel Purchases	N/A	N/A	$36,400,000
Tenants & Employees	$305,100,000	$23,100,000	$328,200,000
Subtotal State Tax Revenues	***$659,600,000 plus fuel***	***$42,800,000 plus fuel***	***$738,800,000***
Local Tax Revenues			
Visitor Spending	$266,400,000	$10,600,000	$277,000,000
Property Tax	N/A (tax exempt airports)	$27,500 (private airports)	$27,500
Tenants & Employees	$97,200,000	$7,700,000	$104,900,000
Subtotal Local Tax Revenues	***$363,600,000***	***$18,327,500***	***$381,927,500***
TOTAL	**$1,023,200,000 plus fuel**	**$61,127,500 plus fuel**	**$1,120,727,500**

Note: "Tenants & Employees" refers to airport tenants and airport management. Source: EBP analysis

Statewide Impacts from Airport-Driven Supplier Sales and Income Re-spending

This section describes how multiplier effects associated with on-airport and visitor spending flow through the Tennessee economy. Multiplier effects are made up of two streams of revenue, including supplier sales and income re-spending.

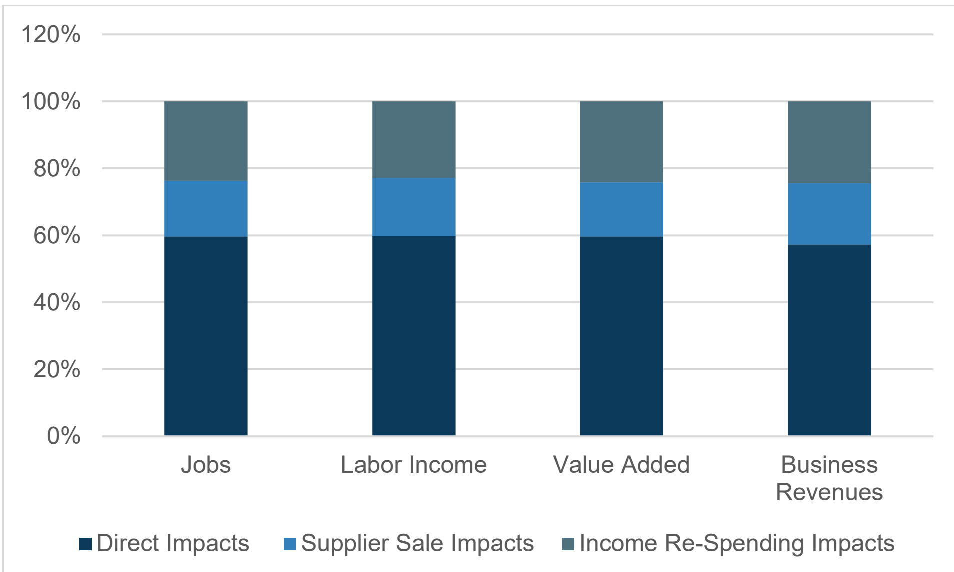
Table 23 presents a summary of multiplier effects relative to total economic impacts from on-airport activities and visitor spending. With approximately 23,000 jobs from supplier sales, and almost 33,000 jobs from income re-spending, almost 56,000 total jobs are added through multiplier effects, with associated labor income of over $3 billion. Total multiplier effects also include $5 billion in value added and close to $8.8 billion in business revenue. Across types of impacts, multiplier effects account for 40 to 43 percent of total economic impacts, as illustrated by.

Table 23: Multiplier Effects as a Share of Total On-Airport and Visitor Spending Economic Impacts

	Jobs	Labor Income	Value Added	Business Revenue
Direct Impacts	82,716	$4,676,125,000	$7,491,590,000	$11,789,149,000
Multiplier Effects				
Supplier Sales	22,987	$1,355,223,000	2,030,533,000	$3,759,041,000
Income Re-spending	32,878	$1,784,225,000	3,034,094,000	$5,040,173,000
Total Multiplier Effects	**55,865**	**$3,139,448,000**	**$5,064,627,000**	**$8,799,214,000**
Total Impacts	**138,581**	**$7,815,574,000**	**$12,556,217,000**	**$20,588,363,000**
Multiplier Share of Total	40%	40%	40%	43%

Note: Columns may not add due to rounding. All dollars are in 2019 value. Source: Calculations by EBP using the 2018 IMPLAN model.

Figure 13. Direct Economic Impacts and Multiplier Effects of On-Airport and Visitor Spending as Shares of Overall Economic Impacts



Source: Calculations by EBP using the 2018 IMPLAN model.

SUPPLIER SALES/INCOME RE-SPENDING IMPACTS TO TENNESSEE INDUSTRIES

This section highlights the extent to which industries across the Tennessee economy are supported by supplier sales and income re-spending that are generated from direct on-airport and visitor spending impacts. ***Table 24*** presents the jobs by industries across the state attributed to these multiplier effects, and ***Table 25*** presents the same comparison by impacts of business revenue. In general, jobs generated due to supplier sales support business-serving sectors, such as professional, scientific, and technical services, whereas income re-spending affects population-serving industries, such as health care, social assistance, retail trade, and restaurants and drinking establishments (the latter two are also major beneficiaries of visitor spending).

Industries in these two tables are organized by NAICS codes. Administered by the U.S. Census Bureau, NAICS is the standard used by Federal agencies in classifying business establishments for statistical data related to the U.S. economy.

Table 24: Top Industries in Tennessee by Supplier Sales and Income Re-spending by Jobs

Impacts from Supplier Sales in Tennessee			Impacts from Income Re-spending in Tennessee		
NAICS Code	**Industry Description**	**Jobs Generated**	**NAICS Code**	**Industry Description**	**Jobs Generated**
561-562	Business Services (Admin, Support, Waste)	4,487	621-624	Health Care and Social Assistance	6,758
722	Restaurants & Drinking Establishments	2,836	441-454	Retail Trade	5,673
487-488	Scenic & Sightseeing Transport Support	2,732	722	Restaurants & Drinking Establishments	4,403
541	Professional, Scientific & Technical	2,061	811-814	Other Services	2,975
531-533	Real Estate, Rental & Leasing	1,956	521-525	Finance & Insurance	2,248
551	Management Services	1,154	561-562	Business Services (Admin, Support, Waste)	1,994
	Subtotal – Top Industries (listed above)	**15,226**		**Subtotal – Top Industries (listed above)**	**24,051**
	Subtotal – 47 Other Industries	**7,761**		**Subtotal – 53 Other Industries**	**8,827**
	Total – All Industries	**22,987**		**Total – All Industries**	**32,878**

Note: The total number of industries are different between the multiplier impact measures because some industries resulted in zero values depending on the multiplier impact measure selected. Other services include repair and maintenance, personal services, non-profits, and private household services.
All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table 25: Top Industries in Tennessee by Supplier Sales and Income Re-spending by Business Revenue

Impacts from Supplier Sales in Tennessee			Impacts from Income Re-spending in Tennessee		
NAICS Code	**Industry Description**	**Business Revenue**	**NAICS Code**	**Industry Description**	**Business Revenue**
487-488	Scenic and Sightseeing Transport Support	$436,263,000	531-533	Real Estate, Rental & Leasing	$910,658,000
531-533	Real Estate, Rental & Leasing	$411,049,000	621-624	Health Care and Social Assistance	$907,294,000
561-562	Business Services (Admin, Support, Waste)	$365,154,000	521-525	Finance & Insurance	$580,787,000
541	Professional, Scientific & Technical	$298,524,000	441-454	Retail Trade	$518,968,000
511-519	Media & Information	$268,869,000	722	Restaurants & Drinking Establishments	$308,713,000
521-525	Finance & Insurance	$265,520,000	420	Wholesale Trade	$246,403,000
	Subtotal – Top Industries (listed above)	**$2,045,379,000**		**Subtotal – Top Industries (listed above)**	**$3,472,823,000**
	Subtotal – 53 Other Industries	**$1,713,662,000**		**Subtotal – 53 Other Industries**	**$5,034,196,000**
	Total – All Industries	**$3,759,041,000**		**Total – All Industries**	**$8,507,019,000**

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Conclusion

By facilitating air transportation throughout the state and serving as a major employer, Tennessee's public-use airport system is an economic engine whose output represents approximately 11 percent of the state GDP. Components of the economic impacts of airports include: (1) providing on-airport activities that service passengers, pilots, crew, and aircraft, as well as providing management and administrative services for airport facilities; (2) enabling business and personal travelers from other states and nations to visit Tennessee and support its hospitality industries; and (3) sustaining local businesses that rely on long-distance business travel and air cargo to acquire commodities and to make long-distance business sales.

Airports are job centers in communities and attract businesses that use air transportation to sell services, which further consolidates employment. For example, almost 33,000 jobs are located on or near Tennessee airports to move air cargo through the airports in the state, such as the world headquarters of FedEx in Memphis. Other business sectors that consolidate around airports include military aviation and flight training/aviation education.

Airports are also a driver for Tennessee's hospitality sector. Almost 6.6 million out of state and/or international visitors arrived by air through Tennessee's commercial service and GA airports, including about 300,000 from international locations. These visitors spent almost $5 billion across the state from Nashville to the Smoky Mountains to Memphis in support of hospitality-related businesses across Tennessee.

Direct economic impacts of Tennessee's airports generate more than one billion dollars annually in state and local taxes to support airports as well as other public needs in Tennessee. The revenues are primarily derived from sales and use taxes, hotel occupancy taxes, auto rental surcharges, liquor taxes, airport tenant proprietor business taxes, and aviation fuel taxes. The tax revenues, in addition to jobs generated and labor income earned by workers, are indicative of how the state's airports support people and communities in Tennessee.

Moreover, in communities across the state, Tennessee businesses are able to sell products across the globe and acquire commodities from markets worldwide through air cargo services. Approximately 250,000 tons of air cargo (valued at roughly $40 billion) flows through Tennessee airports as inputs to businesses in the state or as sales shipped by air to long-distance markets. These flows support almost 36,000 direct jobs in Tennessee's air cargo-affected industries and more than 82,000 jobs in total after accounting for supplier sales and income re-spending. These are gross impacts, and this report along with a companion report on air cargo impacts identify key industries in Tennessee, such as automotive manufacturing, electronics, and pharmaceuticals, that are supported by air cargo services.

It is common to refer to statewide economic impacts as one number, usually total jobs, value added, or business revenue. However, understanding the economic contributions of airports is much more nuanced than a single number. Each of these facets of economic impacts is critical support to state and local economies, including jobs, the wages and benefits earned by Tennessee workers who hold those jobs, the contribution of aviation to the Tennessee state product (value added), and the billions of dollars of business revenue that circulate in the state due to its aviation system.

Data Appendix

The Data Appendix shows the economic impact results for Tennessee and the four regions in the state.

Table A1 reports the direct impacts of each airport in this study. ***Table A2*** lists total statewide impacts by airport. ***Table A3*** disaggregates direct and statewide supplier sales and income respending impacts by airport. ***Table A4*** reports regional impacts by airport. ***Table A5*** shows the shares of regional impacts of each airport split among direct effects and impacts from supplier sales and income respending that take place within each of the four TDOT regions. Lastly, ***Table A6*** reports air cargo impacts by region.

Table 26: Direct Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service Airports						
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	986	$45,966,000	$79,622,000	$132,777,000
Chattanooga	Lovell Field	CHA	3,339	$187,326,000	$287,678,000	$527,437,000
Jackson	McKellar-Sipes Regional Airport	MKL	235	$12,941,000	$15,862,000	$28,604,000
Knoxville	McGhee Tyson Airport	TYS	9,345	$402,479,000	$763,366,000	$1,252,525,000
Memphis	Memphis International Airport	MEM	23,648	$1,746,379,000	$2,446,107,000	$3,599,861,000
Nashville	Nashville International Airport	BNA	41,467	$2,074,955,000	$3,587,306,000	$5,690,042,000
General Aviation Airports						
Athens	McMinn County Airport	MMI	15	$674,000	$820,000	$1,612,000
Benton	Chilhowee Gliderport	92A	2	$132,000	$148,000	$316,000
Bolivar	William L Whitehurst Field	M08	11	$596,000	$678,000	$2,837,000
Camden	Benton County Airport	0M4	6	$176,000	$324,000	$562,000
Centerville	Centerville Municipal Airport	GHM	4	$208,000	$229,000	$552,000
Chattanooga	Dallas Bay Sky Park	1A0	3	$95,000	$107,000	$222,000
Clarksville	Outlaw Field	CKV	101	$8,013,000	$12,587,000	$19,383,000
Cleveland	Cleveland Regional Jetport	RZR	36	$1,662,000	$2,085,000	$4,194,000
Clifton	Hassell Field	M29	1	$71,000	$77,000	$129,000
Collegedale	Collegedale Municipal Airport	FGU	13	$624,000	$1,053,000	$1,885,000
Columbia/Mount Pleasant	Maury County Airport	MRC	47	$3,104,000	$5,353,000	$8,097,000

Table A1: Direct Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Copperhill	Martin Campbell Field	1A3	2	$85,000	$97,000	$206,000
Covington	Covington Municipal Airport	M04	25	$1,383,000	$1,793,000	$4,834,000
Crossville	Crossville Memorial Airport/Whitson Field	CSV	23	$1,211,000	$1,451,000	$2,954,000
Dayton	Mark Anton Airport	2A0	13	$546,000	$607,000	$1,173,000
Dickson	Dickson Municipal Airport	M02	11	$481,000	$586,000	$1,547,000
Dyersburg	Dyersburg Regional Airport	DYR	21	$1,018,000	$1,333,000	$2,435,000
Eagleville	Puckett Field	50M	-	-	-	-
Elizabethton	Elizabethton Municipal Airport	0A9	42	$2,363,000	$2,756,000	$4,789,000
Fayetteville	Fayetteville Municipal Airport	FYM	23	$1,359,000	$1,564,000	$3,763,000
Gainesboro	Jackson County Airport	1A7	2	$76,000	$83,000	$151,000
Gallatin	Music City Executive Airport	XNX	67	$4,559,000	$8,049,000	$13,676,000
Greeneville	Greeneville Municipal Airport	GCY	114	$5,025,000	$7,802,000	$13,145,000
Halls	Arnold Field	M31	10	$341,000	$357,000	$408,000
Hohenwald	John A. Baker Field	0M3	1	$104,000	$113,000	$202,000
Humboldt	Humboldt Municipal Airport	M53	24	$1,366,000	$2,377,000	$3,889,000
Huntingdon	Carroll County Airport	HZD	8	$337,000	$399,000	$1,050,000
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	19	$1,112,000	$1,793,000	$2,900,000
Jamestown	Jamestown Municipal Airport	2A1	5	$196,000	$215,000	$402,000
Jasper	Marion County Airport - Brown Field	APT	12	$720,000	$1,707,000	$2,921,000

Table A1: Direct Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Johnson City	Johnson City Airport	0A4	4	$76,000	$83,000	$138,000
Knoxville	Knoxville Downtown Island Airport	DKX	81	$3,784,000	$6,221,000	$11,976,000
Lafayette	Lafayette Municipal Airport	3M7	8	$476,000	$908,000	$1,410,000
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	8	$522,000	$571,000	$1,147,000
Lebanon	Lebanon Municipal Airport	M54	139	$10,647,000	$19,637,000	$31,730,000
Lewisburg	Ellington Airport	LUG	23	$1,864,000	$3,463,000	$5,373,000
Lexington-Parsons	Beech River Regional Airport	PVE	9	$439,000	$499,000	$1,642,000
Linden	James Tucker Airport	M15	1	$34,000	$37,000	$71,000
Livingston	Livingston Municipal Airport	8A3	5	$208,000	$232,000	$367,000
Madisonville	Monroe County Airport	MNV	9	$394,000	$659,000	$1,496,000
McKinnon	Houston County Airport	M93	2	$21,000	$24,000	$53,000
McMinnville	Warren County Memorial Airport	RNC	14	$557,000	$628,000	$1,146,000
Memphis	General Dewitt Spain Airport	M01	76	$4,793,000	$12,075,000	$20,038,000
Millington	Charles W. Baker Airport	2M8	5	$322,000	$397,000	$1,198,000
Millington	Millington-Memphis Airport	NQA	117	$6,335,000	$10,818,000	$20,216,000
Morristown	Moore-Murrell Airport	MOR	51	$2,305,000	$4,432,000	$7,545,000
Mountain City	Johnson County Airport	6A4	4	$199,000	$221,000	$492,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	242	$16,398,000	$20,186,000	$39,694,000
Nashville	John C. Tune Airport	JWN	456	$21,733,000	$30,500,000	$50,712,000

Table A1: Direct Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Oneida	Scott Municipal Airport	SCX	29	$2,420,000	$2,694,000	$6,135,000
Paris	Henry County Airport	PHT	9	$374,000	$433,000	$881,000
Portland	Portland Municipal Airport	1M5	7	$374,000	$436,000	$744,000
Pulaski	Abernathy Field	GZS	8	$389,000	$472,000	$856,000
Rockwood	Rockwood Municipal Airport	RKW	23	$1,380,000	$2,051,000	$3,285,000
Rogersville	Hawkins County Airport	RVN	7	$357,000	$390,000	$703,000
Savannah	Savannah-Hardin County Airport	SNH	11	$564,000	$670,000	$1,306,000
Selmer	Robert Sibley Airport	SZY	33	$2,179,000	$3,007,000	$9,469,000
Sevierville	Gatlinburg-Pigeon Forge Airport	GKT	351	$12,708,000	$19,337,000	$36,268,000
Sewanee	Franklin County Airport	UOS	19	$815,000	$994,000	$1,989,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	54	$3,965,000	$5,907,000	$14,322,000
Smithville	Smithville Municipal Airport	0A3	4	$166,000	$183,000	$384,000
Smyrna	Smyrna Airport	MQY	902	$54,067,000	$76,769,000	$128,285,000
Somerville	Fayette County Airport	FYE	8	$268,000	$303,000	$502,000
Sparta	Upper Cumberland Regional Airport	SRB	78	$4,307,000	$6,607,000	$11,609,000
Springfield	Springfield Robertson County Airport	M91	40	$2,565,000	$5,854,000	$10,529,000
Tazewell	New Tazewell Municipal Airport	3A2	8	$428,000	$480,000	$1,628,000
Tiptonville	Reelfoot Lake Airport	0M2	-	-	-	-
Trenton	Gibson County Airport	TGC	14	$558,000	$630,000	$2,370,000

Table A1: Direct Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	84	$4,185,000	$6,256,000	$11,468,000
Union City	Everett-Stewart Regional Airport	UCY	39	$1,815,000	$2,959,000	$6,967,000
Waverly	Humphreys County Airport	0M5	16	$1,243,000	$4,111,000	$5,952,000
Winchester	Winchester Municipal Airport	BGF	36	$2,205,000	$2,970,000	$5,573,000

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table A27: Total Statewide Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service Airports						
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	1,661	$80,617,000	$ 135,287,000	$ 233,294,000
Chattanooga	Lovell Field	CHA	5,915	$ 318,867,000	$ 498,067,000	$ 910,442,000
Jackson	McKellar-Sipes Regional Airport	MKL	387	$20,837,000	$28,963,000	$52,028,000
Knoxville	McGhee Tyson Airport	TYS	14,865	$ 682,917,000	$1,219,609,000	$2,073,909,000
Memphis	Memphis International Airport	MEM	42,554	$2,717,724,000	$4,050,612,000	$6,426,163,000
Nashville	Nashville International Airport	BNA	66,848	$3,635,258,000	$6,068,049,000	$9,909,003,000
General Aviation Airports						
Athens	McMinn County Airport	MMI	25	$1,215,000	$1,680,000	$3,186,000
Benton	Chilhowee Gliderport	92A	4	$258,000	$341,000	$670,000
Bolivar	William L Whitehurst Field	M08	19	$1,006,000	$1,350,000	$4,033,000
Camden	Benton County Airport	0M4	9	$325,000	$566,000	$995,000
Centerville	Centerville Municipal Airport	GHM	6	$356,000	$465,000	$957,000
Chattanooga	Dallas Bay Sky Park	1A0	5	$182,000	$241,000	$468,000
Clarksville	Outlaw Field	CKV	182	$13,043,000	$20,694,000	$33,283,000
Cleveland	Cleveland Regional Jetport	RZR	63	$3,042,000	$4,266,000	$8,177,000
Clifton	Hassell Field	M29	2	$121,000	$156,000	$265,000
Collegedale	Collegedale Municipal Airport	FGU	23	$1,113,000	$1,818,000	$3,286,000
Columbia/Mount Pleasant	Maury County Airport	MRC	81	$5,224,000	$8,732,000	$13,882,000

Table A2: Total Statewide Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Copperhill	Martin Campbell Field	1A3	4	$165,000	$220,000	$431,000
Covington	Covington Municipal Airport	M04	44	$2,371,000	$3,410,000	$7,722,000
Crossville	Crossville Memorial Airport/Whitson Field	CSV	43	$2,262,000	$3,098,000	$5,958,000
Dayton	Mark Anton Airport	2A0	20	$895,000	$1,175,000	$2,209,000
Dickson	Dickson Municipal Airport	M02	16	$810,000	$1,107,000	$2,436,000
Dyersburg	Dyersburg Regional Airport	DYR	36	$1,805,000	$2,604,000	$4,706,000
Eagleville	Puckett Field	50M	-	-	-	-
Elizabethton	Elizabethton Municipal Airport	0A9	74	$4,071,000	$5,441,000	$9,651,000
Fayetteville	Fayetteville Municipal Airport	FYM	41	$2,492,000	$3,334,000	$6,811,000
Gainesboro	Jackson County Airport	1A7	3	$126,000	$165,000	$302,000
Gallatin	Music City Executive Airport	XNX	122	$7,934,000	$13,408,000	$22,886,000
Greeneville	Greeneville Municipal Airport	GCY	180	$8,414,000	$13,407,000	$23,323,000
Halls	Arnold Field	M31	13	$486,000	$601,000	$837,000
Hohenwald	John A. Baker Field	0M3	2	$177,000	$231,000	$407,000
Humboldt	Humboldt Municipal Airport	M53	42	$2,284,000	$3,910,000	$6,605,000
Huntingdon	Carroll County Airport	HZD	13	$620,000	$855,000	$1,868,000
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	34	$1,863,000	$3,026,000	$5,139,000
Jamestown	Jamestown Municipal Airport	2A1	7	$334,000	$439,000	$813,000
Jasper	Marion County Airport - Brown Field	APT	24	$1,323,000	$2,659,000	$4,665,000

Table A2: Total Statewide Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Johnson City	Johnson City Airport	0A4	5	$131,000	$169,000	$292,000
Knoxville	Knoxville Downtown Island Airport	DKX	131	$6,361,000	$10,415,000	$19,564,000
Lafayette	Lafayette Municipal Airport	3M7	14	$837,000	$1,483,000	$2,403,000
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	13	$867,000	$1,129,000	$2,106,000
Lebanon	Lebanon Municipal Airport	M54	269	$18,692,000	$32,390,000	$53,703,000
Lewisburg	Ellington Airport	LUG	45	$3,247,000	$5,662,000	$9,147,000
Lexington-Parsons	Beech River Regional Airport	PVE	15	$768,000	$1,034,000	$2,598,000
Linden	James Tucker Airport	M15	2	$ 60,000	$ 79,000	$144,000
Livingston	Livingston Municipal Airport	8A3	7	$331,000	$433,000	$734,000
Madisonville	Monroe County Airport	MNV	16	$763,000	$1,255,000	$2,576,000
McKinnon	Houston County Airport	M93	2	$ 44,000	$ 58,000	$111,000
McMinnville	Warren County Memorial Airport	RNC	20	$893,000	$1,171,000	$2,134,000
Memphis	General Dewitt Spain Airport	M01	153	$8,802,000	$18,549,000	$31,598,000
Millington	Charles W Baker Airport	2M8	14	$764,000	$1,102,000	$2,465,000
Millington	Millington-Memphis Airport	NQA	219	$11,659,000	$19,388,000	$35,639,000
Morristown	Moore-Murrell Airport	MOR	86	$4,127,000	$7,363,000	$12,853,000
Mountain City	Johnson County Airport	6A4	8	$374,000	$503,000	$1,004,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	492	$31,900,000	$43,981,000	$80,854,000
Nashville	John C Tune Airport	JWN	699	$36,805,000	$54,524,000	$91,520,000

Table A2: Total Statewide Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Oneida	Scott Municipal Airport	SCX	62	$4,219,000	$5,506,000	$11,214,000
Paris	Henry County Airport	PHT	15	$680,000	$929,000	$1,772,000
Portland	Portland Municipal Airport	1M5	12	$647,000	$866,000	$1,486,000
Pulaski	Abernathy Field	GZS	13	$697,000	$956,000	$1,687,000
Rockwood	Rockwood Municipal Airport	RKW	41	$2,325,000	$3,571,000	$6,036,000
Rogersville	Hawkins County Airport	RVN	11	$595,000	$782,000	$1,421,000
Savannah	Savannah-Hardin County Airport	SNH	20	$1,033,000	$1,415,000	$2,644,000
Selmer	Robert Sibley Airport	SZY	62	$3,745,000	$5,591,000	$14,059,000
Sevierville	Gatlinburg-Pigeon Forge Airport	GKT	538	$22,093,000	$34,568,000	$63,983,000
Sewanee	Franklin County Airport	UOS	33	$1,535,000	$2,111,000	$4,037,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	101	$6,913,000	$10,618,000	$22,395,000
Smithville	Smithville Municipal Airport	0A3	5	$252,000	$321,000	$634,000
Smyrna	Smyrna Airport	MQY	1,526	$92,543,000	$ 137,677,000	$ 231,512,000
Somerville	Fayette County Airport	FYE	11	$437,000	$582,000	$1,002,000
Sparta	Upper Cumberland Regional Airport	SRB	132	$7,053,000	$11,046,000	$19,656,000
Springfield	Springfield Robertson County Airport	M91	72	$4,547,000	$8,998,000	$15,939,000
Tazewell	New Tazewell Municipal Airport	3A2	14	$717,000	$960,000	$2,500,000
Tiptonville	Reelfoot Lake Airport	0M2	-	-	-	-

Table A2: Total Statewide Impacts by Airport

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Trenton	Gibson County Airport	TGC	22	$977,000	$1,309,000	$3,583,000
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	149	$7,498,000	$11,502,000	$21,043,000
Union City	Everett-Stewart Regional Airport	UCY	65	$3,179,000	$5,191,000	$10,940,000
Waverly	Humphreys County Airport	0M5	34	$2,310,000	$5,799,000	$8,871,000
Winchester	Winchester Municipal Airport	BGF	63	$3,616,000	$927,000	$9,695,000

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table 28: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service Airports							
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	Direct	986	$45,966,000	$79,622,000	$132,777,000
			Supplier Sales	299	$16,794,000	$24,640,000	$46,584,000
			Income Re-spending	376	$17,857,000	$31,025,000	$53,933,000
Chattanooga	Lovell Field	CHA	Direct	3,339	$187,326,000	$287,678,000	$527,437,000
			Supplier Sales	1,111	$60,501,000	$88,951,000	$173,400,000
			Income Re-spending	1,466	$71,039,000	$121,438,000	$209,605,000
Jackson	McKellar - Sipes Regional Airport	MKL	Direct	235	$12,941,000	$15,862,000	$28,604,000
			Supplier Sales	55	$3,194,000	$4,932,000	$9,585,000
			Income Re-spending	96	$4,701,000	$8,169,000	$13,840,000
Knoxville	McGhee Tyson Airport	TYS	Direct	9,345	$402,479,000	$763,366,000	$1,252,525,000
			Supplier Sales	2,251	$125,010,000	$186,229,000	$352,196,000
			Income Re-spending	3,269	$155,428,000	$270,015,000	$469,188,000
Memphis	Memphis International Airport	MEM	Direct	23,648	$1,746,379,000	$2,446,107,000	$3,599,861,000
			Supplier Sales	6,805	$382,315,000	$579,317,000	$1,088,340,000
			Income Re-spending	12,102	$589,030,000	$1,025,188,000	$1,737,963,000
Nashville	Nashville International Airport	BNA	Direct	41,467	$2,074,955,000	$3,587,306,000	$5,690,042,000
			Supplier Sales	11,315	$698,242,000	$1,044,490,000	$1,898,127,000
			Income Re-spending	14,066	$862,061,000	$1,436,253,000	$2,320,834,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
General Aviation Airports							
Athens	McMinn County Airport	MMI	Direct	15	$674,000	$820,000	$1,612,000
			Supplier Sales	5	$257,000	$375,000	$737,000
			Income Re-spending	6	$284,000	$486,000	$837,000
Benton	Chilhowee Gliderport	92A	Direct	2	$132,000	$148,000	$316,000
			Supplier Sales	1	$66,000	$90,000	$177,000
			Income Re-spending	1	$60,000	$102,000	$177,000
Bolivar	William L Whitehurst Field	M08	Direct	11	$596,000	$678,000	$2,837,000
			Supplier Sales	3	$179,000	$272,000	$517,000
			Income Re-spending	5	$231,000	$401,000	$679,000
Camden	Benton County Airport	0M4	Direct	6	$176,000	$324,000	$562,000
			Supplier Sales	1	$70,000	$105,000	$201,000
			Income Re-spending	2	$79,000	$137,000	$232,000
Centerville	Centerville Municipal Airport	GHM	Direct	4	$208,000	$229,000	$552,000
			Supplier Sales	1	$62,000	$94,000	$176,000
			Income Re-spending	1	$85,000	$142,000	$230,000
Chattanooga	Dallas Bay Sky Park	1A0	Direct	3	$95,000	$107,000	$222,000
			Supplier Sales	1	$45,000	$62,000	$121,000
			Income Re-spending	1	$42,000	$72,000	$124,000
Clarksville	Outlaw Field	CKV	Direct	101	$8,013,000	$12,587,000	$19,383,000
			Supplier Sales	33	$2,070,000	$3,178,000	$5,935,000
			Income Re-spending	48	$2,959,000	$4,929,000	$7,965,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Cleveland	Cleveland Regional Jetport	RZR	Direct	36	$1,662,000	$2,085,000	$4,194,000
			Supplier Sales	12	$664,000	$957,000	$1,873,000
			Income Re-spending	15	$716,000	$1,224,000	$2,110,000
Clifton	Hassell Field	M29	Direct	1	$71,000	$77,000	$129,000
			Supplier Sales	1	$23,000	$33,000	$62,000
			Income Re-spending	1	$27,000	$46,000	$74,000
Collegedale	Collegedale Municipal Airport	FGU	Direct	13	$624,000	$1,053,000	$1,885,000
			Supplier Sales	4	$244,000	$347,000	$679,000
			Income Re-spending	5	$244,000	$418,000	$722,000
Columbia/Mount Pleasant	Maury County Airport	MRC	Direct	47	$3,104,000	$5,353,000	$8,097,000
			Supplier Sales	15	$924,000	$1,387,000	$2,566,000
			Income Re-spending	20	$1,196,000	$1,992,000	$3,219,000
Copperhill	Martin Campbell Field	1A3	Direct	2	$85,000	$97,000	$206,000
			Supplier Sales	1	$42,000	$57,000	$112,000
			Income Re-spending	1	$38,000	$65,000	$113,000
Covington	Covington Municipal Airport	M04	Direct	25	$1,383,000	$1,793,000	$4,834,000
			Supplier Sales	7	$436,000	$657,000	$1,261,000
			Income Re-spending	11	$552,000	$960,000	$1,626,000
Crossville	Crossville Memorial Airport - Whitson Field	CSV	Direct	23	$1,211,000	$1,451,000	$2,954,000
			Supplier Sales	9	$511,000	$724,000	$1,415,000
			Income Re-spending	11	$540,000	$923,000	$1,590,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Dayton	Mark Anton Airport	2A0	Direct	13	$546,000	$607,000	$1,173,000
			Supplier Sales	3	$148,000	$223,000	$441,000
			Income Re-spending	4	$202,000	$344,000	$594,000
Dickson	Dickson Municipal Airport	M02	Direct	11	$481,000	$586,000	$1,547,000
			Supplier Sales	2	$143,000	$212,000	$391,000
			Income Re-spending	3	$185,000	$308,000	$498,000
Dyersburg	Dyersburg Regional Airport	DYR	Direct	21	$1,018,000	$1,333,000	$2,435,000
			Supplier Sales	7	$379,000	$561,000	$1,069,000
			Income Re-spending	8	$408,000	$709,000	$1,201,000
Eagleville	Puckett Field	50M	Direct	0	$0	$0	$0
			Supplier Sales	0	$0	$0	$0
			Income Re-spending	0	$0	$0	$0
Elizabethton	Elizabethton Municipal Airport	0A9	Direct	42	$2,363,000	$2,756,000	$4,789,000
			Supplier Sales	14	$871,000	$1,231,000	$2,333,000
			Income Re-spending	18	$837,000	$1,454,000	$2,530,000
Fayetteville	Fayetteville Municipal Airport	FYM	Direct	23	$1,359,000	$1,564,000	$3,763,000
			Supplier Sales	8	$526,000	$758,000	$1,413,000
			Income Re-spending	10	$608,000	$1,012,000	$1,636,000
Gainesboro	Jackson County Airport	1A7	Direct	2	$76,000	$83,000	$151,000
			Supplier Sales	1	$20,000	$32,000	$63,000
			Income Re-spending	1	$30,000	$51,000	$88,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Gallatin	Music City Executive Airport	XNX	Direct	67	$4,559,000	$8,049,000	$13,676,000
			Supplier Sales	24	$1,493,000	$2,222,000	$4,141,000
			Income Re-spending	31	$1,883,000	$3,137,000	$5,070,000
Greeneville	Greeneville Municipal Airport	GCY	Direct	114	$5,025,000	$7,802,000	$13,145,000
			Supplier Sales	25	$1,415,000	$2,177,000	$4,224,000
			Income Re-spending	41	$1,974,000	$3,428,000	$5,954,000
Halls	Arnold Field	M31	Direct	10	$341,000	$357,000	$408,000
			Supplier Sales	1	$40,000	$60,000	$116,000
			Income Re-spending	2	$106,000	$185,000	$313,000
Hohenwald	John A. Baker Field	0M3	Direct	1	$104,000	$113,000	$202,000
			Supplier Sales	1	$29,000	$45,000	$86,000
			Income Re-spending	1	$44,000	$73,000	$118,000
Humboldt	Humboldt Municipal Airport	M53	Direct	24	$1,366,000	$2,377,000	$3,889,000
			Supplier Sales	7	$369,000	$580,000	$1,102,000
			Income Re-spending	11	$549,000	$953,000	$1,614,000
Huntingdon	Carroll County Airport	HZD	Direct	8	$337,000	$399,000	$1,050,000
			Supplier Sales	2	$134,000	$198,000	$379,000
			Income Re-spending	3	$149,000	$259,000	$439,000
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	Direct	19	$1,112,000	$1,793,000	$2,900,000
			Supplier Sales	6	$315,000	$478,000	$927,000
			Income Re-spending	9	$435,000	$756,000	$1,312,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Jamestown	Jamestown Municipal Airport	2A1	Direct	5	$196,000	$215,000	$402,000
			Supplier Sales	1	$60,000	$90,000	$179,000
			Income Re-spending	2	$79,000	$134,000	$231,000
Jasper	Marion County Airport - Brown Field	APT	Direct	12	$720,000	$1,707,000	$2,921,000
			Supplier Sales	6	$301,000	$437,000	$854,000
			Income Re-spending	6	$301,000	$515,000	$890,000
Johnson City	Johnson City Airport	0A4	Direct	4	$76,000	$83,000	$138,000
			Supplier Sales	1	$30,000	$41,000	$77,000
			Income Re-spending	1	$25,000	$44,000	$77,000
Knoxville	Knoxville Downtown Island Airport	DKX	Direct	81	$3,784,000	$6,221,000	$11,976,000
			Supplier Sales	20	$1,149,000	$1,714,000	$3,278,000
			Income Re-spending	30	$1,428,000	$2,481,000	$4,310,000
Lafayette	Lafayette Municipal Airport	3M7	Direct	8	$476,000	$908,000	$1,410,000
			Supplier Sales	3	$162,000	$243,000	$456,000
			Income Re-spending	3	$199,000	$332,000	$536,000
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	Direct	8	$522,000	$571,000	$1,147,000
			Supplier Sales	2	$140,000	$215,000	$406,000
			Income Re-spending	3	$206,000	$343,000	$553,000
Lebanon	Lebanon Municipal Airport	M54	Direct	139	$10,647,000	$19,637,000	$31,730,000
			Supplier Sales	58	$3,606,000	$5,359,000	$10,024,000
			Income Re-spending	72	$4,439,000	$7,395,000	$11,950,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Lewisburg	Ellington Airport	LUG	Direct	23	$1,864,000	$3,463,000	$5,373,000
			Supplier Sales	10	$605,000	$902,000	$1,680,000
			Income Re-spending	13	$778,000	$1,296,000	$2,094,000
Lexington-Parsons	Beech River Regional Airport	PVE	Direct	9	$439,000	$499,000	$1,642,000
			Supplier Sales	3	$150,000	$224,000	$430,000
			Income Re-spending	4	$179,000	$311,000	$527,000
Linden	James Tucker Airport	M15	Direct	1	$34,000	$37,000	$71,000
			Supplier Sales	1	$11,000	$17,000	$32,000
			Income Re-spending	1	$15,000	$25,000	$41,000
Livingston	Livingston Municipal Airport	8A3	Direct	5	$208,000	$232,000	$367,000
			Supplier Sales	1	$53,000	$81,000	$160,000
			Income Re-spending	1	$70,000	$120,000	$207,000
Madisonville	Monroe County Airport	MNV	Direct	9	$394,000	$659,000	$1,496,000
			Supplier Sales	3	$174,000	$258,000	$493,000
			Income Re-spending	4	$194,000	$338,000	$587,000
McKinnon	Houston County Airport	M93	Direct	2	$21,000	$24,000	$53,000
			Supplier Sales	1	$11,000	$16,000	$29,000
			Income Re-spending	1	$11,000	$18,000	$29,000
McMinnville	Warren County Memorial Airport	RNC	Direct	14	$557,000	$628,000	$1,146,000
			Supplier Sales	3	$145,000	$216,000	$426,000
			Income Re-spending	4	$191,000	$326,000	$562,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Memphis	General Dewitt Spain Airport	M01	Direct	76	$4,793,000	$12,075,000	$20,038,000
			Supplier Sales	36	$1,971,000	$2,933,000	$5,559,000
			Income Re-spending	42	$2,037,000	$3,542,000	$6,001,000
Millington	Charles W Baker Airport	2M8	Direct	5	$322,000	$397,000	$1,198,000
			Supplier Sales	4	$218,000	$315,000	$606,000
			Income Re-spending	5	$224,000	$390,000	$660,000
Millington	Millington-Memphis Airport	NQA	Direct	117	$6,335,000	$10,818,000	$20,216,000
			Supplier Sales	47	$2,661,000	$3,941,000	$7,580,000
			Income Re-spending	55	$2,663,000	$4,630,000	$7,843,000
Morristown	Moore-Murrell Airport	MOR	Direct	51	$2,305,000	$4,432,000	$7,545,000
			Supplier Sales	16	$892,000	$1,314,000	$2,499,000
			Income Re-spending	20	$931,000	$1,617,000	$2,809,000
Mountain City	Johnson County Airport	6A4	Direct	4	$199,000	$221,000	$492,000
			Supplier Sales	1	$83,000	$122,000	$234,000
			Income Re-spending	2	$92,000	$159,000	$277,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	Direct	242	$16,398,000	$20,186,000	$39,694,000
			Supplier Sales	122	$7,639,000	$10,695,000	$19,992,000
			Income Re-spending	128	$7,863,000	$13,101,000	$21,168,000
Nashville	John C. Tune Airport	JWN	Direct	456	$21,733,000	$30,500,000	$50,712,000
			Supplier Sales	102	$6,387,000	$9,556,000	$17,432,000
			Income Re-spending	142	$8,685,000	$14,467,000	$23,376,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Oneida	Scott Municipal Airport	SCX	Direct	29	$2,420,000	$2,694,000	$6,135,000
			Supplier Sales	15	$924,000	$1,291,000	$2,434,000
			Income Re-spending	18	$875,000	$1,520,000	$2,645,000
Paris	Henry County Airport	PHT	Direct	9	$374,000	$433,000	$881,000
			Supplier Sales	3	$143,000	$212,000	$409,000
			Income Re-spending	3	$163,000	$284,000	$481,000
Portland	Portland Municipal Airport	1M5	Direct	7	$374,000	$436,000	$744,000
			Supplier Sales	2	$124,000	$182,000	$340,000
			Income Re-spending	2	$149,000	$249,000	$402,000
Pulaski	Abernathy Field	GZS	Direct	8	$389,000	$472,000	$856,000
			Supplier Sales	2	$142,000	$207,000	$385,000
			Income Re-spending	3	$166,000	$276,000	$446,000
Rockwood	Rockwood Municipal Airport	RKW	Direct	23	$1,380,000	$2,051,000	$3,285,000
			Supplier Sales	7	$435,000	$633,000	$1,210,000
			Income Re-spending	11	$511,000	$887,000	$1,541,000
Rogersville	Hawkins County Airport	RVN	Direct	7	$357,000	$390,000	$703,000
			Supplier Sales	2	$104,000	$159,000	$312,000
			Income Re-spending	3	$134,000	$233,000	$405,000
Savannah	Savannah-Hardin County Airport	SNH	Direct	11	$564,000	$670,000	$1,306,000
			Supplier Sales	4	$233,000	$335,000	$643,000
			Income Re-spending	5	$236,000	$410,000	$695,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Selmer	Robert Sibley Airport	SZY	Direct	33	$2,179,000	$3,007,000	$9,469,000
			Supplier Sales	11	$670,000	$1,029,000	$1,957,000
			Income Re-spending	18	$896,000	$1,555,000	$2,633,000
Sevierville	Gatlinburg - Pigeon Forge Airport	GKT	Direct	351	$12,708,000	$19,337,000	$36,268,000
			Supplier Sales	82	$4,412,000	$6,594,000	$12,702,000
			Income Re-spending	105	$4,972,000	$8,638,000	$15,013,000
Sewanee	Franklin County Airport	UOS	Direct	19	$815,000	$994,000	$1,989,000
			Supplier Sales	7	$365,000	$510,000	$1,002,000
			Income Re-spending	7	$355,000	$607,000	$1,046,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	Direct	54	$3,965,000	$5,907,000	$14,322,000
			Supplier Sales	19	$1,276,000	$1,924,000	$3,569,000
			Income Re-spending	27	$1,673,000	$2,787,000	$4,504,000
Smithville	Smithville Municipal Airport	0A3	Direct	4	$166,000	$183,000	$384,000
			Supplier Sales	1	$36,000	$52,000	$102,000
			Income Re-spending	1	$50,000	$86,000	$148,000
Smyrna	Smyrna Airport	MQY	Direct	902	$54,067,000	$76,769,000	$128,285,000
			Supplier Sales	269	$16,696,000	$24,638,000	$44,619,000
			Income Re-spending	355	$21,780,000	$36,271,000	$58,609,000
Somerville	Fayette County Airport	FYE	Direct	8	$268,000	$305,000	$502,000
			Supplier Sales	1	$75,000	$114,000	$222,000
			Income Re-spending	2	$94,000	$164,000	$278,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Sparta	Upper Cumberland Regional Airport	SRB	Direct	78	$4,307,000	$6,607,000	$11,609,000
			Supplier Sales	21	$1,158,000	$1,725,000	$3,365,000
			Income Re-spending	33	$1,588,000	$2,714,000	$4,683,000
Springfield	Springfield - Robertson County Airport	M91	Direct	40	$2,565,000	$5,854,000	$10,529,000
			Supplier Sales	15	$911,000	$1,359,000	$2,524,000
			Income Re-spending	17	$1,072,000	$1,786,000	$2,886,000
Tazewell	New Tazewell Municipal Airport	3A2	Direct	8	$428,000	$480,000	$1,628,000
			Supplier Sales	2	$120,000	$185,000	$362,000
			Income Re-spending	4	$169,000	$294,000	$510,000
Tiptonville	Reelfoot Lake Airport	0M2	Direct	0	$0	$0	$0
			Supplier Sales	0	$0	$0	$0
			Income Re-spending	0	$0	$0	$0
Trenton	Gibson County Airport	TGC	Direct	14	$558,000	$630,000	$2,370,000
			Supplier Sales	3	$191,000	$285,000	$544,000
			Income Re-spending	5	$227,000	$395,000	$669,000
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	Direct	84	$4,185,000	$6,256,000	$11,468,000
			Supplier Sales	28	$1,522,000	$2,185,000	$4,295,000
			Income Re-spending	37	$1,791,000	$3,061,000	$5,280,000
Union City	Everett-Stewart Regional Airport	UCY	Direct	39	$1,815,000	$2,959,000	$6,967,000
			Supplier Sales	11	$610,000	$921,000	$1,752,000
			Income Re-spending	15	$754,000	$1,311,000	$2,221,000

Table A3: State Total Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Waverly	Humphreys County Airport	0M5	Direct	16	$1,243,000	$4,111,000	$5,952,000
			Supplier Sales	9	$515,000	$768,000	$1,432,000
			Income Re-spending	9	$552,000	$920,000	$1,487,000
Winchester	Winchester Municipal Airport	BGF	Direct	36	$2,205,000	$2,970,000	$5,573,000
			Supplier Sales	11	$584,000	$864,000	$1,686,000
			Income Re-spending	17	$826,000	$1,412,000	$2,436,000

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table 29: Total Regional Impacts by Airport for On-Airport Activity and Visitor Spending

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service Airports						
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	1,566	$75,168,000	$126,477,000	$215,943,000
Chattanooga	Lovell Field	CHA	5,423	$288,000,000	$447,866,000	$818,280,000
Jackson	McKellar-Sipes Regional Airport	MKL	362	$19,370,000	$26,598,000	$47,625,000
Knoxville	McGhee Tyson Airport	TYS	14,189	$643,687,000	$1,153,596,000	$1,943,378,000
Memphis	Memphis International Airport	MEM	39,447	$2,538,834,000	$3,761,964,000	$5,895,754,000
Nashville	Nashville International Airport	BNA	65,198	$3,541,791,000	$5,887,059,000	$9,521,912,000
General Aviation Airports						
Athens	McMinn County Airport	MMI	23	$1,084,000	$1,469,000	$2,801,000
Benton	Chilhowee Gliderport	92A	4	$229,000	$295,000	$586,000
Bolivar	William L Whitehurst Field	M08	18	$919,000	$1,214,000	$3,777,000
Camden	Benton County Airport	0M4	8	$298,000	$524,000	$918,000
Centerville	Centerville Municipal Airport	GHM	6	$346,000	$448,000	$920,000
Chattanooga	Dallas Bay Sky Park	1A0	5	$162,000	$208,000	$409,000
Clarksville	Outlaw Field	CKV	175	$12,692,000	$20,046,000	$31,870,000
Cleveland	Cleveland Regional Jetport	RZR	58	$2,707,000	$3,728,000	$7,198,000
Clifton	Hassell Field	M29	2	$678,000	$894,000	$2,370,000
Collegedale	Collegedale Municipal Airport	FGU	21	$1,010,000	$1,652,000	$2,975,000
Columbia/Mount Pleasant	Maury County Airport	MRC	79	$5,083,000	$8,470,000	$13,316,000
Copperhill	Martin Campbell Field	1A3	3	$146,000	$190,000	$377,000
Covington	Covington Municipal Airport	M04	41	$2,184,000	$3,114,000	$7,169,000

Table A4: Total Regional Impacts by Airport for On-Airport Activity and Visitor Spending

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Crossville	Crossville Memorial Airport/Whitson Field	CSV	39	$2,009,000	$2,698,000	$5,229,000
Dayton	Mark Anton Airport	2A0	19	$808,000	$1,034,000	$1,945,000
Dickson	Dickson Municipal Airport	M02	15	$790,000	$1,071,000	$2,359,000
Dyersburg	Dyersburg Regional Airport	DYR	34	$1,670,000	$2,386,000	$4,304,000
Eagleville	Puckett Field	50M	0	-	-	-
Elizabethton	Elizabethton Municipal Airport	0A9	68	$3,731,000	$4,926,000	$8,642,000
Fayetteville	Fayetteville Municipal Airport	FYM	40	$2,427,000	$3,217,000	$6,558,000
Gainesboro	Jackson County Airport	1A7	3	$113,000	$144,000	$262,000
Gallatin	Music City Executive Airport	XNX	119	$7,736,000	$13,030,000	$22,053,000
Greeneville	Greeneville Municipal Airport	GCY	172	$7,940,000	$12,605,000	$21,727,000
Halls	Arnold Field	M31	13	$463,000	$564,000	$769,000
Hohenwald	John A. Baker Field	0M3	2	$172,000	$222,000	$387,000
Humboldt	Humboldt Municipal Airport	M53	39	$2,097,000	$3,607,000	$6,059,000
Huntingdon	Carroll County Airport	HZD	13	$569,000	$774,000	$1,719,000
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	32	$1,757,000	$2,849,000	$4,789,000
Jamestown	Jamestown Municipal Airport	2A1	7	$299,000	$383,000	$707,000
Jasper	Marion County Airport - Brown Field	APT	22	$1,212,000	$2,475,000	$4,307,000
Johnson City	Johnson City Airport	0A4	5	$119,000	$150,000	$256,000
Knoxville	Knoxville Downtown Island Airport	DKX	125	$5,985,000	$9,792,000	$18,330,000
Lafayette	Lafayette Municipal Airport	3M7	13	$816,000	$1,441,000	$2,307,000

Table A4: Total Regional Impacts by Airport for On-Airport Activity and Visitor Spending

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	13	$845,000	$1,088,000	$2,016,000
Lebanon	Lebanon Municipal Airport	M54	260	$18,199,000	$31,460,000	$51,617,000
Lewisburg	Ellington Airport	LUG	43	$3,153,000	$5,489,000	$8,770,000
Lexington-Parsons	Beech River Regional Airport	PVE	14	$705,000	$935,000	$2,412,000
Linden	James Tucker Airport	M15	2	$59,000	$76,000	$137,000
Livingston	Livingston Municipal Airport	8A3	6	$300,000	$382,000	$639,000
Madisonville	Monroe County Airport	MNV	15	$702,000	$1,157,000	$2,383,000
McKinnon	Houston County Airport	M93	2	$43,000	$56,000	$107,000
McMinnville	Warren County Memorial Airport	RNC	19	$809,000	$1,037,000	$1,885,000
Memphis	General Dewitt Spain Airport	M01	140	$8,050,000	$17,354,000	$29,420,000
Millington	Charles W Baker Airport	2M8	13	$691,000	$985,000	$2,249,000
Millington	Millington-Memphis Airport	NQA	202	$10,705,000	$17,865,000	$32,781,000
Morristown	Moore-Murrell Airport	MOR	82	$3,840,000	$6,894,000	$11,924,000
Mountain City	Johnson County Airport	6A4	7	$343,000	$453,000	$906,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	477	$31,070,000	$42,482,000	$77,650,000
Nashville	John C Tune Airport	JWN	683	$35,884,000	$52,804,000	$87,911,000
Oneida	Scott Municipal Airport	SCX	56	$3,849,000	$4,952,000	$10,129,000
Paris	Henry County Airport	PHT	14	$628,000	$845,000	$1,617,000
Portland	Portland Municipal Airport	1M5	12	$631,000	$836,000	$1,422,000
Pulaski	Abernathy Field	GZS	13	$679,000	$923,000	$1,617,000
Rockwood	Rockwood Municipal Airport	RKW	38	$2,166,000	$3,318,000	$5,540,000

Table A4: Total Regional Impacts by Airport for On-Airport Activity and Visitor Spending

Associated City	Airport Name	FAA ID	Jobs	Labor Income	Value Added	Business Revenue
Rogersville	Hawkins County Airport	RVN	11	$558,000	$722,000	$1,300,000
Savannah	Savannah-Hardin County Airport	SNH	19	$954,000	$1,289,000	$2,413,000
Selmer	Robert Sibley Airport	SZY	57	$3,416,000	$5,068,000	$13,091,000
Sevierville	Gatlinburg-Pigeon Forge Airport	GKT	515	$20,760,000	$32,348,000	$59,617,000
Sewanee	Franklin County Airport	UOS	30	$1,366,000	$1,846,000	$3,550,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	98	$6,730,000	$10,284,000	$21,653,000
Smithville	Smithville Municipal Airport	0A3	5	$232,000	$288,000	$574,000
Smyrna	Smyrna Airport	MQY	1,484	$90,260,000	$133,518,000	$222,866,000
Somerville	Fayette County Airport	FYE	11	$408,000	$535,000	$914,000
Sparta	Upper Cumberland Regional Airport	SRB	122	$6,444,000	$10,047,000	$17,818,000
Springfield	Springfield Robertson County Airport	M91	69	$4,431,000	$8,774,000	$15,418,000
Tazewell	New Tazewell Municipal Airport	3A2	13	$678,000	$894,000	$2,370,000
Tiptonville	Reelfoot Lake Airport	0M2	0	-	-	-
Trenton	Gibson County Airport	TGC	21	$894,000	$1,179,000	$3,340,000
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	137	$6,763,000	$10,320,000	$18,867,000
Union City	Everett-Stewart Regional Airport	UCY	60	$2,918,000	$4,774,000	$10,169,000
Waverly	Humphreys County Airport	0M5	33	$2,250,000	$5,675,000	$8,571,000
Winchester	Winchester Municipal Airport	BGF	58	$3,293,000	$4,723,000	$8,740,000

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table 30: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Commercial Service Airports							
Bristol/Johnson/ Kingsport	Tri-Cities Airport	TRI	Direct	986	$45,966,000	$79,622,000	$132,777,000
			Supplier Sales	241	$13,398,000	$19,508,000	$36,128,000
			Income Re-spending	339	$15,804,000	$27,347,000	$47,037,000
Chattanooga	Lovell Field	CHA	Direct	3,339	$187,326,000	$287,678,000	$527,437,000
			Supplier Sales	916	$47,478,000	$67,618,000	$131,405,000
			Income Re-spending	1,168	$53,196,000	$92,570,000	$159,438,000
Jackson	McKellar - Sipes Regional Airport	MKL	Direct	235	$12,941,000	$15,862,000	$28,604,000
			Supplier Sales	48	$2,688,000	$4,149,000	$7,979,000
			Income Re-spending	79	$3,740,000	$6,587,000	$11,042,000
Knoxville	McGhee Tyson Airport	TYS	Direct	9,345	$402,479,000	$763,366,000	$1,252,525,000
			Supplier Sales	1,910	$104,629,000	$153,829,000	$284,518,000
			Income Re-spending	2,933	$136,579,000	$236,401,000	$406,334,000
Memphis	Memphis International Airport	MEM	Direct	23,648	$1,746,379,000	$2,446,107,000	$3,599,861,000
			Supplier Sales	5,600	$310,450,000	$466,569,000	$872,036,000
			Income Re-spending	10,199	$482,005,000	$849,287,000	$1,423,857,000
Nashville	Nashville International Airport	BNA	Direct	41,467	$2,074,955,000	$3,587,306,000	$5,690,042,000
			Supplier Sales	10,451	$645,500,000	$941,534,000	$1,666,146,000
			Income Re-spending	13,280	$821,336,000	$1,358,219,000	$2,165,724,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
General Aviation Airports							
Athens	McMinn County Airport	MMI	Direct	15	$674,000	$820,000	$1,612,000
			Supplier Sales	4	$207,000	$294,000	$578,000
			Income Re-spending	4	$203,000	$355,000	$610,000
			Income Re-spending	4	$203,000	$355,000	$610,000
Benton	Chilhowee Gliderport	92A	Direct	2	$132,000	$148,000	$316,000
			Supplier Sales	1	$54,000	$72,000	$142,000
			Income Re-spending	1	$42,000	$74,000	$128,000
Bolivar	William L Whitehurst Field	M08	Direct	11	$596,000	$678,000	$2,837,000
			Supplier Sales	2	$148,000	$228,000	$422,000
			Income Re-spending	4	$175,000	$309,000	$518,000
Camden	Benton County Airport	0M4	Direct	6	$176,000	$324,000	$562,000
			Supplier Sales	1	$59,000	$89,000	$170,000
			Income Re-spending	1	$63,000	$111,000	$186,000
Centerville	Centerville Municipal Airport	GHM	Direct	4	$208,000	$229,000	$552,000
			Supplier Sales	1	$57,000	$84,000	$154,000
			Income Re-spending	1	$81,000	$135,000	$214,000
Chattanooga	Dallas Bay Sky Park	1A0	Direct	3	$95,000	$107,000	$222,000
			Supplier Sales	1	$36,000	$49,000	$97,000
			Income Re-spending	1	$30,000	$52,000	$90,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Clarksville	Outlaw Field	CKV	Direct	101	$8,013,000	$12,587,000	$19,383,000
			Supplier Sales	29	$1,865,000	$2,805,000	$5,066,000
			Income Re-spending	45	$2,813,000	$4,654,000	$7,422,000
Cleveland	Cleveland Regional Jetport	RZR	Direct	36	$1,662,000	$2,085,000	$4,194,000
			Supplier Sales	10	$535,000	$752,000	$1,471,000
			Income Re-spending	11	$509,000	$891,000	$1,533,000
Clifton	Hassell Field	M29	Direct	1	$71,000	$77,000	$129,000
			Supplier Sales	1	$21,000	$30,000	$56,000
			Income Re-spending	1	$26,000	$43,000	$69,000
Collegedale	Collegedale Municipal Airport	FGU	Direct	13	$624,000	$1,053,000	$1,885,000
			Supplier Sales	4	$200,000	$277,000	$534,000
			Income Re-spending	4	$185,000	$322,000	$555,000
Columbia/Mount Pleasant	Maury County Airport	MRC	Direct	47	$3,104,000	$5,353,000	$8,097,000
			Supplier Sales	14	$841,000	$1,236,000	$2,218,000
			Income Re-spending	18	$1,138,000	$1,882,000	$3,002,000
Copperhill	Martin Campbell Field	1A3	Direct	2	$85,000	$97,000	$206,000
			Supplier Sales	1	$34,000	$46,000	$90,000
			Income Re-spending	1	$27,000	$47,000	$82,000
Covington	Covington Municipal Airport	M04	Direct	25	$1,383,000	$1,793,000	$4,834,000
			Supplier Sales	6	$369,000	$558,000	$1,056,000
			Income Re-spending	9	$433,000	$763,000	$1,279,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Crossville	Crossville Memorial Airport - Whitson Field	CSV	Direct	23	$1,211,000	$1,451,000	$2,954,000
			Supplier Sales	8	$413,000	$574,000	$1,119,000
			Income Re-spending	8	$384,000	$672,000	$1,157,000
Dayton	Mark Anton Airport	2A0	Direct	13	$546,000	$607,000	$1,173,000
			Supplier Sales	2	$114,000	$168,000	$327,000
			Income Re-spending	3	$148,000	$259,000	$445,000
Dickson	Dickson Municipal Airport	M02	Direct	11	$481,000	$586,000	$1,547,000
			Supplier Sales	2	$132,000	$193,000	$347,000
			Income Re-spending	3	$176,000	$292,000	$465,000
Dyersburg	Dyersburg Regional Airport	DYR	Direct	21	$1,018,000	$1,333,000	$2,435,000
			Supplier Sales	6	$329,000	$483,000	$915,000
			Income Re-spending	7	$323,000	$569,000	$954,000
Eagleville	Puckett Field	50M	Direct	0	$0	$0	$0
			Supplier Sales	0	$0	$0	$0
			Income Re-spending	0	$0	$0	$0
Elizabethton	Elizabethton Municipal Airport	0A9	Direct	42	$2,363,000	$2,756,000	$4,789,000
			Supplier Sales	10	$618,000	$872,000	$1,618,000
			Income Re-spending	16	$750,000	$1,298,000	$2,235,000
Fayetteville	Fayetteville Municipal Airport	FYM	Direct	23	$1,359,000	$1,564,000	$3,763,000
			Supplier Sales	8	$489,000	$695,000	$1,268,000
			Income Re-spending	9	$579,000	$958,000	$1,527,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Gainesboro	Jackson County Airport	1A7	Direct	2	$76,000	$83,000	$151,000
			Supplier Sales	1	$16,000	$24,000	$47,000
			Income Re-spending	1	$21,000	$37,000	$64,000
Gallatin	Music City Executive Airport	XNX	Direct	67	$4,559,000	$8,049,000	$13,676,000
			Supplier Sales	22	$1,386,000	$2,016,000	$3,651,000
			Income Re-spending	29	$1,792,000	$2,964,000	$4,727,000
Greeneville	Greeneville Municipal Airport	GCY	Direct	114	$5,025,000	$7,802,000	$13,145,000
			Supplier Sales	21	$1,188,000	$1,806,000	$3,440,000
			Income Re-spending	37	$1,727,000	$2,996,000	$5,143,000
Halls	Arnold Field	M31	Direct	10	$341,000	$357,000	$408,000
			Supplier Sales	1	$35,000	$52,000	$100,000
			Income Re-spending	2	$88,000	$155,000	$260,000
Hohenwald	John A. Baker Field	0M3	Direct	1	$104,000	$113,000	$202,000
			Supplier Sales	1	$26,000	$41,000	$75,000
			Income Re-spending	1	$42,000	$69,000	$110,000
Humboldt	Humboldt Municipal Airport	M53	Direct	24	$1,366,000	$2,377,000	$3,889,000
			Supplier Sales	6	$316,000	$498,000	$945,000
			Income Re-spending	9	$414,000	$731,000	$1,226,000
Huntingdon	Carroll County Airport	HZD	Direct	8	$337,000	$399,000	$1,050,000
			Supplier Sales	2	$116,000	$170,000	$324,000
			Income Re-spending	2	$117,000	$206,000	$345,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Jacksboro	Colonel Tommy C. Stiner Airfield	JAU	Direct	19	$1,112,000	$1,793,000	$2,900,000
			Supplier Sales	5	$265,000	$397,000	$758,000
			Income Re-spending	8	$380,000	$659,000	$1,131,000
Jamestown	Jamestown Municipal Airport	2A1	Direct	5	$196,000	$215,000	$402,000
			Supplier Sales	1	$47,000	$70,000	$136,000
			Income Re-spending	1	$56,000	$98,000	$169,000
Jasper	Marion County Airport - Brown Field	APT	Direct	12	$720,000	$1,707,000	$2,921,000
			Supplier Sales	5	$255,000	$358,000	$679,000
			Income Re-spending	5	$237,000	$410,000	$707,000
Johnson City	Johnson City Airport	0A4	Direct	4	$76,000	$83,000	$138,000
			Supplier Sales	1	$20,000	$27,000	$49,000
			Income Re-spending	1	$23,000	$40,000	$69,000
Knoxville	Knoxville Downtown Island Airport	DKX	Direct	81	$3,784,000	$6,221,000	$11,976,000
			Supplier Sales	17	$945,000	$1,395,000	$2,614,000
			Income Re-spending	27	$1,256,000	$2,176,000	$3,739,000
Lafayette	Lafayette Municipal Airport	3M7	Direct	8	$476,000	$908,000	$1,410,000
			Supplier Sales	2	$150,000	$220,000	$397,000
			Income Re-spending	3	$190,000	$313,000	$500,000
Lawrenceburg	Lawrenceburg-Lawrence County Airport	2M2	Direct	8	$522,000	$571,000	$1,147,000
			Supplier Sales	2	$127,000	$193,000	$353,000
			Income Re-spending	3	$196,000	$324,000	$516,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Lebanon	Lebanon Municipal Airport	M54	Direct	139	$10,647,000	$19,637,000	$31,730,000
			Supplier Sales	53	$3,328,000	$4,837,000	$8,748,000
			Income Re-spending	68	$4,224,000	$6,985,000	$11,139,000
Lewisburg	Ellington Airport	LUG	Direct	23	$1,864,000	$3,463,000	$5,373,000
			Supplier Sales	9	$549,000	$801,000	$1,445,000
			Income Re-spending	12	$740,000	$1,224,000	$1,952,000
Lexington-Parsons	Beech River Regional Airport	PVE	Direct	9	$439,000	$499,000	$1,642,000
			Supplier Sales	2	$128,000	$191,000	$361,000
			Income Re-spending	3	$138,000	$244,000	$409,000
Linden	James Tucker Airport	M15	Direct	1	$34,000	$37,000	$71,000
			Supplier Sales	1	$10,000	$15,000	$28,000
			Income Re-spending	1	$15,000	$24,000	$38,000
Livingston	Livingston Municipal Airport	8A3	Direct	5	$208,000	$232,000	$367,000
			Supplier Sales	1	$42,000	$62,000	$121,000
			Income Re-spending	1	$50,000	$88,000	$151,000
Madisonville	Monroe County Airport	MNV	Direct	9	$394,000	$659,000	$1,496,000
			Supplier Sales	2	$137,000	$201,000	$377,000
			Income Re-spending	4	$171,000	$297,000	$510,000
McKinnon	Houston County Airport	M93	Direct	2	$21,000	$24,000	$53,000
			Supplier Sales	1	$11,000	$15,000	$27,000
			Income Re-spending	1	$10,000	$17,000	$27,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
McMinnville	Warren County Memorial Airport	RNC	Direct	14	$557,000	$628,000	$1,146,000
			Supplier Sales	2	$111,000	$163,000	$317,000
			Income Re-spending	3	$141,000	$246,000	$423,000
Memphis	General Dewitt Spain Airport	M01	Direct	76	$4,793,000	$12,075,000	$20,038,000
			Supplier Sales	30	$1,642,000	$2,433,000	$4,612,000
			Income Re-spending	34	$1,615,000	$2,846,000	$4,770,000
Millington	Charles W Baker Airport	2M8	Direct	5	$322,000	$397,000	$1,198,000
			Supplier Sales	4	$192,000	$276,000	$529,000
			Income Re-spending	4	$177,000	$312,000	$522,000
Millington	Millington-Memphis Airport	NQA	Direct	117	$6,335,000	$10,818,000	$20,216,000
			Supplier Sales	41	$2,267,000	$3,337,000	$6,347,000
			Income Re-spending	44	$2,104,000	$3,711,000	$6,219,000
Morristown	Moore-Murrell Airport	MOR	Direct	51	$2,305,000	$4,432,000	$7,545,000
			Supplier Sales	13	$717,000	$1,045,000	$1,943,000
			Income Re-spending	18	$818,000	$1,417,000	$2,436,000
Mountain City	Johnson County Airport	6A4	Direct	4	$199,000	$221,000	$492,000
			Supplier Sales	1	$62,000	$90,000	$171,000
			Income Re-spending	2	$82,000	$141,000	$243,000
Murfreesboro	Murfreesboro Municipal Airport	MBT	Direct	242	$16,398,000	$20,186,000	$39,694,000
			Supplier Sales	114	$7,169,000	$9,894,000	$18,182,000
			Income Re-spending	121	$7,504,000	$12,402,000	$19,774,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Nashville	John C. Tune Airport	JWN	Direct	456	$21,733,000	$30,500,000	$50,712,000
			Supplier Sales	93	$5,874,000	$8,612,000	$15,372,000
			Income Re-spending	134	$8,277,000	$13,692,000	$21,828,000
Oneida	Scott Municipal Airport	SCX	Direct	29	$2,420,000	$2,694,000	$6,135,000
			Supplier Sales	10	$644,000	$897,000	$1,652,000
			Income Re-spending	17	$785,000	$1,360,000	$2,342,000
Paris	Henry County Airport	PHT	Direct	9	$374,000	$433,000	$881,000
			Supplier Sales	2	$124,000	$183,000	$352,000
			Income Re-spending	3	$130,000	$229,000	$383,000
Portland	Portland Municipal Airport	1M5	Direct	7	$374,000	$436,000	$744,000
			Supplier Sales	2	$115,000	$166,000	$303,000
			Income Re-spending	2	$142,000	$235,000	$375,000
Pulaski	Abernathy Field	GZS	Direct	8	$389,000	$472,000	$856,000
			Supplier Sales	2	$132,000	$189,000	$344,000
			Income Re-spending	3	$158,000	$261,000	$417,000
Rockwood	Rockwood Municipal Airport	RKW	Direct	23	$1,380,000	$2,051,000	$3,285,000
			Supplier Sales	6	$336,000	$486,000	$914,000
			Income Re-spending	10	$450,000	$780,000	$1,340,000
Rogersville	Hawkins County Airport	RVN	Direct	7	$357,000	$390,000	$703,000
			Supplier Sales	1	$83,000	$127,000	$244,000
			Income Re-spending	3	$118,000	$205,000	$353,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Savannah	Savannah-Hardin County Airport	SNH	Direct	11	$564,000	$670,000	$1,306,000
			Supplier Sales	4	$205,000	$292,000	$559,000
			Income Re-spending	4	$185,000	$327,000	$549,000
Selmer	Robert Sibley Airport	SZY	Direct	33	$2,179,000	$3,007,000	$9,469,000
			Supplier Sales	10	$561,000	$869,000	$1,623,000
			Income Re-spending	14	$676,000	$1,192,000	$1,999,000
Sevierville	Gatlinburg - Pigeon Forge Airport	GKT	Direct	351	$12,708,000	$19,337,000	$36,268,000
			Supplier Sales	69	$3,662,000	$5,416,000	$10,293,000
			Income Re-spending	94	$4,390,000	$7,594,000	$13,057,000
Sewanee	Franklin County Airport	UOS	Direct	19	$815,000	$994,000	$1,989,000
			Supplier Sales	6	$298,000	$407,000	$797,000
			Income Re-spending	6	$254,000	$444,000	$765,000
Shelbyville	Bomar Field-Shelbyville Municipal Airport	SYI	Direct	54	$3,965,000	$5,907,000	$14,322,000
			Supplier Sales	18	$1,174,000	$1,741,000	$3,129,000
			Income Re-spending	26	$1,592,000	$2,636,000	$4,201,000
Smithville	Smithville Municipal Airport	0A3	Direct	4	$166,000	$183,000	$384,000
			Supplier Sales	1	$26,000	$36,000	$70,000
			Income Re-spending	1	$40,000	$69,000	$120,000
Smyrna	Smyrna Airport	MQY	Direct	902	$54,067,000	$76,769,000	$128,285,000
			Supplier Sales	247	$15,481,000	$22,483,000	$39,947,000
			Income Re-spending	335	$20,712,000	$34,266,000	$54,634,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Somerville	Fayette County Airport	FYE	Direct	8	$268,000	$303,000	$502,000
			Supplier Sales	1	$64,000	$98,000	$189,000
			Income Re-spending	2	$76,000	$133,000	$223,000
Sparta	Upper Cumberland Regional Airport	SRB	Direct	78	$4,307,000	$6,607,000	$11,609,000
			Supplier Sales	18	$948,000	$1,375,000	$2,652,000
			Income Re-spending	26	$1,188,000	$2,064,000	$3,557,000
Springfield	Springfield Robertson County Airport	M91	Direct	40	$2,565,000	$5,854,000	$10,529,000
			Supplier Sales	13	$847,000	$1,233,000	$2,200,000
			Income Re-spending	16	$1,019,000	$1,687,000	$2,689,000
Tazewell	New Tazewell Municipal Airport	3A2	Direct	8	$428,000	$480,000	$1,628,000
			Supplier Sales	2	$102,000	$156,000	$300,000
			Income Re-spending	3	$148,000	$258,000	$442,000
Tiptonville	Reelfoot Lake Airport	0M2	Direct	0	$0	$0	$0
			Supplier Sales	0	$0	$0	$0
			Income Re-spending	0	$0	$0	$0
Trenton	Gibson County Airport	TGC	Direct	14	$558,000	$630,000	$2,370,000
			Supplier Sales	3	$162,000	$242,000	$455,000
			Income Re-spending	4	$174,000	$307,000	$515,000
Tullahoma	Tullahoma Regional Airport/William Northern Field	THA	Direct	84	$4,185,000	$6,256,000	$11,468,000
			Supplier Sales	24	$1,259,000	$1,766,000	$3,443,000
			Income Re-spending	29	$1,318,000	$2,298,000	$3,956,000

Table A5: Regional Economic Impacts by Airport for On-Airport Activity and Visitor Spending Disaggregated by Direct Effects, Supplier Sales, and Income Respending

Associated City	Airport Name	FAA ID	Impact	Jobs	Labor Income	Value Added	Business Revenue
Union City	Everett-Stewart Regional Airport	UCY	Direct	39	$1,815,000	$2,959,000	$6,967,000
			Supplier Sales	9	$509,000	$770,000	$1,450,000
			Income Re-spending	13	$593,000	$1,045,000	$1,752,000
Waverly	Humphreys County Airport	0M5	Direct	16	$1,243,000	$4,111,000	$5,952,000
			Supplier Sales	8	$482,000	$696,000	$1,235,000
			Income Re-spending	8	$524,000	$867,000	$1,383,000
Winchester	Winchester Municipal Airport	BGF	Direct	36	$2,205,000	$2,970,000	$5,573,000
			Supplier Sales	9	$474,000	$685,000	$1,328,000
			Income Re-spending	13	$614,000	$1,067,000	$1,839,000

Note: All dollars are in 2019 value.
Source: Calculations by EBP using the 2018 IMPLAN model.

Table 31: Total Air Cargo Impacts by Region

Region	Impact	Jobs	Payroll	Value Added	Business Revenue
Region 1	Direct	8,506	$583,000,000	$878,000,000	$2,410,000,000
	Supplier Sales	5,218	$304,000,000	$471,000,000	$959,000,000
	Income Re-spending	5,753	$272,000,000	$458,000,000	$816,000,000
	Total	**19,477**	**$1,159,000,000**	**$1,807,000,000**	**$4,185,000,000**
Region 2	Direct	5,415	$361,000,000	$565,000,000	$1,567,000,000
	Supplier Sales	3,395	$187,000,000	$282,000,000	$599,000,000
	Income Re-spending	3,274	$151,000,000	$255,000,000	$463,000,000
	Total	**12,083**	**$699,000,000**	**$1,102,000,000**	**$2,629,000,000**
Region 3	Direct	13,389	$1,098,000,000	$1,822,000,000	$4,535,000,000
	Supplier Sales	9,264	$631,000,000	$938,000,000	$1,757,000,000
	Income Re-spending	9,058	$568,000,000	$917,000,000	$1,505,000,000
	Total	**31,711**	**$2,297,000,000**	**$3,677,000,000**	**$7,797,000,000**
Region 4	Direct	8,247	$686,000,000	$1,240,000,000	$2,926,000,000
	Supplier Sales	5,344	$316,000,000	$495,000,000	$965,000,000
	Income Re-spending	5,493	$263,000,000	$451,000,000	$790,000,000
	Total	**19,084**	**$1,265,000,000**	**$2,186,000,000**	**$4,681,000,000**

Note: Totals may not equal the sum of rows due to rounding. All dollars are in 2019 value. These regional results are based on the location of industries that rely on air cargo and not the location of airports.
Sources: Data from FAF, WISERTrade and IMPLAN assembled and calculated by EBP.