

# St. Louis Lambert International Airport Economic Impact Study

*Prepared for*

Greater St. Louis, Inc.

**Final Report**

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## 1. Study Introduction

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Many residents and businesses are likely familiar with their local commercial service airport as they may depend on it to travel to destinations across the country, and even the world, for business and/or leisure. They may also understand the airport provides a critical link in the broader transportation network, facilitating air transportation for the movement of goods and services, as well as people. However, what many in the public may not realize is that airports are powerful engines that generate economic activity across several industries by supporting jobs, generating revenues, providing payroll and employee compensation, and generating taxes. This starts with direct staff employment but extends to the many businesses hosted at the airport, on-site construction activity, and many other facets that contribute to local economic conditions.

Greater St. Louis, Inc., a nonprofit organization formed to support economic development for the St. Louis metropolitan area, partnered with the St. Louis Lambert International Airport ("the Airport") for the St. Louis Lambert International Airport Economic Impact Study. Through the results of the AEIS, the economic and social value of the Airport is calculated and documented for use by both groups in communicating with the broader community about the tremendous contributions of the Airport to the region.

The AEIS utilizes data provided by the Airport and other sources to analyze the economic impact during a specific time period. For purposes of this study, both a historical and future analysis are included. The historical economic impact analysis is based on activity from 2019 while the future economic impact analysis uses 2032 as the base year. 2019 was selected as the historical year to demonstrate a typical year of activity at the Airport. Due to the global impacts of the COVID-19 pandemic, airports across the globe, including St. Louis Lambert International, experienced a significant decline in aviation activity throughout 2020 and into 2021 and 2022. While aviation activity began recovering in 2022, the recovery was uneven for airports across the U.S. At St. Louis Lambert International Airport, 2023 activity is expected to surpass 2019 and therefore 2019 is considered representative of the current conditions, recognizing there have been many structural changes in the economy as a result of the pandemic that affect all sectors of the economy.

In addition to this historical perspective that generally also represents conditions for 2023, GSL and the Airport are interested in estimating the future economic impact that will result from the implementation of a major capital improvement program that includes terminal redevelopment and expansion. This program will facilitate increases in international service as well as attract additional activity and growth in the region beyond the Airport. For purposes of this study, 2032 has been assumed to be the year when the full terminal capital program, also referred to as the preferred airport development program from the Airport's Master Plan, is complete and is used to estimate the future economic impact.

The remainder of this technical report starts with a socioeconomic overview of the St. Louis metropolitan region, then provides context about the Airport and how it compares to other peer airports. Following this background information, the study defines terminology used in economic impact, including the different types of impacts calculated, and details the methodology used to

calculate the current economic impacts. Once the current economic impacts are presented, the study provides an overview of the methodology and results of the future economic contributions analysis.



## 2. Regional Overview

The following subsections provide an overview of historical and future socioeconomic trends related to population and the economy for the St. Louis Metropolitan Statistical Area. This information is presented to provide important context about the environment in which the Airport exists.

### 2.1. Metropolitan Area Population

St. Louis Lambert International Airport is located within the St. Louis MSA, a bi-state metropolitan area covering 15 counties across Missouri and Illinois. The counties that make up the St. Louis MSA are shown in **Figure 2-1**.

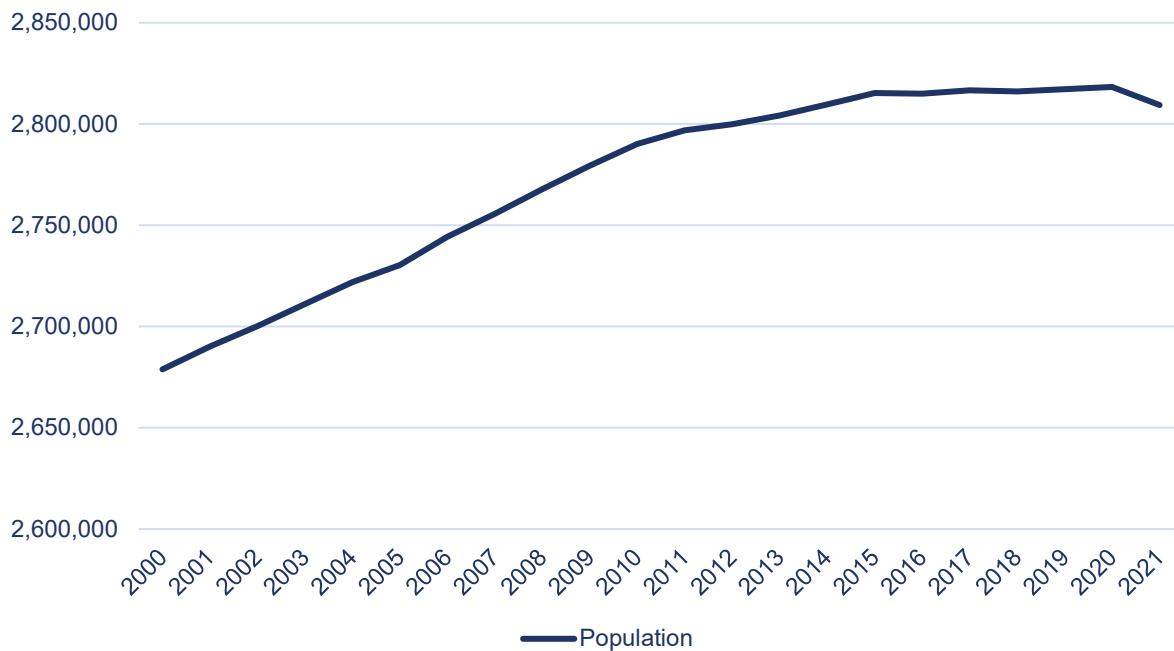
**Figure 2-1. Illinois and Missouri Counties within the St. Louis MSA**



Source: Greater St. Louis, 2023.

The Airport serves as the primary commercial air service and air cargo provider for the almost 3 million people living within the St. Louis MSA, which ranks 21<sup>st</sup> in the nation in terms of population size. Most of this population resides in the Missouri counties of the MSA, with nearly 1 million people living in St. Louis County alone. The population of the St. Louis MSA has increased by almost 5% from 2000 to 2021 according to historic data provided by Woods and Poole Economics, Inc. As shown in **Figure 2-2**, the area’s population experienced steeper growth from 2000 to 2010, before growth started to level off. There was very little growth between 2015 and 2020, before the population saw a decline, likely due to the impacts of the COVID-19 pandemic.

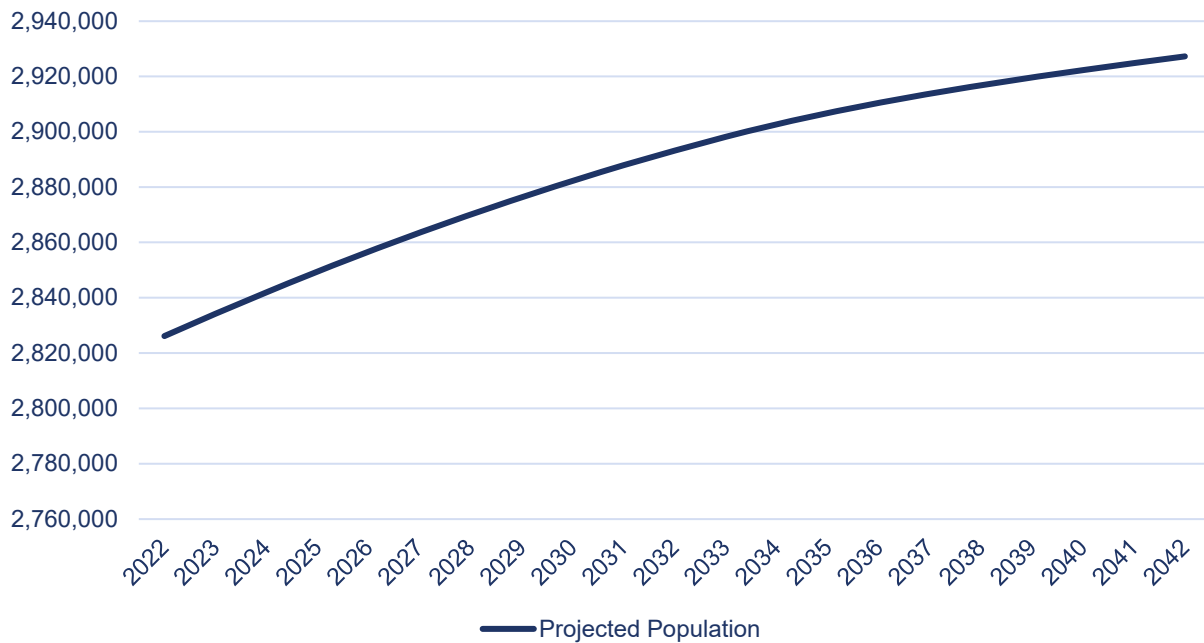
**Figure 2-2. St. Louis MSA Population Change (2000 – 2021)**



Sources: Woods and Poole Economics, Inc., (2000-2021), 2023; Kimley-Horn, 2023.

According to population projections prepared by Woods and Poole Economics, Inc., the population of the St. Louis MSA is anticipated to increase by a Compound Annual Growth Rate of 0.20% between 2022 and 2042. This projected population increase is presented in **Figure 2-3** and estimates that approximately 100,000 people will move into the St. Louis MSA over the next 20 years, which amounts to approximately 4% total population increase.

**Figure 2-3. St. Louis MSA Population Projection (2022 – 2042)**



Sources: Woods and Poole Economics, Inc. (2022-2042), 2023; Kimley-Horn, 2023.

## 2.2. Metropolitan Area Economy

As population continues to increase, economic indicators, such as employment, per capita income, and regional gross domestic product are expected to increase as well. Estimates indicate that the St. Louis region welcomes approximately 50,000 people relocating to the area annually, resulting in a major source of new workforce talent for area employers. In addition to the region’s growing workforce, the St. Louis region is experiencing an entrepreneurial revival, with approximately 6,000 new businesses coming to the area annually and more than \$400 million in venture capital funds invested in local startups in 2020 alone.<sup>1</sup>

The economy in the St. Louis MSA is diverse and supported by a wide variety of industries, many of which rely on the Airport to ship and receive goods, as well as transport individuals to different markets across the country and the world. Key industries targeted for growth in the St. Louis region include bioscience and health innovation, advanced manufacturing, agricultural technology and agribusiness, geospatial sciences, and more. While these key industries

<sup>1</sup> St. Louis Regional Overview, Greater St. Louis, Inc, <https://greaterstlinc.com/region/regional-overview>

continue to grow and diversify the economy, the largest industry markets within the metropolitan region, by share of total employment, include the following industries (presented in order from largest to smallest):

- Education and Health Services,
- Professional and Business Services,
- Retail and Wholesale Trade, and
- Leisure and Hospitality.<sup>2</sup>

Even though these industries account for the largest percentage of total employment within the St. Louis MSA, the employment growth rates of these industries vary widely. As shown in **Figure 2-4**, employment in the Education and Health Services industry has grown by an average of 2% annually since 2000, followed by Leisure and Hospitality with a CAGR of just under 1%.<sup>3</sup> Growth in the Leisure and Hospitality sector is reflective of the recreational travel and tourism that is supported in the region. Attractions within the St. Louis MSA include the 630-foot Gateway Arch National Monument, numerous museums and science centers, professional sports teams, live music, outdoor recreational areas, and much more. These attractions draw tens of millions of visitors each year to the St. Louis MSA<sup>4</sup>, many of whom utilize the Airport to visit the city.

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<sup>2</sup> St. Louis Lambert International Airport Master Plan, Chapter 3 – Aviation Activity Analyses and Forecast

<sup>3</sup> U.S. Bureau of Labor Statistics; Quarterly Census of Employment and Wages, 2020.

<sup>4</sup> Explore St. Louis, Annual Report, Fiscal Year 2022.

**Figure 2-4. Employment Growth Rates by Industry (2000 – 2018)**



Source: St. Louis Lambert International Airport, Master Plan, 2022.

Some of the largest employers in the MSA include BJC HealthCare, Washington University in St. Louis, Mercy Health, and Boeing, which has two locations at/near the Airport. The St. Louis MSA is also home to several Fortune 500 companies and other large private companies that are headquartered in the region, as shown in **Table 2-1**. The presence of these multi-billion-dollar firms drives, and will continue to drive, demand for infrastructure and services in the St. Louis region, including the Airport.

**Table 2-1. Multi-billion-dollar Firms Located in St. Louis MSA**

Firm Name	Industry	Annual Revenue (\$ billions)	Sources
Centene	Health Insurance	\$144.5	1,2
Bunge	Agribusiness & Food Ingredients	\$66.7	2
Enterprise Holdings	Services	\$30.0	3
Emerson Electric	Electrical Engineering	\$19.6	1,2
Reinsurance Group of America	Insurance Carriers	\$16.3	1,2
World Wide Technology	Technology Hardware & Equipment	\$14.5	3
Jones Financial (Edward Jones)	Diversified Financials	\$12.4	1,3
Graybar Electric	Capital Goods	\$10.5	1,3

Firm Name	Industry	Annual Revenue (\$ billions)	Sources
Olin	Chemical Manufacturing	\$9.4	1,2
Ameren	Utilities	\$7.7	1,2
Core & Main	Construction	\$6.7	1
Post Holdings	Food Markets	\$6.4	1
Peabody Energy	Coal Energy	\$4.9	1,2
Stifel Financial	Investment Brokerage	\$4.6	1,2
McCarthy Holdings	Construction	\$4.4	3
Apex Oil	Oil & Gas Operations	\$4.4	3
Arch Resources	Coal Energy	\$3.7	1,2
Arco Construction	Construction	\$3.7	3
Energizer Holdings	Manufacturing	\$3.1	1
Schnuck Markets	Food Markets	\$3.1	3
Caleres	Retail	\$2.9	1
Belden	Manufacturing	\$2.6	1
Alberici	Construction	\$2.6	3

Sources:

- 1 "7 St. Louis-area companies make Fortune 500 list" St. Louis Business Journal, June 5, 2023, <https://www.bizjournals.com/stlouis/news/2023/06/05/seven-st-louis-companies-make-fortune-500.html>, Accessed 6/5/23.
- 2 "Global 2000, 2023" Forbes, June 8, 2023, <https://www.forbes.com/lists/global2000/>, Accessed 6/8/23.
- 3 "America's Largest Private Companies" Forbes, Dec. 1, 2022, [www.forbes.com/largest-private-companies/list/](http://www.forbes.com/largest-private-companies/list/), Accessed 2/23/23.  
Compiled by Greater St. Louis Inc.

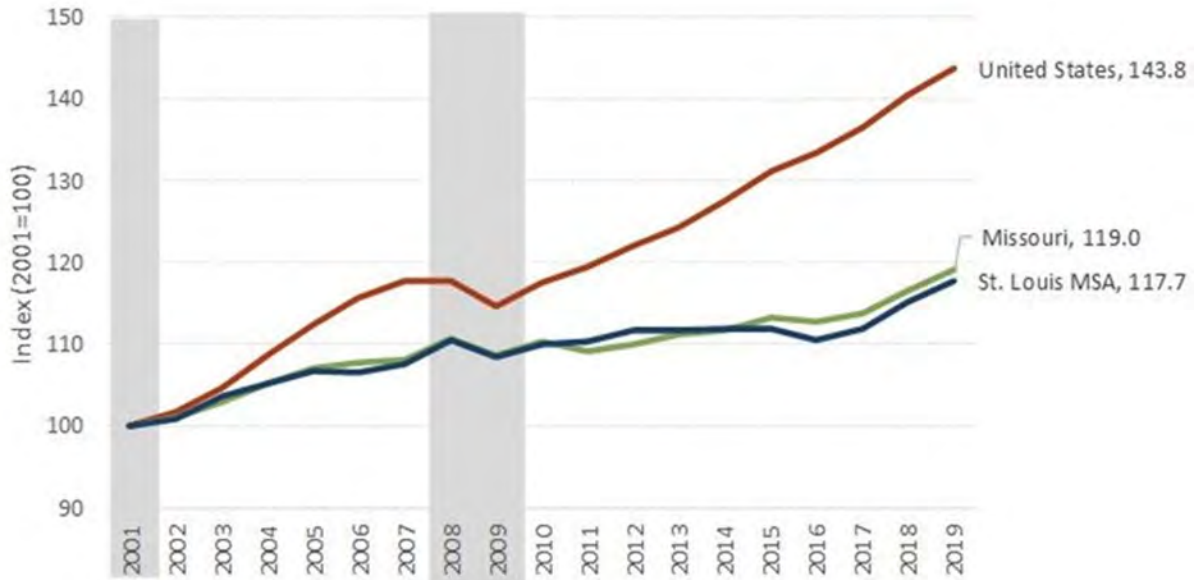
While not featured on the above list, the Bayer Corporation's US headquarters is located in St. Louis, with approximately 6,000 employees based in the region across all lines of business. Bayer Corporation is a global firm, and frequently relies on access to domestic and international air transportation to connect various lines of business across their global markets. Bayer is a key user of the Airport and a more detailed account of how this firm relies on the Airport is provided in **Chapter 4. Current Airport Economic Contributions, Section 4.1.1.**

The region's growing workforce and diversified industries are driving forces in an overall increase in the Gross Regional Product<sup>5</sup> over the past two decades. Inflation-adjusted (Real) GRP measures the total value of all goods and services produced in an area, adjusted for inflation over time. As Real GRP (or Gross Domestic Product) increases, employment and income associated with that employment also increase, resulting in greater demand for air travel for both business and leisure travelers. As shown in **Figure 2-5**, the GRP of the St. Louis MSA has experienced consistent annual growth over the past 20 years<sup>6</sup>, reaching over \$145 billion in 2019. Similar to population, Real GRP did experience short periods of reduction during the Great Recession of 2009 and during the economic downturn of 2020 caused by the COVID pandemic.

<sup>5</sup> GRP is the equivalent of GDP but relates specifically to production of goods within the St. Louis MSA, instead of nationally.

<sup>6</sup> U.S. Bureau of Economic Analysis.

**Figure 2-5. Growth in Real Gross Domestic Product (2001 – 2019)**



Period	Compound Annual Growth Rate		
	St. Louis MSA	Missouri	United States
2001-2009	1.1%	1.1%	1.8%
2010-2019	0.8%	0.8%	2.3%
2001-2019	0.9%	1.0%	2.0%

Notes:

Shaded areas on the chart indicate recession periods.

The 2019 data for the St. Louis MSA is an estimate based on regional economic forecasts from Moody's Analytics.

Sources: U.S. Bureau of Economic Analysis; Moody's Analytics; Unison Consulting, Inc. (June 2020).

Source: St. Louis Lambert International Airport Master Plan, 2022.

The St. Louis MSA is characterized by a strong and diverse economy that supports many of the region's top industries and is considered the third most economically diverse metropolitan area in the United States.<sup>7</sup>

<sup>7</sup> St. Louis Regional Overview, Greater St. Louis, Inc, <https://greaterstlinc.com/region/regional-overview>

## 3. Airport Setting

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The following subsections detail the Airport's unique history, highlight the activity and demand changes projected over the next 20 years, and present case examples of airports and communities similar to St. Louis Lambert International Airport.

### 3.1. Historic Activity

St. Louis Lambert International Airport has a rich and productive history, supporting military and civilian aviation needs since the inception of air travel. In addition to supporting these essential aviation needs, the Airport has a long history of aircraft manufacturing, which began in 1939 and continues to this day. The productivity of the Airport garnered positive public support time and again, as voters continually approved bond issues for the advancement of the Airport over time.

The Airport is named after Albert Bond Lambert, who learned to fly with the Wright Brothers, received his pilot's license in 1911, and served in the U.S. Army in World War I. Major Lambert, in partnership with the Missouri Aeronautical Society, leased 170 acres of farmland in St. Louis County in 1920, and leveled the land to build an air strip and hangar. Major Lambert brought the 1923 International Air Races to St. Louis, and a young Charles Lindbergh flew to St. Louis for the races and remained there after to be a flying instructor. It was during this time that the Airport earned its name "Lambert St. Louis Flying Field." In 1925, the Post Office awarded William Robertson, the Commander of the National Guard's 110<sup>th</sup> Observation Squadron located at the Airport, with the airmail contract for service between Chicago and St. Louis, with Charles Lindbergh as the chief pilot for the route. This Chicago to St. Louis airmail route is the earliest predecessor of American Airlines.

The Airport captured the interest and hearts of the community and by 1928, a two-million-dollar bond was approved by voters and Airport improvements began. By 1929, the Airport supported the first transcontinental air-rail passenger service, which was inaugurated by Transcontinental Air Transport, later becoming Transcontinental & Western Airlines. The first passenger terminal was opened in 1933 and served more than 24,000 passengers that year. In that same year, William Robertson established the Curtiss-Robertson Airplane Manufacturing Company, which went on to build the Curtiss Robin light airplane and continued to produce a wide range of civil and military aircraft into the 1930s, at that time operating under the name Curtiss-Wright Airplane Company.

To support World War II efforts, the McDonnell Aircraft Company was established, and the Curtiss-Wright aircraft manufacturing plant underwent a \$10 million expansion project, which included a new 6,000-foot-long runway and a new Naval Air Station to train naval aviation cadets. After the war, the McDonnell Aircraft Company was awarded the contract to design and produce the Navy's first jet fighter, the Phantom, which was the first aircraft to take off from a U.S. Naval air carrier. McDonnell Aircraft Company went on to acquire the Curtiss-Wright plant and continued designing and producing military aircraft. Eventually, McDonnell Aircraft Company purchased the factory and land from the City of St. Louis, who used those proceeds to further Airport improvements, including developing a new 10,000-foot-long runway that could support the new generation of military aircraft.



Into the early 1950s new generations of passenger airlines entered the market, like Ozark Airlines, and by the late 1950s Trans World Airlines began offering passenger jet service with the brand-new Boeing 707, making the Airport the first in the U.S. to offer jet airline service. McDonnell Aircraft Company continued to produce military aircraft, and ultimately built the Mercury, a spacecraft NASA used to send the first Americans, Alan Shepard and John Glenn, into space and in orbit. After this, McDonnell Aircraft Company went on to build several other spacecrafts for NASA.

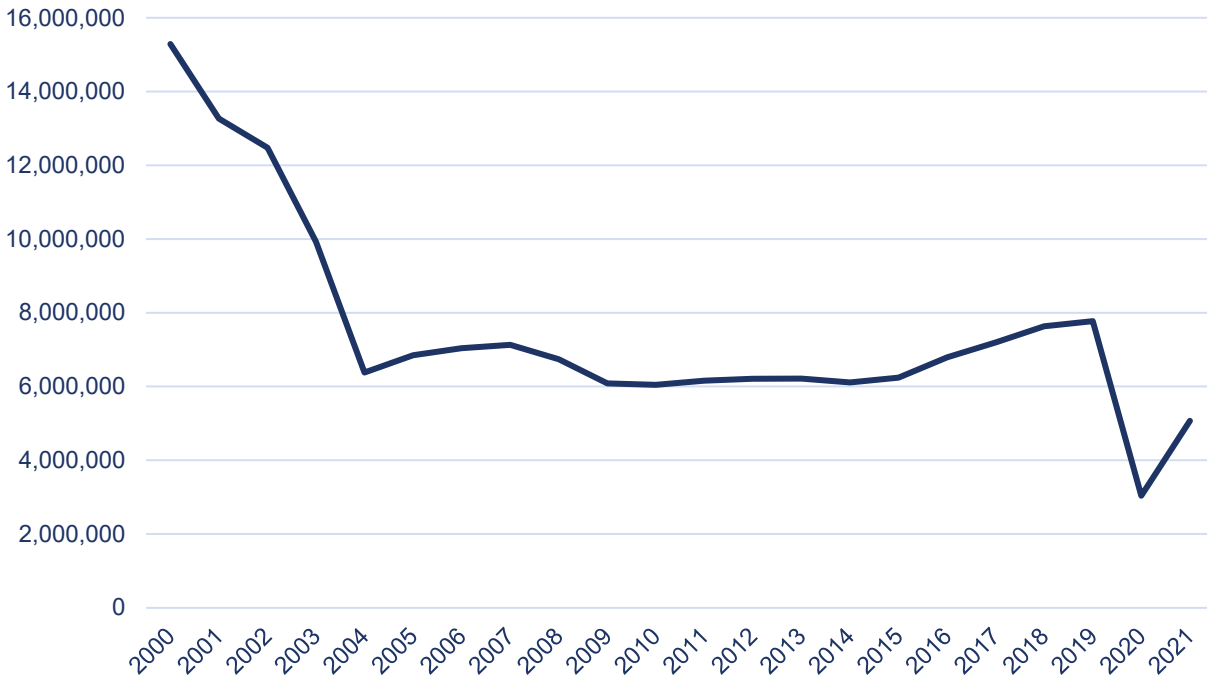
In 1971, the Airport was officially named the St. Louis Lambert International Airport. By 1982 TWA made the Airport its principal domestic hub and the Airport facilitated this growth in activity by constructing Concourse D, which brought the total number of gates at the Airport to 81 by 1985. In 1998, the Federal Aviation Administration supported the development of a new 9,000-foot-long parallel runway, new taxiways, and other associated improvements needed to serve the growing aviation activity. In 2001, American Airlines purchased TWA assets and discontinued their hub presence at the Airport. This resulted in a sharp decline in passenger enplanements in the early 2000s.<sup>8</sup>

As shown in **Figure 3-1**, passenger enplanements have not yet returned to levels experienced in 2000. Between 2000 and 2003 passenger enplanements dropped significantly, which corresponds with the reductions in aviation activity due to the aftermath of the 9/11 terrorist attacks and economic decline. There was some growth occurring in passenger enplanements after 2004; however, that period of growth was short lived and by 2007 passenger enplanements were declining and remained steady until 2014. Loss of hub status and the 2009 Great Recession were limiting factors to the Airport's growth between 2005 and 2014; however, by 2015 the Airport was experiencing a steady increase in enplanements. By 2019, the Airport experienced its most significant period of growth since 2000 and was ranked 34<sup>th</sup> busiest in the U.S in 2019.<sup>9</sup> This return to a growth pattern was cut short due to the impacts of COVID-19, resulting in a significant drop in enplanements in 2020 experienced by nearly all airports worldwide. Despite some challenges between 2000 and 2020, the Airport experienced a notable rebound in activity going into 2021, with just over five million passenger enplanements, trending toward pre-COVID-19 levels.

<sup>8</sup> History – St. Louis Lambert International Airport, <https://www.flystl.com/about-us/history#:~:text=Louis%20Lambert%20International%20Airport%20is,reaching%20the%20rank%20of%20Major.> (Accessed 2023).

<sup>9</sup> FAA Passenger Boarding Reports (2000-2021), FAA Terminal Area Forecast (1990-1995).

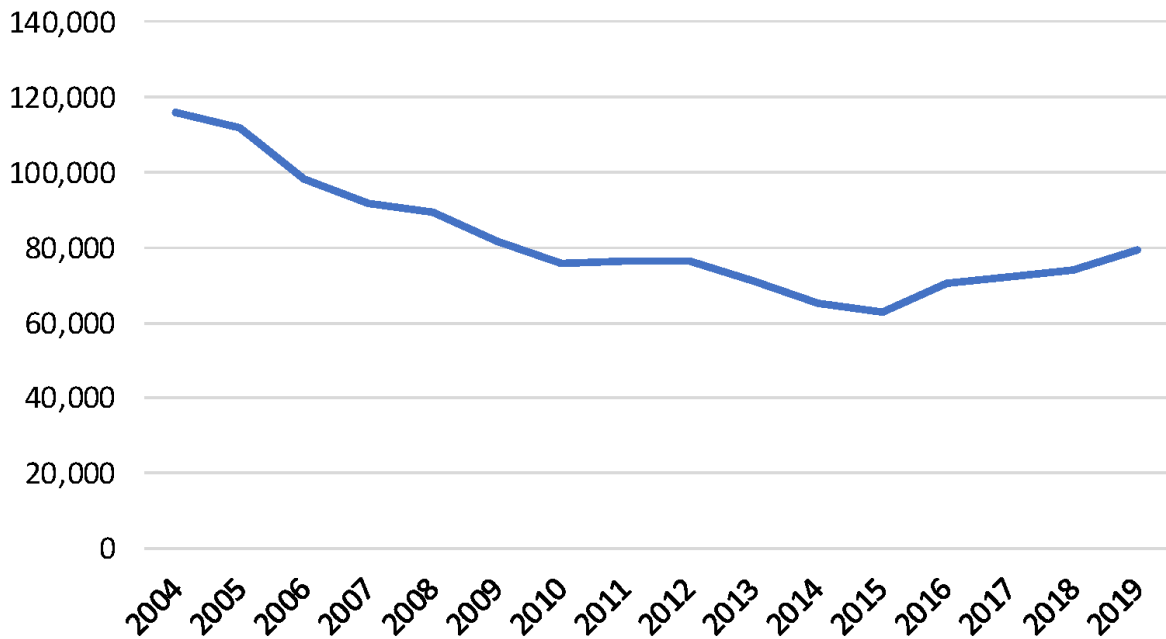
**Figure 3-1. St. Louis Lambert International Airport Passenger Enplanements (2000 – 2021)**



Sources: FAA Passenger Boarding Reports (2000-2021); Kimley-Horn, 2023.

As shown in **Figure 3-2**, the historic data for air cargo tonnage from 2004 to 2019 shows that while air cargo tonnage experienced a moderate decline from 2004 to 2015, this activity started increasing between 2015 and 2019. While air cargo tonnage did increase from 2015 to 2019, reaching approximately 80,000 tons, this was still significantly lower than the tonnage for 2004 that peaked at slightly less than 120,000 tons.

**Figure 3-2. Historical Trends in Air Cargo Tonnage (Short Tons) 2004 – 2019 from the St. Louis Lambert International Airport Master Plan**

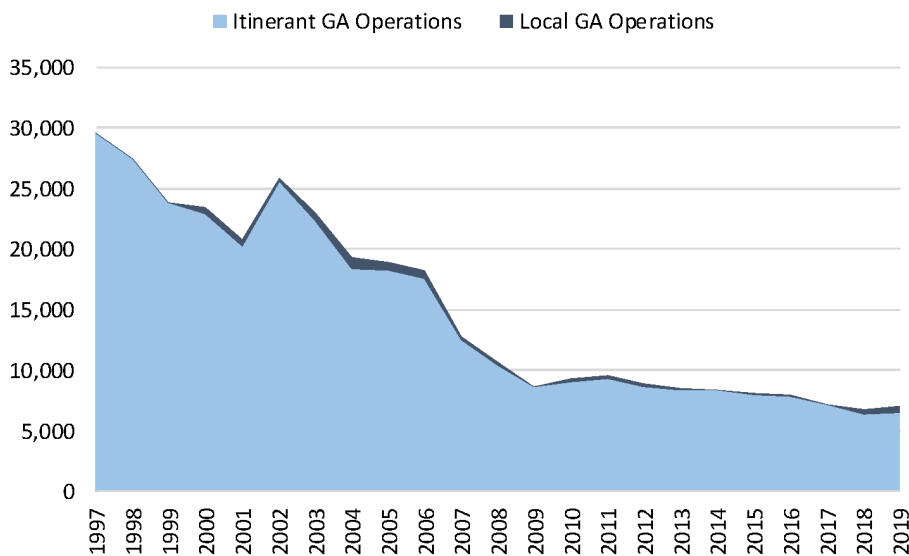


Sources: St. Louis Airport Authority, *STL Traffic Reports*, 2020; Unison Consulting, Inc., June 2020.

*Courtesy of: St. Louis Lambert International Airport Master Plan, Chapter 3, Figure 3.4-5, 2022.*

As shown in **Figure 3-3**, the historic activity for general aviation operations, both itinerant and local, show an overall decline in activity from 1997 to 2019; however, there is a significant increase in GA activity between 2001 and 2002, before activity experiences a significant decline between 2004 and 2009. Since 2009, GA activity has continued to decline but at a much slower rate than declines experienced prior.

**Figure 3-3. Itinerant and Local General Aviation Operations (CY 1997 – 2019) from the St. Louis Lambert International Airport Master Plan**



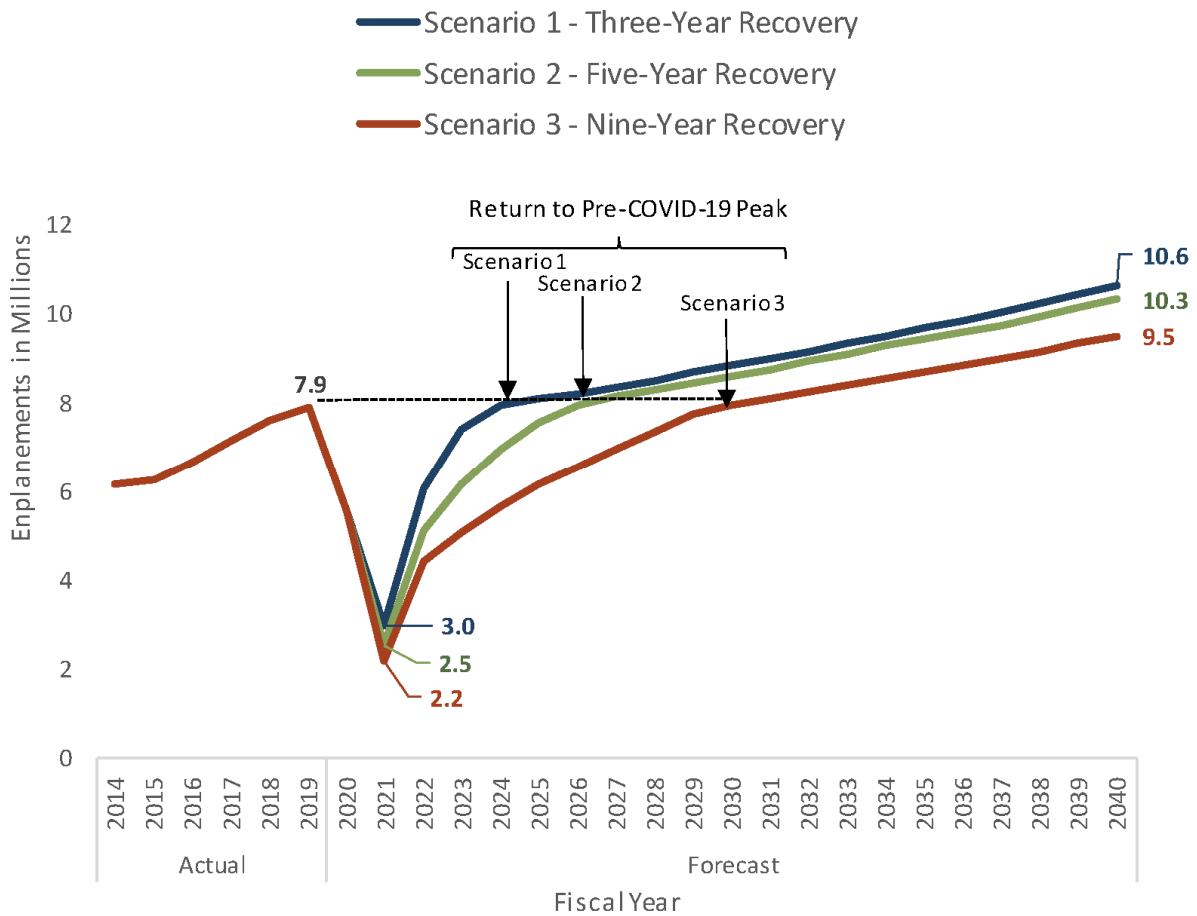
Sources: Federal Aviation Administration, *Air Traffic Activity Data System*, 2020 (STL aircraft operations); Unison Consulting, Inc., June 2020.

*Courtesy of: St. Louis Lambert International Airport, Airport Master Plan, Chapter 3, Figure 3.5-3.*

### 3.2. Master Plan Forecast Activity Summary

According to recent forecasts developed as a part of the St. Louis Lambert International Airport Master Plan (initiated in 2020 and nearing completion in 2023), complete recovery from the impacts of the COVID-19 pandemic may occur on a three-, five-, or nine-year cycle, with the longer-term forecasts differing based on the three recovery scenarios. All three recovery scenarios project annual enplanements will reach 9.5 million by 2040, with the three-year recovery scenario forecast indicating that annual enplanements could reach 10.6 million by 2040, as shown in **Figure 3-4**.

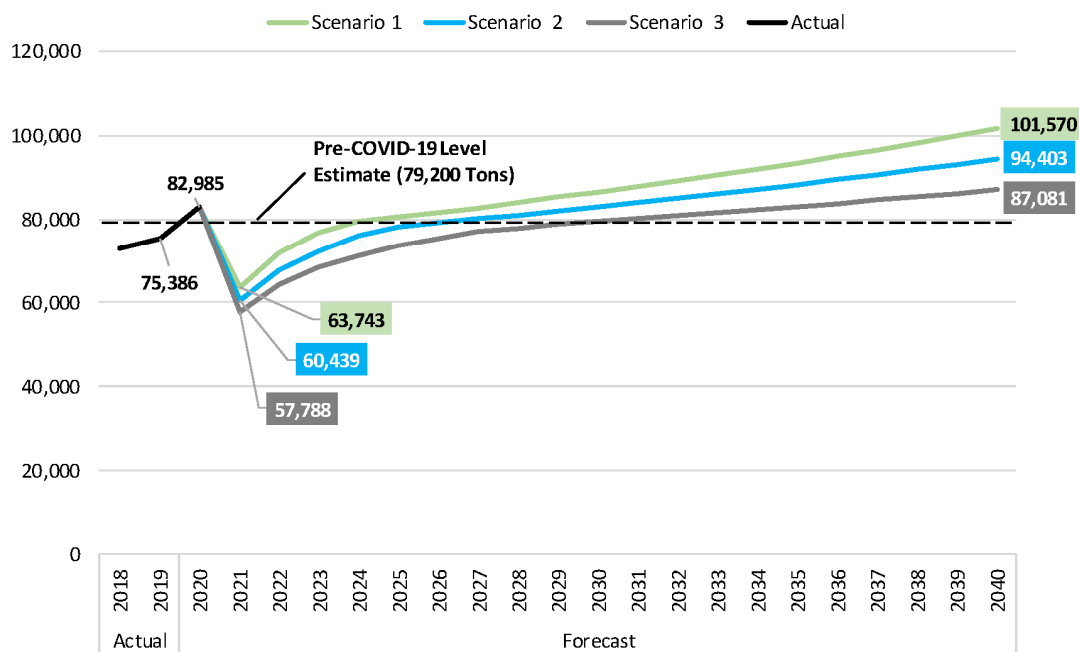
**Figure 3-4. Forecast of the Airport’s Enplanements Under Three Scenarios from the St. Louis Lambert International Airport Master Plan**



Sources: St. Louis Airport Authority (St. Louis Lambert International Airport airport records); Transportation Security Administration (passenger screening data); Unison Consulting, Inc (forecasts), June 2020. Courtesy of: St. Louis Lambert International Airport Master Plan, Chapter 3, Figure 3.3-33

A three-scenario recovery process was also developed to project future growth in air cargo tonnage at the Airport from 2020 to 2040, as shown in **Figure 3-5**. All three scenarios predict that air cargo tonnage at the Airport will exceed pre-covid levels by approximately 2030, with the three-year recovery scenario, presented as Scenario One, showing that air cargo tonnage could exceed 100,000 tons by 2040. The more conservative recovery scenarios indicate that air cargo tonnage could exceed 94,000 tons and 87,000 tons in Scenario Two (five-year recovery) and Scenario Three (nine-year recovery), respectively.

**Figure 3-5. Air Cargo Forecast Tonnage by Scenario - All Carriers (FY 2018 – 2040)**



Sources: St. Louis Airport Authority, *STL Traffic Reports*, 2020; U.S. Department of Transportation, Freight Analysis Framework V.4 (FAF4); Unison Consulting, Inc., June 2020.

Courtesy of: *St. Louis Lambert International Airport Master Plan, Chapter 3, Figure 3.4-9.*

The St. Louis Lambert International Airport Master Plan also included GA operations forecast for itinerant and local operations from 2020 through 2040. **Table 3-1** provides a summary of those projections and indicates that both GA itinerant and local operations are anticipated to increase to pre-COVID-19 levels by approximately 2024 and remain steady over the remainder of the forecast period.

**Table 3-1. Forecast GA Operations at St. Louis Lambert International Airport, FY Basis**

Activity	Actual		Forecast						
	2019	2020	2021	2022	2023	2024	2025	2030	2040
GA Operations - Local	6,416	6,110	6,110	6,110	6,110	6,416	6,416	6,416	6,416
GA Operations - Itinerant	621	318	318	318	318	621	621	621	621
<b>GA – Operations Total</b>	<b>7,037</b>	<b>6,428</b>	<b>6,428</b>	<b>6,428</b>	<b>6,428</b>	<b>7,037</b>	<b>7,037</b>	<b>7,037</b>	<b>7,037</b>

Sources: St. Louis Lambert International Airport Authority, St. Louis Lambert International Airport Traffic Reports, 2020, Union Consulting, Inc, June 2020. Courtesy of: St. Louis Lambert International Airport Master Plan, Chapter 3, Table 3.5-1.

### 3.3. Similar Airport Comparison

The saying “if you’ve seen one airport, you’ve seen one airport” summarizes the notion that no two airports are the same and each facility is shaped by a unique history as well as the communities served by the airport. The physical size, ownership, operational composition, user types, passenger demand, regional economics and transportation system, nearby airports, and more can impact how an airport is developed over time and how it will adjust to changing socioeconomic conditions.

While no two airports are the same, they can be impacted by similar events and conditions. Case examples were developed to highlight the histories of four airports considered similar to St. Louis Lambert International Airport and how they overcame a variety of challenges (such as airline de-hubbing) to be the resilient transportation assets they are today. Those four airports are:

- Pittsburgh International Airport
- Nashville International Airport
- Cincinnati/Northern Kentucky International Airport
- Austin-Bergstrom International Airport

**Table 3-2** provides a high-level comparison of the size and activity at St. Louis Lambert International Airport and the four case example airports. The comparison identifies the airports’ FAA National Plan of Integrated Airport Systems hub-size, which is dictated by the number of annual enplanements an airport has, with large hub airports experiencing higher number of

passenger enplanements than medium hub airports. In addition, the airports' passenger rankings and air cargo rankings based on Calendar Year 2021 data are presented. These rankings are sourced from two FAA reports:

- CY 2021 Passenger Boarding Data at all commercial service airports
- CY 2021 All-Cargo Airports by Landed Weight at all qualifying cargo airports

**Table 3-2. Comparative Summary between St. Louis Lambert International Airport and Other Case Example Airports**

Airport (FAA ID)	FAA Hub Size (2023 – 2027 NPIAS) <sup>1</sup>	Passenger Rankings (Out of 518 Commercial Service Airports) <sup>2</sup>	Air Cargo Rankings (Out of 141 Qualifying Cargo Airports) <sup>3</sup>
STL	Medium	36	57
PIT	Medium	48	39
BNA	Large	27	68
CVG	Medium	49	7
AUS	Large	30	47

Sources:

<sup>1</sup> 2023-2027 FAA NPIAS Report, 2022.

<sup>2</sup> FAA CY 2021 Enplanements at All Commercial Service Airports, 2022.

<sup>3</sup> FAA CY 2021 Qualifying Cargo Airports, Rank Order, and Percent Change from 2020, 2022.

As shown, St. Louis Lambert International Airport is in the middle range for passenger activity compared to the case example airports. The range of rankings for air cargo is much larger, with CVG ranking very high given the air cargo emphasis at this airport with both a DHL and Amazon Air hub; however, St. Louis Lambert International Airport is ranked in the middle of the remaining three case example airports.

### 3.3.1. St. Louis Lambert International Airport Overview

While a full regional overview is presented in **Section 2. Regional Overview, Section 2.2**, this section, including **Table 3-3** and **Table 3-4**, provides information specific to the region and the Airport that is necessary for context and comparison to case example airports.

As shown in **Table 3-3**, the St. Louis MSA has a population of 2.8 million people and a per capita income of \$67,796, according to estimates provided by Woods and Poole Economics, Inc. The region supports a diverse economy, with the Greater St. Louis economic development organization identifying a range of key industries in the area, including advanced manufacturing, agricultural technology, financial and business services, and more.



**Table 3-3. St. Louis Metropolitan Region Overview**

Socioeconomic Factor	Socioeconomic Data
St. Louis (MO-IL) MSA Population (2022)	2,818,040 <sup>1</sup>
St. Louis Per Capita Income (2022)	\$67,796 <sup>2</sup>
Key Industries (2023)	<ul style="list-style-type: none"> <li>• Advanced Manufacturing</li> <li>• AgTech</li> <li>• Bioscience and Health Innovation</li> <li>• Digital Transformation</li> <li>• Financial and Business Services</li> <li>• Geospatial</li> <li>• Mobility and Transportation<sup>3</sup></li> </ul>

Sources:

<sup>1</sup> Woods and Poole Economics, Inc. Data, St. Louis MSA, 2022.

<sup>2</sup> Woods and Poole Economics, Inc. Data, St. Louis MSA, 2022.

<sup>3</sup> Greater St. Louis, Inc. <https://greaterstlinc.com/industry-strengths>, 2023.

St. Louis Lambert International Airport is served by four runways, including three parallel and one crosswind, as shown in **Figure 3-6**.

**Figure 3-6. St. Louis Lambert International Airport Aerial**



Source: Google Earth, Pro, 2023.

**Table 3-4** presents recent activity at the Airport, including more than five million enplanements, and more than 590 million pounds of landed cargo in 2021. Currently, the Airport offers commercial air service across 12 different air carriers, who offer nonstop flights to 70 destinations.

**Table 3-4. St. Louis Lambert International Airport Airport Activity Overview**

Airport Activity Indicator	Airport Activity Data
Number of Annual Enplanements (2021)	5,070,471 <sup>1</sup>
Landed Cargo Weight in Pounds (2021)	590,883,300 <sup>2</sup>
Number of Air Carriers (2023)	12 <sup>3</sup>
Number of Nonstop Destinations (2023)	70 <sup>4</sup>

Sources:

<sup>1</sup>Federal Aviation Administration – Passenger and All-Cargo Statistics, [https://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger](https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger), 2021 (Accessed 2023).

<sup>2</sup> Ibid.

<sup>3</sup> St. Louis Lambert International Airport, <https://www.flystl.com/flights-and-airlines/non-stop-service>, 2023

<sup>4</sup> Ibid.

### 3.3.2. Pittsburgh International Airport

PIT serves the Pittsburgh, Pennsylvania MSA and surrounding regions. According to Woods and Poole Economics, Inc. population estimates, there are more than 2.5 million people within the Pittsburgh MSA, as shown in **Table 3-5**. This table also presents the 2022 PCI for the Pittsburgh MSA, which is approximately \$68,618. The Pittsburgh Regional Alliance, the area’s economic development marketing agency, identifies several key industries serving the region. These diverse industries, shown in **Table 3-5**, indicate that the Pittsburgh region is no longer only a “steel city,” but rather is now an incubator for industries related to healthcare, sciences, business services, and more.

**Table 3-5. Pittsburgh Metropolitan Region Overview**

Socioeconomic Factor	Socioeconomic Data
Pittsburgh (PA) MSA Population (2022)	2,535,538 <sup>1</sup>
Pittsburgh Per Capita Income (2022)	68,618 <sup>2</sup>
Key Industries (2023)	<ul style="list-style-type: none"> <li>• Climate Technology and Decarbonization</li> <li>• Cybersecurity</li> <li>• Energy</li> <li>• Life Sciences and Health</li> <li>• Manufacturing and Distribution</li> <li>• Robotics and Artificial Intelligence<sup>3</sup></li> </ul>

Sources:

<sup>1</sup> Woods and Poole Economics, Inc. Data, Pittsburgh MSA, 2022.

<sup>2</sup> Woods and Poole Economics, Inc. Data, Pittsburgh MSA, 2022<sup>3</sup> Thriving Pittsburgh Industries, <https://pittsburghregion.org/key-industries/>, 2023.

PIT is served by four runways, including three parallel runways and one crosswind runway, as shown in **Figure 3-7**.

**Figure 3-7. Pittsburgh International Airport Aerial**



Source: Google Earth, Pro, 2023.

**Table 3-6** provides an overview of activity occurring at PIT. According to data published by the FAA, PIT supported approximately 3.1 million enplanements in 2021, and more than 800 million pounds of air cargo landed at the airport. The airport also supports 16 different air carriers that provide nonstop flights to almost 50 destinations.

**Table 3-6. PIT Activity Overview**

Airport Activity Indicator	Airport Activity Data
Number of Annual Enplanements (2021)	3,069,259 <sup>1</sup>
Landed Cargo Weight in Pounds (2021)	812,896,728 <sup>2</sup>
Number of Air Carriers (2023)	16 <sup>3</sup>
Number of Nonstop Destinations (2023)	49 <sup>4</sup>

Sources:

<sup>1</sup>Federal Aviation Administration – Passenger and All-Cargo Statistics, [https://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger](https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger), 2021 (Accessed 2023).

<sup>2</sup> Ibid.

<sup>3</sup> Pittsburgh International Airport, <https://flypittsburgh.com/>, 2023.

<sup>4</sup> Ibid.

PIT was opened in 1952, and by 1987 had embarked on a billion-dollar expansion project that was made possible due to financial support from U.S. Airways who planned to make PIT their national hub. By 1992, the expansion project was finished and PIT, in partnership with U.S. Airways, opened a new terminal that consisted of two main buildings, a landside terminal for security, ground transportation, and baggage handling, as well as an airside building for passenger gates, which were connected via the PIT People Mover, an underground automated train system. The new terminal offered 100 gates and, in its prime, offered nonstop flights to Paris, France; London, England; and Frankfurt, Germany, as well as multiple daily nonstop flights to locations in California, including Los Angeles, San Francisco, and San Diego, and to Seattle, Washington. The airport also offered five or more daily flights to nearby cities, including Huntington, West Virginia, as well as State College and Harrisburg, Pennsylvania.

However, a mere 10 years later, the airport never reached the anticipated demand to utilize all 100 gates provided by the 1987 expansion, due in part to the decline in aviation activity in the aftermath of the September 11<sup>th</sup> terrorist attacks, and the subsequent departure of U.S. Airways from PIT. The airline filed for bankruptcy in 2002 and vacated the airport and its airport properties, which resulted in the loss of 10,000 jobs in the Pittsburgh region. U.S. Airways went on to focus its service in the Philadelphia, Pennsylvania and Charlotte, North Carolina markets before merging with American Airlines. The loss of service by U.S. Airways caused a sharp decline in activity at PIT and the city lost some of its nonstop connections to popular destinations.<sup>10</sup>

The initial loss of U.S. Airways was devastating; however, it did provide an opportunity for other airlines to provide service to the region. Specifically, Southwest Airlines established a strong presence at the airport and is now the airport's largest carrier. It also created room for more competition for low-cost carriers and other full-service carriers, in turn providing additional options at varying price points for travelers. Through this transition in air carriers, the airport no longer serves as an airline hub or connection point but caters to those travelers originating at and arriving to Pittsburgh as their final destination.

In 2016, the airport gained a new CEO, who was committed to improving the airport's performance after a challenging decade. Since 2016 the airport increased the destinations served from 37 to 67, doubled the number of air carriers from eight to 16, and experienced a 20% increase in passenger traffic between 2016 and 2020.

Strategic partnerships and a business mindset helped change the status of the airport. For example, the airport's CEO, along with the CEO of "Visit Pittsburgh" and other Pittsburgh business leaders, attended the World Routes conference to rally support for new routes to Pittsburgh. The close relationships and cooperation with business leaders and tourism agencies helped to spread awareness of companies that are expanding or coming to the area, which could be used to leverage and attract new airlines and new routes.

The Pittsburgh Tech Council is also involved in these collaboration efforts by advertising the appeal of the Pittsburgh region and the airport to businesses and other cities. In turn, the airport

<sup>10</sup> <https://www.pittsburghmagazine.com/pittsburgh-then-and-now-pittsburgh-international-airport/>.

markets to the tech industry in the area. The cross-industry relationships and collaboration to market the airport to airlines and large companies is what led to the revival of PIT.

In 2019, partnership-building paid off when the airport secured the return of a British Airways nonstop flight to London. This route had been on a 20-year hiatus, and while impacts of COVID-19 suspended the service for a time, it is back and operating. It is anticipated that this flight alone will generate and contribute more than \$50 million annually to the Pittsburgh regional economy.<sup>11</sup>

The airport recently announced an effort to modernize the airport and terminal in order to right-size the facility for current and future demand projections. The modernization includes the elimination of the “two-terminal” system and the PIT People Mover used to carry passengers from landside to airside, and a reduction in the number of gates down to 51.<sup>12</sup>

Not only did the airport establish intentional and strategic partnerships to grow its commercial service footprint, but the airport also has worked equally hard to secure a significant air cargo presence. The airport experienced an almost 80% increase in landed cargo weight between the five years from 2016 to 2021 and an approximate 13% increase in cargo traffic in the first quarter of 2022 compared to 2021. In October 2022, the airport was awarded \$44 million in contracts to build a state-of-the-art cargo facility, using 140,000 square feet of the former landside terminal building. This multi-million-dollar cargo investment is intended to make PIT the go-to cargo hub for the future.<sup>13</sup>

The airport has experienced many changes in its seven-decade history. Ultimately, partnerships with key airlines, businesses, industries, and organizations, as well as strategic investments in airport infrastructure, have led to the revitalization of PIT. The airport continues to serve as a critical link in the transportation network of the greater Pittsburgh region, for residents and visitors alike.

### 3.3.3. Nashville International Airport

As shown in **Table 3-7**, BNA serves the Nashville-Davidson-Murfreesboro-Franklin MSA and surrounding region. According to Woods and Poole Economics, Inc., the population of the Nashville-Davidson-Murfreesboro-Franklin MSA is approximately two million people and the PCI for the area is \$71,030. The Nashville Area Chamber of Commerce identifies several key industries in the region which are presented in **Table 3-7**, and include corporate operations, music, and entertainment, and more.

<sup>11</sup> <https://flypittsburgh.com/aaa-corporate/newsroom/news-releases/british-airways-announces-return-of-nonstop-service-between-pittsburgh-and-london/>.

<sup>12</sup> <https://www.pittsburghmagazine.com/flying-into-the-future-pit-getting-new-terminal-fewer-gates/>.

<sup>13</sup> <https://www.ttnews.com/articles/pittsburgh-airport-dedicates-44-million-build-cargo-facility>.

**Table 3-7. Nashville Metropolitan Region Overview**

Socioeconomic Factor	Socioeconomic Data
Nashville-Davidson-Murfreesboro-Franklin (TN) MSA Population (2022)	2,039,433 <sup>1</sup>
Nashville Per Capita Income (2022)	\$71,030 <sup>2</sup>
Key Industries (2023)	<ul style="list-style-type: none"> <li>• Advanced Manufacturing</li> <li>• Corporate Operations</li> <li>• Healthcare</li> <li>• Music and Entertainment</li> <li>• Supply Chain Management<sup>3</sup></li> </ul>

Sources:

<sup>1</sup> Woods and Poole Economics, Inc. Data, Nashville-Davidson-Murfreesboro-Franklin MSA, 2022.

<sup>2</sup> Woods and Poole Economics, Inc. Data, Nashville-Davidson-Murfreesboro-Franklin MSA, 2022.

<sup>3</sup> Nashville Area Chamber of Commerce – Target Industries, <https://www.nashvillechamber.com/economic-development/relocate-or-expand/target-industries>, 2023.

As shown in **Figure 3-8**, the airport is served by four runways, which include three parallel runways and one crosswind runway.

**Figure 3-8. Nashville International Airport Aerial**



Source: Google Earth, Pro, 2023.

As shown in **Table 3-8**, BNA supported approximately 7.6 million passenger enplanements in 2021, which is the highest number of enplanements of all the case example airports included in this report. In addition, approximately 474 million pounds of air cargo landed at the airport in 2021. There are 20 air service carriers operating at the airport, providing nonstop flights to 100 destinations.

**Table 3-8. BNA Airport Activity Overview**

Airport Activity Indicator	Airport Activity Data
Number of Annual Enplanements (2021)	7,594,049 <sup>1</sup>
Landed Cargo Weight in Pounds (2021)	474,650,550 <sup>2</sup>
Number of Air Carriers (2023)	20 <sup>3</sup>
Number of Nonstop Destinations (2023)	100 <sup>4</sup>

Sources:

<sup>1</sup>Federal Aviation Administration – Passenger and All-Cargo Statistics, [https://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger](https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger), 2021 (Accessed 2023).

<sup>2</sup> Ibid.

<sup>3</sup> Nashville International Airport, <https://flynashville.com/>, 2023

<sup>4</sup> Ibid.

BNA originally opened in 1937 under the name Berry Field. The airport underwent significant expansion during World War II to support the United States Army Air Forces' Airport Transport Command. After WWII, the United States Army Air Forces gave control of the airport back to the City of Nashville and by 1958 the City Aviation Department started on a modernization and expansion project for civil use.

After only a decade, the airport needed another expansion and in 1973, the newly established Metropolitan Nashville Airport Authority produced a long-term growth plan that included a new terminal and a new parallel runway that would increase capacity and reduce time between takeoffs and landings. Construction of the new terminal took place between 1984 and 1987, and a new parallel runway opened in 1989.<sup>14</sup>

During this time, American Airlines invested \$115 million in developing a new 15-gate concourse, which opened in 1986, that would serve to support the American Airlines hub at the airport. The American Airlines hub benefited the airport by bringing a number of nonstop flights to many cities across the United States and Canada, as well as offering a nonstop flight to London. The presence of American Airlines also helped attract large companies to headquarter in the Nashville area, including Nissan and Saturn Corporation.

Service as an American Airlines hub peaked in 1993 with 265 daily departures to 79 cities; however, after 1993, flights continually scaled back and by 1995 the American Airlines hub

<sup>14</sup> [http://www.nashville-bna.airports-guides.com/bna\\_history.html](http://www.nashville-bna.airports-guides.com/bna_history.html).

closed. American Airlines cited the recession of the early 1990s and the lack of local passengers as the reason for their departure from the airport.<sup>15</sup>

After the loss of hub status, a “right-sizing” of the airport needed to occur, which included cutting costs and making strategic decisions about growth. Political, business, and tourism leaders were spurred into action to identify opportunities to revitalize the city, and its airport. Airport executives dedicated efforts to lobby and attract new airlines, while city and business leaders launched marketing campaigns to market Nashville as a prime location to live, vacation, and conduct business. Local leaders emphasized the absence of state income tax in Tennessee as a part of their marketing strategy. The city also offered incentives to bring new businesses to the area. At the same time, Nashville’s long history of being considered “Music City U.S.A.,” named as such in 1950, and its more recent emergence as a prime destination for leisure travelers, spurred an economic revival in the area and brought more passengers and increased traffic to the airport. By 2004, Southwest Airlines began growing its presence at the airport, along with several other legacy carriers and LCCs. Southwest Airlines has grown to be the airport’s largest carrier and the airport offers more daily flights currently (38) than at its peak with American Airlines in 1993.

In 2017 the airport launched a five-year strategic development plan, referred to as “Vision BNA,” that was informed by the 2017 Master Plan. Vision BNA included a \$1.4 billion investment which resulted in a new concourse (Concourse D), two expanded ticketing wings with their own security checkpoints, and two new parking garages. Vision BNA also includes a new terminal lobby, an international arrivals facility, and an on-airport Hilton Hotel, which are still to be constructed. This development plan was deemed necessary to keep pace with the rapid growth that Nashville has experienced over recent years. U.S. Census data indicates Nashville has been the fifth fastest growing metropolitan area in the country over the last five years (from 2016 to 2021). The city attracts new residents due to its thriving economy, and the city’s diverse industries make it a top U.S. city for job growth.<sup>16</sup>

BNA shares a similar history of changing hub status and air carrier services as experienced at PIT, along with a later revitalization of activity that resulted from a concerted effort to partner with businesses and industries that would draw demand back to the airport. These partnerships, accompanied by a notable uptick in tourism, have positioned the airport for continued growth and vitality.

### 3.3.4. Cincinnati/Northern Kentucky International Airport

CVG serves the Cincinnati metropolitan area, which includes parts of Ohio, Kentucky, and Indiana and a population of approximately 2.3 million people, according to 2022 Woods and Poole Economics, Inc. estimates. The MSA has a PCI of \$65,752, as shown in **Table 3-9**. The area’s economic development agency, Regional Economic Development Initiative Cincinnati, identifies four key industries in the region, shown in **Table 3-9**.

<sup>15</sup> <https://www.businessinsider.com/r-former-hub-airports-find-new-life-after-downsizing-2014-03>.

<sup>16</sup> <https://airport-world.com/the-best-of-nashville/>.



**Table 3-9. Cincinnati Metropolitan Region Overview**

Socioeconomic Factor	Socioeconomic Data
Cincinnati (OH-KY-IN) MSA Population (2022)	2,270,796 <sup>1</sup>
Cincinnati (OH-KY-IN) Per Capita Income (2022)	\$65,752 <sup>2</sup>
Key Industries (2023)	<ul style="list-style-type: none"> <li>• Bio-health</li> <li>• Business and Professional Services</li> <li>• Advanced Manufacturing</li> <li>• Technology<sup>3</sup></li> </ul>

Sources:

<sup>1</sup> Woods and Poole Economics, Inc. Data, Cincinnati MSA, 2022.

<sup>2</sup> Woods and Poole Economics, Inc. Data, Cincinnati MSA, 2022.

<sup>3</sup> Regional Economic Development Initiative (REDI) Cincinnati – Core Industries, <https://redicincinnati.com/#:~:text=REDI%20Cincinnati%20is%20the%20first,passionate%20about%20the%20Cincinnati%20region,2023>.

There are four runways at CVG, including three parallel runways and one crosswind runway, as shown in **Figure 3-9**.

**Figure 3-9. Cincinnati/Northern Kentucky International Airport Aerial**



Source: Google Earth, Pro, 2023.

According to FAA reports for 2021, CVG supported just over three million passenger enplanements and almost 8.5 billion pounds of air cargo was landed at the airport. As previously noted, CVG supports the largest cargo activity of all the case example airports. There are 14 different air service providers at the airport that offer nonstop flights to over 50 destinations, as shown in **Table 3-10**.

**Table 3-10. CVG Airport Activity Overview**

Airport Activity Indicator	Airport Activity Data
Number of Annual Enplanements (2021)	3,050,597 <sup>1</sup>
Landed Cargo Weight in Pounds (2021)	8,478,266,612 <sup>2</sup>
Number of Air Carriers (2023)	14 <sup>3</sup>
Number of Nonstop Destinations (2023)	51 <sup>4</sup>

Sources:

<sup>1</sup> Federal Aviation Administration – Passenger and All-Cargo Statistics, [https://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger](https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger), 2021 (Accessed 2023).

<sup>2</sup> Ibid.

<sup>3</sup> CVGAirport.com – Cincinnati/Northern Kentucky International Airport, 2023.

<sup>4</sup> Ibid.

CVG was opened in 1947 and serves as the main commercial service airport for the Cincinnati metropolitan region, including southern Ohio, northern Kentucky, and southeastern Indiana. In the mid-1980s, Delta Air Lines opened a hub at the airport and provided financial support to construct 22 gates across two terminals. Several years later, Delta invested another \$500 million to build a third terminal that included Concourses A, B, and C.

In the 1990s, Delta shifted several of its flights at CVG from mainline to Comair flights. Comair was a regional airline and owned subsidiary of Delta Air Lines. This change created the Delta Connection regional service that still exists today and resulted in almost double the passenger traffic within a decade. At its peak, Delta provided flights to over 130 destinations, including international destinations like Amsterdam, Netherlands, and Frankfurt, Germany, and handled over 670 Delta and Delta Connection flights each day.<sup>17</sup>

However, by 2005, Delta Air Lines filed for bankruptcy, citing a spike in jet fuel prices and growing competition from LCCs.<sup>18</sup> Delta flights began to steadily decrease and by 2008, Delta had vacated their hub at CVG, while continuing to offer a significantly reduced number of flights, and ultimately acquired Northwest Airlines during a merger acquisition. By 2014, CVG experienced a 74% decrease in passenger traffic and went from over 600 daily flights to a mere 200 daily flights across all carriers. To account for the decrease in operations, the airport consolidated all activity into one terminal and tore down the other two terminals by 2016.<sup>19</sup>

<sup>17</sup> <https://airlinegeeks.com/2017/06/14/the-death-and-rebirth-of-memphis-mem-and-cincinnati-cvg/>.

<sup>18</sup> <https://money.cnn.com/2005/09/14/news/fortune500/delta/>.

<sup>19</sup> <https://doctoraviation.com/fall-rise-cincinnati-northern-kentucky-airport/>.

Around the same time that Delta left their CVG hub, CVG also experienced decreased activities related to air cargo operations due to the relocation of the DHL headquarters from Cincinnati to Wilmington, Ohio after DHL acquired Airborne Express in 2003. By 2005, CVG experienced a nearly 29% decrease in landed cargo weight from the previous year and by 2006, an almost 87% drop in landed cargo weight. In just two short years CVG went from the 15<sup>th</sup> biggest cargo carrier to the 101<sup>st</sup>.

In 2013, when the airport was continuing to experience decline, it secured its first LCC, with Frontier Airlines, followed by Allegiant Airlines and Southwest Airlines. Around 2015, the airport began making strategic decisions to significantly revitalize the airport. For example, to avoid having one airline control the fate of the airport, a five-year contract was established in 2016 between the airport and Delta, which allowed CVG to retain a majority of the control over business decisions at the airport. Included in this agreement was CVG's ability to have more control over capital projects, whereas before Delta had the power to approve almost all capital projects and expenditures.

This deal also allowed CVG to retain leftover funds at the end of each year which could be used in incentive packages to attract more airlines. Moreover, the contract created a more attractive environment for LCCs and other carriers to come to the airport, creating a more competitive environment. The deal also included a clause related to cargo carriers and stated that a minimum amount of space must be leased, or minimum defined annual landed weight needed to be met, in order for the cargo carrier to be a lessee. This new deal led to DHL returning to the airport and establishing a "global super hub" at the airport as well as Amazon Air Cargo constructing a new facility at the airport.<sup>20</sup>

The strategy to revitalize the airport's facilities was focused on diversifying operations rather than relying on one airline and creating lease agreements that reserved decision making power for the airport. Bringing in LCCs, attracting other airlines with financial incentives, and securing a direct flight from Cincinnati to London, England on British Airways all contributed to the revitalization of the airport. Moreover, the strategic decisions to bolster air cargo and attract new cargo carriers helped to bring back the cargo activity that was once a significant part of CVG's overall operation. CVG was able to convert its operations from 90% connection trips during Delta's hub presence to the current 94% origin and destinations trips across a mix of airlines.

### 3.3.5. Austin-Bergstrom International Airport

AUS serves the Austin-Round Rock-Georgetown metropolitan area and surrounding regions in Texas. According to 2022 Woods and Poole Economics, Inc. estimates, the population of this metropolitan area is approximately 2.4 million people, and the PCI for the region is \$73,027, as shown in **Table 3-11**. According to the region's economic development organization, Austin Chamber, the area supports a diverse range of key industries, from automotive, to space technology, financial services, and more.

<sup>20</sup> <https://www.cincinnati.com/story/money/2015/06/22/cvg-airlines-agreement/29114783/>.

**Table 3-11. Austin Metropolitan Region Overview**

Socioeconomic Factor	Socioeconomic Data
Austin-Round Rock-Georgetown (TX) MSA Population (2022)	2,398,380 <sup>1</sup>
Austin-Round Rock-Georgetown (TX) MSA Per Capita Income (2022)	\$73,027 <sup>2</sup>
Key Industries (2023)	<ul style="list-style-type: none"> <li>• Creative and Digital Media Technology</li> <li>• Financial Services</li> <li>• Advanced Manufacturing</li> <li>• Automotive</li> <li>• Corporate HQ and Regional Offices</li> <li>• Data Management</li> <li>• Life Sciences</li> <li>• Semiconductors</li> <li>• Space Technology</li> <li>• Clean Technology<sup>3</sup></li> </ul>

Sources:

<sup>1</sup> Woods and Poole Economics, Inc. Data, Austin-Round Rock-Georgetown MSA, 2022.

<sup>2</sup> Woods and Poole Economics, Inc. Data, Austin-Round Rock-Georgetown MSA, 2022.

<sup>3</sup> Austin Chamber – Economic Development – Key Industries, <https://www.austinchamber.com/economic-development/key-industries>, 2023.

AUS is served by two parallel runways, shown in **Figure 3-10** which is the fewest of all the case example airports.

**Figure 3-10. Austin-Bergstrom International Airport Aerial**



Source: Google Earth, Pro, 2023.

As shown in **Table 3-12**, AUS supported more than 6.6 million enplanements in 2021, according to data provided by the FAA, which also reports that more than 600 million pounds of landed cargo weight passed through AUS in 2021. According to the airport website, there are 19 air carriers operating at AUS, offering nonstop flights to 90 destinations.

**Table 3-12. AUS Airport Activity Overview**

Airport Activity Indicator	Airport Activity Data
Number of Annual Enplanements (2021)	6,666,215 <sup>1</sup>
Landed Cargo Weight in Pounds (2021)	607,956,455 <sup>2</sup>
Number of Air Carriers (2023)	19 <sup>3</sup>
Number of Nonstop Destinations (2023)	90 <sup>4</sup>

Sources:

<sup>1</sup> Federal Aviation Administration – Passenger and All-Cargo Statistics, [https://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger](https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger), 2021 (Accessed 2023).

<sup>2</sup> Ibid.

<sup>3</sup> [Austintexas.gov/airport](https://www.austintexas.gov/airport) – Austin-Bergstrom International Airport, 2023

<sup>4</sup> Ibid.

AUS opened in 1999 after the former Bergstrom Air Force Base was decommissioned in 1993 and the land was returned to the City of Austin. The airport was the first to be built under the U.S. Department of Defense’s Base Realignment and Closure Commission and began offering commercial service to visitors and residents of the Austin area. Unlike the other airports featured in this report, AUS never served as an airline hub or experienced the rapid decline in activity due to the loss of hub status. However, the airport did experience a number of other challenges in its history due to rapid population growth and a surge in demand for air travel without adequate capacity. In 2014, the airport’s footprint had grown significantly to accommodate increased demand, and British Airways began offering the first nonstop transatlantic flight to London, England. By 2015, the airport needed to undergo its first terminal expansion to support the growing demand. The expansion included an enlarged customs and immigration facility, two domestic baggage claim belts, and an expanded security checkpoint on the ticketing level.<sup>21</sup>

In 2017 the Airport began a master planning process, and by 2019, published the AUS 2040 Master Plan, which envisioned the future of the airport including the anticipated doubling of enplanements that would accompany continued population growth in the area. Since the Master Plan was developed prior to the COVID-19 pandemic, the airport took a renewed look at the original expansion plan to meet the changing needs and frequency of post-pandemic travel. The airport established the Airport Expansion Development Program which includes initiatives and developments that are scalable to meet a range of forecasted growth profiles post-pandemic. Part of the redevelopment plans for the airport call for the removal of the existing South Terminal (currently leased and managed by a third-party business operator) in order to make room for a new Midfield Concourse.<sup>22</sup>

The Austin region continues to experience significant and consistent socioeconomic growth. In 2021, Austin made headlines for being a hotspot for startup founders and venture capitalists to settle. After years of targeted marketing and strategic development decisions, the city is now considered a second Silicon Valley, operating as its own tech hub. There are several companies in Austin that surpass a \$1 billion valuation, and the city is also home to Tesla, who moved their headquarters from Silicon Valley, as well as secondary offices for Google, Apple, Oracle, Amazon, Facebook, and Space X.<sup>23</sup> One report indicates that 185 people are moving to Austin each day.<sup>24</sup>

<sup>21</sup> <https://www.prnewswire.com/news-releases/british-airways-begins-flying-from-austin-texas-marking-the-first-transatlantic->

<sup>22</sup> <https://www.kvue.com/article/money/economy/boomtown-2040/austin-bergstrom-international-airport-extensive-improvement-plan/269-8fbaf3a7-8ee7-4dfa-b7ee-9a413542b79b>.

<sup>23</sup> <https://www.kvue.com/article/money/economy/boomtown-2040/austin-tech-startups-raise-billions/269-240d69af-8fc0-4cfb-932d-139edda4a73a>.

<sup>24</sup> [https://techcrunch.com/2022/04/06/how-austin-texas-has-evolved-into-a-city-of-unicorns-and-tech-giants/?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&guce\\_referrer\\_sig=AQAAAMrIGIPZxnKiyEHj39an8Rlr\\_ykBqcRhMIEBvaN6X95\\_C32yl8tyY8editjCG6cJYd9DOiISwyD3wQ10ZBFta4LRjrOgTyFshZYrxiox2yERHzaW971MurBb1fTr0j4vdyYEtK\\_-clW0BMQe9kYKYutnw3PcNDPEUkhk5bnTU\\_i8](https://techcrunch.com/2022/04/06/how-austin-texas-has-evolved-into-a-city-of-unicorns-and-tech-giants/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&guce_referrer_sig=AQAAAMrIGIPZxnKiyEHj39an8Rlr_ykBqcRhMIEBvaN6X95_C32yl8tyY8editjCG6cJYd9DOiISwyD3wQ10ZBFta4LRjrOgTyFshZYrxiox2yERHzaW971MurBb1fTr0j4vdyYEtK_-clW0BMQe9kYKYutnw3PcNDPEUkhk5bnTU_i8).

The surge of new population, thriving business markets, and the vacation appeal of the area contribute to a growing demand for air travel at the airport. AUS has had to quickly respond to changes in population and demand for services, and has done so by developing strategic partnerships, making necessary “right-sizing” decisions, and using the momentum of the rapidly growing population in the area to drive demand for the airport.

### 3.3.6. Summary

**Table 3-13** presents a comparison of the population within the respective metropolitan areas of each chosen airport and provides a comparison of airport activity, including enplanements, landed cargo weight, the number of air carriers, and nonstop destinations offered. As shown, the St. Louis metropolitan area has the largest population, and the Nashville area has the smallest population. Despite serving the smallest metropolitan area population, BNA had the most passenger enplanements in 2021, with approximately 7.6 million enplanements, and the largest number of air carriers and nonstop destinations. The number of enplanements at St. Louis Lambert International Airport sits within the middle of the enplanement range, with approximately five million enplanements. While St. Louis Lambert International Airport had the fewest air carriers, the Airport offers service to 70 destinations, which is the third most nonstop destinations offered by the comparison airports. CVG supported the most landed air cargo, which is to be expected due its large DHL and Amazon Air presence. Landed air cargo weight at these airports ranged from approximately 474 million pounds to approximately 8.5 million pounds, with St. Louis Lambert International Airport supporting approximately 590 million pounds of landed cargo.

**Table 3-13. Airport Summary Comparison**

Airport (FAA ID)	MSA Population	Number of Annual Enplanements	Landed Cargo Weight (lbs)	Number of Air Carriers	Number of Nonstop Destinations
STL	2,818,040	5,070,471	590,883,300	12	70
PIT	2,535,538	3,069,259	812,896,728	16	49
BNA	2,039,433	7,594,049	474,650,550	20	100
CVG	2,270,796	3,050,597	8,478,266,12	14	51
AUS	2,398,380	6,666,215	607,956,455	19	90

Sources: See Table 3-4 through Table 3-12 for sources for each airport.

When looking at socioeconomic and airport activity for these metropolitan areas and their airports over a 10-year historic period (2009-2019), it is evident that the economic growth occurring in Austin and Nashville exceeded the growth occurring in St. Louis, Cincinnati, and Pittsburgh during that time. **Table 3-14** presents the percent growth of four socioeconomic indicators for the five metropolitan areas associated with the study airports. The socioeconomic indicators evaluated were population, PCI, employment, and GRP. As shown, the percent change for Austin and Nashville was higher than the others across all indicators, particularly GRP with Austin’s metropolitan area experiencing a 57% increase and Nashville’s metropolitan area experiencing a 47% increase in GRP. Percent changes in population and employment

were minor across all locations but the metropolitan areas surrounding AUS and BNA still had the highest percent change for both indicators.

**Table 3-14. Historic Comparison of Socioeconomic Across Case Study Airports**

Airport (FAA ID)	Population Percent Change (2009 – 2019)	PCI Percent Change (2009 – 2019)	Employment Percent Change (2009 – 2019)	GRP Percent Change (2009 – 2019)
STL	0.04%	28%	0.06%	11%
AUS	0.08%	37%	0.16%	57%
BNA	0.07%	34%	0.13%	47%
CVG	0.05%	30%	0.09%	28%
PIT	0.04%	34%	0.08%	28%

Sources: Woods and Poole Economics, 2019; Kimley-Horn, 2023.

While St. Louis may have experienced the lowest percent growth across these indicators during 2009-2019, the region did have the highest overall population, GRP, and employment levels consistently over the 10-year period compared to the other study metro areas, as shown across the three charts presented in **Figure 3-11**. St. Louis did not have the highest consistent PCI so that indicator is not presented in the following figure.



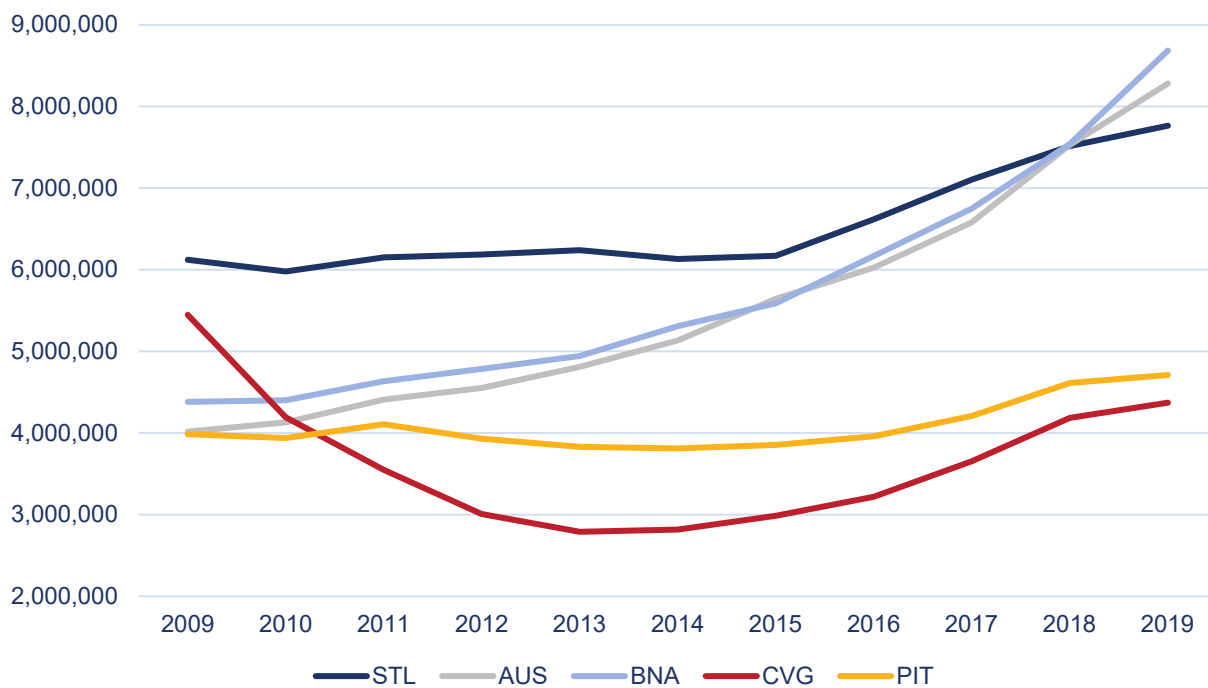
**Figure 3-11. Summary of Historic Socioeconomic Trends Across Study Airports**



Sources: Woods and Poole Economics, 2019; Kimley-Horn, 2023

St. Louis’s strong and steady economy over the 2009-2019 period created an environment for aviation activity to remain steady and grow over the 10-year period, despite the challenges associated with de-hubbing. The Airport’s growth during this period is presented in terms of annual enplanements in **Figure 3-12**, which shows stable enplanements between 2010-2014, before increasing at a rapid rate between 2015 and 2019. AUS and BNA also experienced a steady and significant increase in annual enplanements during this period, which coincides with the significant economic growth in those metropolitan areas, as presented previously in **Table 3-14**. PIT and CVG did not do as well during this period. CVG experienced a significant decline in annual enplanements between 2009 and 2012 before experiencing some recovery, but still not reaching former 2009 annual enplanements. PIT similarly experienced some decline in annual enplanements between 2009 and 2013, before recovering to slightly more than 2009 enplanements by 2018/2019.

**Figure 3-12. Historic Enplanements at Comparison Airports**



Sources: 2022 FAA TAF; Kimley-Horn, 2022

The case examples presented for PIT, BNA, CVG, and AUS airports demonstrate that fluctuations in regional and national economies, air service activity, and other external factors can create challenges for airports to serve changing customer bases and regional stakeholders. Major events, such as airlines changing their hubs, drastic decreases in air service demand related to events outside of an airport or community’s control (e.g., pandemics, terrorist attacks, economic recessions, etc.), significant population growth and associated air service demand related to business growth and development, and other opportunities and challenges can change a community’s need for air transportation.

While most changes aren't overnight, development at airports takes time from concept through implementation and airports typically can't make quick facility changes to adapt. In addition to STL, the case example airports that experienced both growth and decline had to identify strategic opportunities to maintain an airport that meets its community's needs without over or under developing. Forming partnerships with regional economic development organizations and other local organizations proved effective for many of the case example airports in rebranding and attracting new businesses, industries, population, and funding to a region, which in turn positively impacted the airport. These case examples demonstrate that being flexible and adaptable to changing environments and being proactive about forming strategic partnerships can help an airport remain resilient and optimize performance over time.

## 4. Economic Methodology and Modeling

The process of calculating the economic impact for St. Louis Lambert International Airport is based on an industry-standard process that involves collecting data, calculating direct impacts, modeling the multiplier impacts, and determining the total economic output. The direct, multiplier, and total impacts are generated from measuring the impacts of core airport activities including airport administration; airport tenants such as concessionaires, airlines, fixed-base operators, and rental cars; as well as airport construction, aviation-reliant businesses, and spending from commercial service and GA visitors. The following subsections define the key terms necessary to understand economic impact and provide an overview of the data collection and methodology required for the analysis.

### 4.1. Key Terms

Several key terms are used to present economic impact, and it is important that these terms are well understood to accurately interpret the findings of this study. The following subsections define these key terms.

#### 4.1.1. Economic Impact Categories

Three categories are used to describe the economic impact generated from an airport’s activity. These terms are defined in **Table 4-1**, and include direct impacts, as well as the multiplier impacts comprised of indirect and induced impacts. The multiplier impacts are determined through use of IMPLAN, an industry-accepted economic modeling program. A detailed description of IMPLAN and the way that it was used to model economic impacts, including the multiplier impacts, is presented in **Section 4.3**.

**Table 4-1. Defining Economic Impact Categories**

Impact Category		Definition
Direct		Initial effects that occur on- and off-airport, including airport operations, airport and tenant construction, as well as by spending from visitors and by companies using air transportation services.
Multiplier Effects	Indirect	Portions of direct revenues used to purchase goods and services from businesses in the St. Louis MSA. This is sometimes referred to as “supplier sales.”
	Induced	Income earned by workers from direct and supplier sales transactions that are then spent in the St. Louis MSA. This is sometimes referred to as “income re-spending.”

Source: Kimley-Horn, 2023.

The direct impacts are generated by activity stemming from the following activities:



- On-Airport
  - Airport Administration and Operations
  - Airport Tenants
  - Cargo
  - Capital Improvements
- Visitor Spending
  - Commercial Service Visitors
  - GA Visitors
- Off-Airport
  - Aviation-related Businesses (Including Parking Operators)
- Aerospace Manufacturing



Each one of these direct impacts generates indirect (supplier sales) and induced impacts (income re-spending). The sum of these three categories of impact results in the total economic impact.

#### 4.1.2. Economic Impact Measures

The direct, indirect, induced, and total impact of activity occurring on- and off-airport is presented using four distinct measures of impact which include: jobs, payroll, value added, and business revenues. **Table 4-2** provides a definition of these measures.

**Table 4-2. Defining Economic Impact Measures**

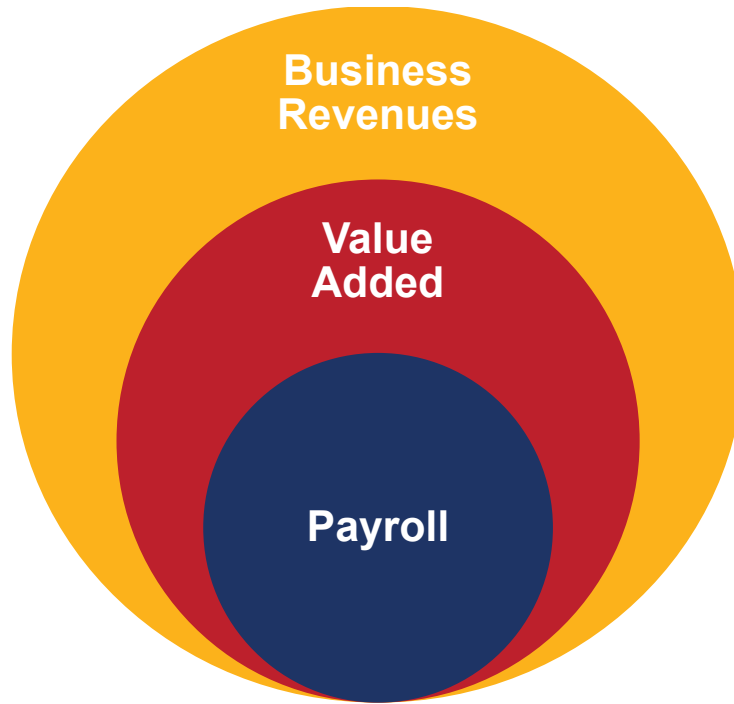
Measure	Definition
 <p>Jobs</p>	<p>Total number of persons employed that are associated with business revenues and payroll, regardless of whether they are full- or part-time.</p>
 <p>Payroll</p>	<p>Total employment compensation, including wages and benefits. Payroll is a subset of value added and is also referred to as “labor income” or “total compensation.”</p>

Measure	Definition
 <p>Value Added</p>	<p>Measures the economic productivity of aviation-related businesses in the study area, calculated as business revenues earned minus the cost of purchasing goods and services from other businesses. Value added is a company's or industry's contribution to the Gross Regional Product and includes all labor compensation, profits, and business taxes paid.</p>
 <p>Business Revenues</p>	<p>Incorporates expenditures needed to administer airports, sales of goods and services by airport tenants, budget expenditures by public sector agencies located on airports, cost of capital expenditures, visitor spending, and sales enabled by air cargo services. This is sometimes called "output" or even "economic impact."</p>

Sources: EBP, Kimley-Horn, 2023.

Jobs are the only measurement not presented in terms of dollars, and instead simply present the number of employed people. Payroll, value added, and business revenues are presented in terms of a 2019-dollar value; however it is important to note that these dollar amounts are not simply summed together to generate total business revenues, also referred to as output. The reason these measures cannot be added together is because value added is a component of business revenues and payroll is a further component of value added; therefore, these measures nest inside one another, as shown in **Figure 4-1**.

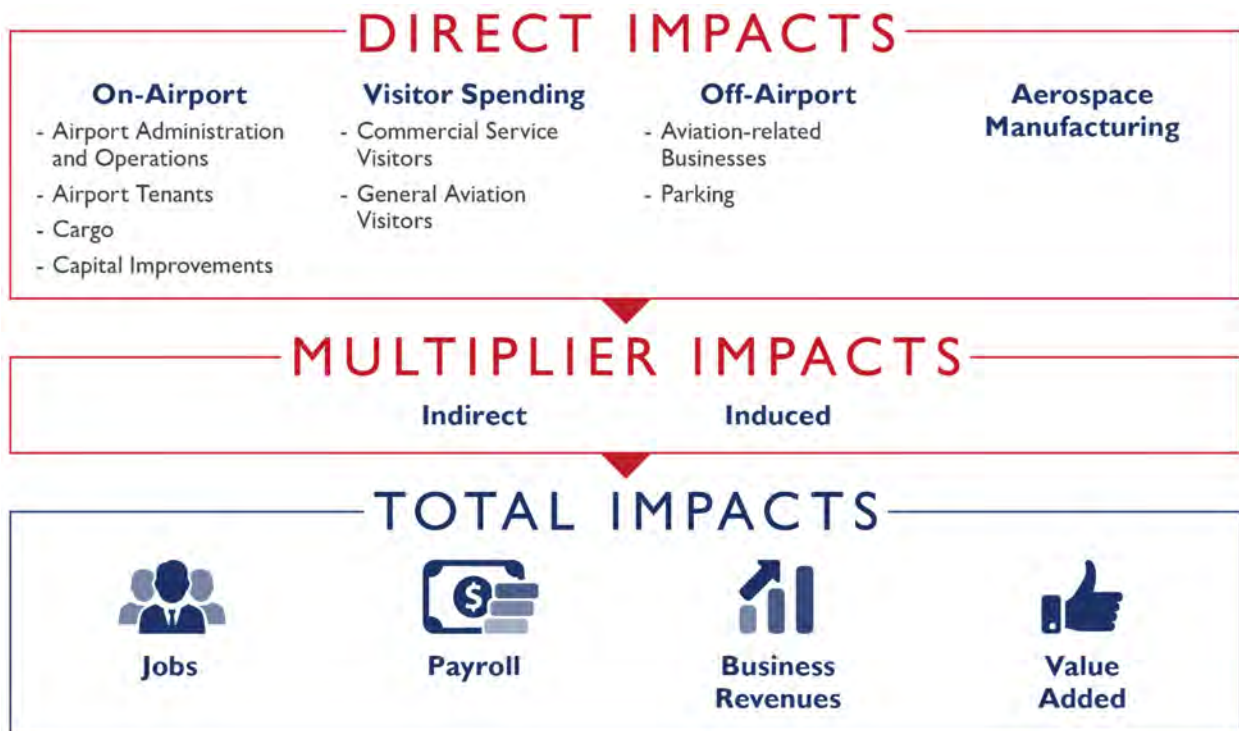
**Figure 4-1. Relationship of Payroll, Value Added, and Business Revenues**



Source: Kimley-Horn, 2023.

The economic impact categories described in **Section 4.1.1** are the foundation for the Airport’s total economic impact, which is then presented through the four economic impact measures defined in **Table 4-2**. A graphic representation of how the categories and measures work together to present economic impact is shown in **Figure 4-2**.

**Figure 4-2. St. Louis Lambert International Airport Economic Impact Calculation Process**



Source: Kimley-Horn, 2023

## 4.2. Data Collection

The accuracy of the St. Louis Lambert International AEIS study relies on collecting a comprehensive dataset from both primary and secondary sources. The data collected from primary sources were provided by the Airport, whereas FAA, ESRI Business Analyst, and IMPLAN were used for the secondary sources. A brief overview of how data was collected for each component of the study is presented in the following subsections.

### 4.2.1. On-Airport Activity

As mentioned previously, on-airport activity includes several different components and the data associated with each component is presented as follows:

**Airport Administration:** Airport administration data includes employment and payroll information for airport management staff, staff required to perform airport business operations, airport maintenance and operations staff, and other staff. In addition to the data collected for St.

Louis Lambert International Airport employees, information related to contractors who perform work for the Airport that receive IRS Form 1099-MISC or those that are contracted for administrative tasks were also included. St. Louis Lambert International Airport staff provided this information via financial reports and through airport badge counts.

**Airport Tenants:** Airport tenants is a broad component of on-airport activity and includes airlines, FBOs, concessionaires, retailers, rental car operators, government agencies, and other businesses located on-airport. St. Louis Lambert International Airport provided a comprehensive list of tenant employment via airport badge counts. It was also necessary to identify the industry types for each airport tenant. Research into each business and coordination with the Airport was conducted to ensure that industry types assigned to each business were accurate. A close review of badge information was conducted to remove any duplication between airport administration and airport tenant employment.

**Construction:** Construction costs, or capital expenditures, are incurred by the Airport and other on-airport tenants and were therefore collected for both. St. Louis Lambert International Airport provided five years of historic capital expenditures data, from 2015 to 2019. The five years of data were averaged to represent an average year of capital spending, as opposed to reflecting either an annual high or low outlier caused by schedule, weather, financing, or other factors. This provides a more even estimate of annual economic impact generated as a result of construction spending.

It was important that the capital expenditures provided by the Airport represented actual costs incurred, not simply planned expenses that may not have occurred. The average annual capital expenditures were treated as direct business revenues because these costs are revenues received by the companies that perform the work. Then, regional relationships between construction revenues and jobs, payroll, and value added were used to develop the full profile of direct impacts resulting from capital expenditures on construction. As discussed in **Section 4.3**, IMPLAN is used to identify these regional relationships.

**Aerospace Manufacturing:** The aerospace manufacturing industry has a significant presence at the Airport, with two major aerospace manufacturing firms located at the Airport in 2019.<sup>25</sup> The economic impact of these firms is ultimately included in the final economic impact results; however, these results are presented separately from other St. Louis Lambert International Airport impacts to indicate the impact of these businesses alone. Representatives from the Airport and the aerospace firms were coordinated with directly to collect the necessary data, which was the number of employees and capital expenditures incurred by the firms during the study year.

<sup>25</sup> One of the aerospace firms included in this analysis announced plans to close their plant by the end of 2023, however, because they were active on the airfield during the base year of this study, they were included in the 2019 economic impacts analysis.



## 4.2.2. Off-Airport Activity

Off-airport activity included identifying aviation-related businesses within 10 miles of the Airport and determining the impact of visitors arriving to the area via commercial service or GA. Details regarding both data collection processes are presented in the following subsections.

### 4.2.2.1. Aviation-Reliant Businesses

In addition to the businesses located on Airport property at St. Louis Lambert International Airport, there are other businesses located off-airport that support or rely on the aviation services provided at St. Louis Lambert International Airport to conduct their business activities. To identify these off-airport aviation-reliant businesses, a 10-mile buffer around the general property line of the Airport was established wherein the businesses were assessed for their likelihood to support aviation activity at the Airport, or otherwise rely on the Airport to carry out their business operations.

A series of North American Industry Classification System codes and industry types were used to identify businesses related to or potentially reliant on the aviation industry within the study area using geographic information systems, as listed in **Table 4-3**. It is important to note that while all of these NAICS codes were researched in the analysis, there were not off-airport businesses identified for each code within the study area.

**Table 4-3. NAICS Codes Used in Off-Airport Business Assessment**

NAICS Title	NAICS Code	Examples of Aviation-Related Elements within the NAICS Code
Airline Offices	561599	All Other Travel Arrangement and Reservation Services
Airport Parking	812930	Parking Lots and Garages
Freight Forwarding	488150	Freight Transportation Arrangement
Warehousing	493110	General Warehousing and Storage
Warehousing	493120	Refrigerated Warehousing
Electrical Contractors and Other Wiring Installation Contractors	238210	Airport Runway Lighting Contractors
Search, Detection, and Navigation	334511	Navigational and Guidance Instruments Manufacturing
Other Electronic Parts and Equipment Merchant Wholesalers	423690	Electronic Aircraft Instruments Merchant Wholesalers
Transportation Equipment and Supplies (Except Motor Vehicle) Merchant Wholesalers	423860	Aerospace Equipment and Supplies Merchant Wholesalers
Petroleum and Petroleum Products Merchant Wholesalers (Except Bulk Stations and Terminals)	424720	Fuel, Aircraft, Merchant Wholesalers (Except Bulk Stations, Terminals)
Motorcycle, ATV, and All Other Motor Vehicle Dealers	441228	Aircraft Dealers

NAICS Title	NAICS Code	Examples of Aviation-Related Elements within the NAICS Code
Scheduled Freight Air Transportation	481112	Scheduled Freight Air Transportation
Nonscheduled Chartered Freight Air Transportation	481212	Nonscheduled Chartered Freight Air Transportation
All Other Transit and Ground Passenger Transportation	485999	Airport Limousine Services (i.e., Shuttle)
Other Airport Operations	488119	Other Airport Operations/Services
Other Support Activities for Air Transportation	488190	All Aviation Related
Couriers and Express Delivery Services	492110	Air Courier Services (Except Establishments Operating Under A Universal Service Obligation)
Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	532411	Aircraft Rental or Leasing; Airplane Rental or Leasing
Travel Agencies	561510	Travel Management Services
Flight Training	611512	Flight Simulation Training
Other Technical and Trade Schools	611519	Air Traffic Control Schools
Ambulance Services	621910	Air Ambulance Services
Other Electronic and Precision Equipment Repair and Maintenance	811219	Navigational Instruments and Maintenance Services
Reupholstery and Furniture Repair	811420	Aircraft Upholstery Repair
Aircraft Engine and Parts Manufacturing	336412	Aircraft Engine Overhauling
Aircraft Manufacturing	336411	Aircraft Rebuilding
Other Aircraft Parts and Auxiliary Equipment	336413	Aircraft Propellers and Parts Manufacturing

Sources: NAICS Association, 2023; Kimley-Horn, 2023

Businesses that were identified with these NAICS codes and within the 10-mile buffer were reviewed and adjusted to avoid duplicate or inaccurate entries with those identified as on-airport through previous analysis. To supplement this assessment, other industry reports were provided by GSL from CoStar and D & B Hoovers to identify businesses that might be aviation-reliant or aviation-related, and not on the Airport, using a comprehensive list of aviation-related NAICS and Standard Industrial Classification codes and a targeted key-word search for reports that didn't include NAICS or SIC codes. Once the reports were filtered for aviation-related businesses, an additional review was conducted to remove entries that were duplicative, no longer valid based on further research, were located on the Airport property (and therefore already captured as tenants at St. Louis Lambert International Airport), or were businesses located at other surrounding airports. This analysis resulted in the identification of almost 250 businesses within 10 miles of the Airport that are aviation-reliant or related.

#### 4.2.2.2. Commercial Service and GA Visitors

Developing estimates for visitor spending impacts required two separate but similar processes for commercial service and GA visitor impacts. It is important to note that only “true” visitors are accounted for in the analysis. A true visitor is one who is visiting from outside of the study region and therefore bringing new money into the community and is assumed to have left the airport property to spend money beyond the airport. For these true visitors, the actual spending occurs after they arrive, but inbound activity was examined to focus on those visitors outside the area. It is important to note that a connecting passenger from outside the study region (one that is traveling on an airline that stops at the Airport and “connects” to their final destination) would likely only spend money at the airport and these expenditures are already included in the tenant impacts (such as concessionaires) and therefore not double-counted as visitor impacts.

**Commercial Service:** To model the spending impacts of true visitors departing from St. Louis via scheduled air service at the Airport, two inputs were required. First was identifying the number of passengers on inbound flights who are true visitors, and the second was estimating how much each of those visitors spent during their time in the area. According to the Airline Data Inc. report that was acquired for this analysis, there were 2,447,564 passengers departing from the Airport (via domestic and international flights) who were considered true visitors in 2019. To estimate the amount being spent by the average visitor, a review of AEISs from five peer airports was conducted. The average per commercial visitor spending amount based on review of peer airports was \$692, which was selected for use as the commercial per visitor spend for the Airport.

**GA:** To model the spending impacts of GA visitors departing from St. Louis via the Airport, the same inputs needed for the commercial service analysis were required, which were, identifying the number of passengers on inbound flights considered true visitors (even though the focus is on departing passengers, after they spent money), and the second is estimating how much each of those visitors spent during their time in the area. To identify the number of GA visitors departing from the area via the Airport, a 2019 dataset was purchased from Flight Aware which includes information on GA operations, including the aircraft tail number, type, owner, origin, destination, departure, and arrival time. This information was filtered several times to arrive at the number of true visitors departing via GA to St. Louis Lambert International Airport:

1. Only departing flights were considered so visitors were not double counted in the assessment. (Note: visitors arrive, spend money, then depart so we can only look at either departures or arrivals, not total operations.)
2. Each aircraft type was assigned a seating capacity based on the make and model.
3. A load factor was applied to reflect industry averages for private GA activity.

This resulted in an estimate of 42,024 visitors departing from the area via GA at the Airport in 2019. As mentioned earlier, a review of recently published AEISs from peer airports was conducted to determine an average spending amount per commercial service visitor. This same analysis was conducted to determine the average spending amount per visitor departing via GA. This review identified an average spend per GA visitor of \$252, which was selected for use as the GA per visitor spend for St. Louis Lambert International Airport.

### 4.2.3. Tax Impacts

Included in this analysis is also a presentation of the tax impacts generated from both on- and off-airport activity, including airport administration, tenants, capital expenditures, aerospace manufacturing, visitor spending, and off-airport reliant businesses. It is important to note that St. Louis Lambert International Airport is an Enterprise Fund Department of the City of St. Louis. It is wholly supported by airport user charges. No general fund revenues are used for the operation, administration, promotion, or maintenance of airport facilities. Tax impacts were determined at the city, special district, county, state, and federal level, considering the 15-county study region. Special districts refer to school districts, fire districts, utility districts, and other. No data specific to tax impacts were collected from the Airport or other primary sources. Instead, the data collected related to other activities presented in **Sections 4.2.1** and **4.2.2**, is used to estimate tax impacts based on the results determined by IMPLAN. IMPLAN is explained in more detail in **Section 4.3.1**. More information regarding the types of taxes included in the tax analysis is presented in **Section 5.3**.

### 4.2.4. Supplier Diversity Program

In addition to the on- and off-airport activity data described in **Sections 4.2.1** and **4.2.2**, the St. Louis Lambert International AEIS included economic impact evaluations related to the Airport's Supplier Diversity Program in 2019. It is important to note that the impacts of the Supplier Diversity Program are not in addition to other impacts; instead, the results of this analysis demonstrate the amount, or percentage, of impact that can be attributed to the Supplier Diversity Program.

The program is divided into two main categories that make up the diverse business enterprise activity. Those categories are women's business enterprises and minority business enterprises, and expenditures for each category include capital expenditures, professional services, and service contracts. Annual reports developed by St. Louis Lambert International Airport were used to identify the amount of and percent of the Airport's output that is attributable to businesses within the Supplier Diversity Program. A percentage breakdown of Supplier Diversity Program award or revenue amounts by industry was also provided by the Airport.

## 4.3. Economic Modeling Process

As previously noted, the economic impact comprises direct, indirect, and induced impacts. Determining the indirect and induced impacts of the Airport's direct economic activity requires an economic modelling process, as it is not feasible to collect data from primary sources for all suppliers that support the Airport, nor is it feasible to collect data from every individual being paid wages that are a result of spending by those employed at St. Louis Lambert International Airport or providing supplies to businesses and activities at the Airport. IMPLAN, the most widely used input-output economic model in the United States, was used for the economic modelling process. IMPLAN is built using data from the Bureau of Economic Analysis, Bureau of Labor Statistics, U.S. Census, and U.S. Department of Commerce. More information regarding the use of the IMPLAN model and the industry sectoring process required to determine the economic impact of the Airport is presented in the following subsections.

### 4.3.1. Use of IMPLAN Model

IMPLAN Version 6.4 was used to calculate the annual economic impact of the Airport in 2019. The model reflects the current economic measures, such as jobs, payroll, value added, and business revenues, for 546 industry classifications. These IMPLAN industry classifications roughly correspond to two- and five-digit industry groups recognized in the NAICS. The IMPLAN model was built to incorporate indirect and induced effects for the 15-county region that makes up the St. Louis MSA. The data collected from primary sources is input into the IMPLAN model, and then the IMPLAN model can be used to complete the following four steps:

1. **Fill in data gaps to estimate direct impacts:** IMPLAN estimates payroll and business revenues for the airport administration, tenants, and budget expenditures when only employment data was provided. IMPLAN was also used to determine employment and payroll values using visitor spending amounts and total capital expenditure spending. The payroll, business sales, and expenditures per worker ratios are derived primarily from county-specific U.S. Department of Commerce and Department of Labor data sets calibrated in the model. These ratios reflect a measure of productivity (business output per employee) and income levels based on the number of jobs for each industry on-airport, including capital expenditures, and in hospitality sectors (for visitor spending). Payroll was calculated for tenants or contractors using IMPLAN and was calculated based on average payroll per worker by industry and average of the 15 counties included in the Airport's region.
2. **Calculate value added:** This step is described in more detail in **Section 4.1.2**.
3. **Apply retail margining:** While spending on retail reflects the value of an item sold, only a portion 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 expenses), not the 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. It is important to note that, for the purpose of this analysis, retail margining only occurred for visitor spending impacts and retail tenant impacts, when either the number of employees or sales revenue data was available. Applying retail margining to visitor spending impacts and retail tenant impacts allows for a more accurate estimate of the jobs and payroll estimates, which would be overinflated if output was not adjusted to account for retail margining.
4. **Derive multiplier impacts:** IMPLAN's input/output model traces the flows of money in an economy of varying sizes by the patterns of industry purchases and sales with other industries (for indirect impacts) and householding spending (for induced effects). These patterns help explain how revenues earned in direct transactions have additional impacts in an economy. At each level, IMPLAN is used to trace the circulation of business

revenues to calculate the extent that supplier purchases and income respending support jobs and payroll for the people in the St. Louis region, additional revenues for businesses, and additional value added.

Multiplier impacts begin with businesses on-airport or those engaged directly with visitors (i.e., hospitality services) that use part of their gross revenues to purchase goods and services from other businesses. For example, a restaurant serving airport users may buy produce from farmers, dry goods from wholesalers, office equipment at stores or manufacturers, and pay for accounting services. To the extent that these purchases stay in the study region, they provide business revenues to other businesses in the St. Louis region or beyond. 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 expelled out of the region, then the dollars are lost and no longer part of the multiplier impacts. Similarly, workers at directly affected businesses or those part of the supply chain of the direct businesses use their wages to purchase goods and services in the St. Louis MSA. Purchases run the full gamut of consumer spending, ranging from furniture to health care and groceries, providing business revenues from income re-spending if the dollars used for the purchases stay in the region.

## 5. 2019 Airport Economic Contributions and Community Benefits

This section presents the findings of the annual economic impact of St. Louis Lambert International Airport based on 2019 information and is considered to reflect current economic contributions of the Airport given the near return of activity to 2019 levels. The results are presented by direct, multiplier, and total impacts for on-airport activity, off-airport activity, and combined or total impacts of both on- and off-airport activity. This section also presents the findings of the tax impact analysis and presents examples of how area businesses rely on the Airport, demonstrating the social value of the Airport to the region. Beyond the economic contributions, the community benefits of the Airport to three specific businesses in the region are outlined. These businesses offered their input on the importance of the Airport to their operation, including how they utilize and rely upon the Airport.

### 5.1. 2019 On-Airport Impacts

As presented in **Section 4.2.1** on-airport impacts are generated by the economic activity occurring at St. Louis Lambert International Airport, such as airport-sponsored employment; tenant employment, including airlines, FBOs, concessionaires, and other on-airport businesses; and capital expenditures incurred by the Airport or tenants. In addition, while presented separately, on-airport impacts also include the aerospace manufacturing industry that is present onsite at the Airport.

#### 5.1.1. 2019 On-Airport Direct Impacts

In 2019, the Airport employed just under 500 individuals that are responsible for maintaining operations and supporting other business activities occurring at the Airport, resulting in approximately \$39.1 million in payroll. Outside of the Airport-sponsored employment, the Airport also supports over 250 additional jobs due to the services they contract out, such as for mechanical services, janitorial services, maintenance needs, and other professional services. Beyond Airport staff and contract employment, the Airport has more than 300 tenants, from airlines to FBOs, and concessionaires to manufacturers. These tenants contribute more than 6,250 employees at St. Louis Lambert International Airport, generating approximately \$405.0 million in payroll. It is important to note that the impacts of airport tenants also include their capital expenditure impacts. Moreover, the on-airport construction projects, also referred to as capital expenditures, conducted by the Airport generated an additional 166 jobs.

As shown in **Table 5-1**, the combined direct impacts of St. Louis Lambert International Airport employment, contract services, tenant employment and construction, and on-airport construction employment resulted in a total of 7,160 jobs, which generated approximately \$466.3 million in payroll. These activities also generated \$943.7 million in value-added impacts and nearly \$1.7 billion in business revenues. Additional direct impacts generated from the on-airport aerospace manufacturing industry resulted in over 16,800 additional jobs, generating approximately \$2.7 billion in payroll. **When combined, activity from St. Louis Lambert International Airport and tenant employment, on-airport construction, and aerospace**

manufacturing results in nearly 24,000 direct jobs and approximately \$3.2 billion in payroll. In 2019 these combined on-airport activities contributed nearly \$3.2 billion of value added to the region’s GRP and generated \$14.9 billion in business revenues.

**Table 5-1. 2019 On-Airport Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	741	\$50,363,000	\$85,850,000	\$170,700,000
<i>Airport Employees</i>	487	\$39,064,000	\$71,835,000	\$144,194,000
<i>Airport Contracted Services</i>	254	\$11,299,000	\$14,015,000	\$26,506,000
Airport Tenants*	6,254	\$405,024,000	\$845,434,000	\$1,483,838,000
Airport Capital Expenditures	166	\$10,901,000	\$12,437,000	\$25,190,000
<b>Subtotal Direct On-Airport</b>	<b>7,160</b>	<b>\$466,288,000</b>	<b>\$943,721,000</b>	<b>\$1,679,728,000</b>
Aerospace Manufacturing**	16,803	\$2,722,682,000	\$2,239,067,000	\$13,234,609,000
<b>2019 Total On-Airport Direct Impacts</b>	<b>23,964</b>	<b>\$3,188,970,000</b>	<b>\$3,182,788,000</b>	<b>\$14,914,337,000</b>

Notes: \*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.

### 5.1.2. 2019 On-Airport Multiplier Impacts

Multiplier impacts are generated because of the distribution and recirculation of direct impacts from the on-airport activity presented in **Section 5.1.1**. The 2019 indirect and induced impacts (multiplier impacts) of on-airport activity are presented in **Table 5-2**. The induced impacts are higher than the indirect impacts across all on-airport categories. Activities related to airport administration, airport tenants, and airport capital expenditures generated over 4,000 jobs from indirect impacts and more than 4,400 jobs from induced impacts, totaling almost 8,500 jobs from multiplier impacts. These jobs supported approximately \$490.3 million in payroll and approximately \$1.6 billion in business revenues, which added \$848.1 million in value to the GRP. The multiplier impacts of the aerospace manufacturing activity occurring on-airport supported over 36,500 jobs and approximately \$2.3 billion in payroll. **When all the on-airport activity is considered, including aerospace manufacturing, there are more than 45,000 jobs that are attributable to the multiplier impacts of activity occurring at the Airport, which corresponds with \$2.8 billion in payroll, \$4.6 billion in value added, and almost \$8.4 billion in business revenues.**



**Table 5-2. 2019 On-Airport Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	Indirect	358	\$25,977,000	\$55,752,000	\$105,761,000
	Induced	413	\$24,844,000	\$65,977,000	\$114,421,000
Airport Employees	Indirect	283	\$21,323,000	\$48,603,000	\$93,245,000
	Induced	314	\$19,643,000	\$56,460,000	\$97,923,000
Airport Contracted Services	Indirect	75	\$4,654,000	\$7,018,000	\$12,576,000
	Induced	100	\$5,201,000	\$9,153,000	\$15,874,000
Airport Tenants*	Indirect	3,644	\$225,751,000	\$350,424,000	\$682,773,000
	Induced	3,933	\$205,536,000	\$361,767,000	\$627,384,000
Airport Capital Expenditures	Indirect	53	\$3,505,000	\$5,925,000	\$11,335,000
	Induced	90	\$4,715,000	\$8,286,000	\$14,362,000
<b>Subtotal On-Airport Indirect Impacts</b>	<b>N/A</b>	<b>4,055</b>	<b>\$255,233,000</b>	<b>\$412,101,000</b>	<b>\$799,869,000</b>
<b>Subtotal On-Airport Induced Impacts</b>	<b>N/A</b>	<b>4,437</b>	<b>\$235,095,000</b>	<b>\$436,030,000</b>	<b>\$756,167,000</b>
<b>Subtotal On-Airport Multiplier Impacts</b>	<b>N/A</b>	<b>8,492</b>	<b>\$490,328,000</b>	<b>\$848,131,000</b>	<b>\$1,556,036,000</b>
Aerospace Manufacturing**	Indirect	12,908	\$1,077,851,000	\$1,580,892,000	\$3,048,919,000
	Induced	23,657	\$1,235,914,000	\$2,176,511,000	\$3,774,631,000
<b>Total On-Airport Indirect Impacts</b>	<b>N/A</b>	<b>16,963</b>	<b>\$1,333,084,000</b>	<b>\$1,992,993,000</b>	<b>\$3,848,788,000</b>
<b>Total On-Airport Induced Impacts</b>	<b>N/A</b>	<b>28,094</b>	<b>\$1,471,009,000</b>	<b>\$2,612,541,000</b>	<b>\$4,530,798,000</b>
<b>2019 Total On-Airport Multiplier Impacts</b>	<b>N/A</b>	<b>45,057</b>	<b>\$2,804,093,000</b>	<b>\$4,605,534,000</b>	<b>\$8,379,586,000</b>

Notes: \*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Kimley-Horn, 2023.

### 5.1.3. 2019 Total On-Airport Activity Impacts

The total economic impact of St. Louis Lambert International Airport’s on-airport activity is a sum of the direct and multiplier impacts previously presented. **Table 5-3** presents the total 2019 impacts of on-airport activity at the Airport by category. More than 15,600 jobs are attributable to airport administration, airport tenants, and airport capital expenditures, generating almost \$1.0 billion in payroll. **As shown, there are more than 69,000 jobs attributable to the direct and multiplier impacts of all on-airport activity, including the aerospace manufacturing activity at the Airport. When the aerospace manufacturing activity is included, on-airport activity supports approximately \$6.0 billion in payroll, generating approximately \$23.3**

billion in business revenues, which resulted in approximately \$7.8 billion in value added to the GRP.

**Table 5-3. 2019 On-Airport Total Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	1,512	\$101,184,000	\$207,578,000	\$390,882,000
<i>Airport Employees</i>	<i>1,083</i>	<i>\$80,030,000</i>	<i>\$177,392,000</i>	<i>\$335,926,000</i>
<i>Airport Contracted Services</i>	<i>428</i>	<i>\$21,154,000</i>	<i>\$30,186,000</i>	<i>\$54,956,000</i>
Airport Tenants*	13,831	\$836,310,000	\$1,557,626,000	\$2,793,995,000
Airport Capital Expenditures	309	\$19,121,000	\$26,647,000	\$50,887,000
<b>Subtotal On-Airport</b>	<b>15,652</b>	<b>\$956,615,000</b>	<b>\$1,791,851,000</b>	<b>\$3,235,764,000</b>
Aerospace Manufacturing**	53,368	\$5,036,447,000	\$5,996,471,000	\$20,058,159,000
<b>2019 Total On-Airport Impacts</b>	<b>69,021</b>	<b>\$5,993,062,000</b>	<b>\$7,788,322,000</b>	<b>\$23,293,923,000</b>

Notes: \*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.

## 5.2. 2019 Off-Airport Impacts

As presented in **Section 4.2.2**, off-airport impacts include economic activity associated with businesses that are aviation-reliant located away from the Airport as well as activity from visitors travelling from out of the area into St. Louis Lambert International Airport and spending money in the community. These visitors may travel via GA or commercial service. The following subsections present the 2019 direct, multiplier, and total impacts associated with these activity categories, which are presented both separately and combined.

### 5.2.1. 2019 Off-Airport Direct Impacts

#### 5.2.1.1. Aviation-Reliant Businesses

The 247 businesses identified in the St. Louis metropolitan region that rely on the Airport or support its activities employ approximately 3,500 people, which generate approximately \$227.1 million in payroll, as shown in **Table 5-4**. **The business revenues generated from the off-airport aviation-reliant businesses is slightly less than \$759.0 million, contributing approximately \$273.6 million in value added to the region's GRP.**

**Table 5-4. 2019 Off-Airport Aviation-Reliant Businesses Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
<b>Total Aviation-Reliant Businesses Direct Impacts</b>	<b>3,518</b>	<b>\$227,073,000</b>	<b>\$273,623,000</b>	<b>\$758,852,000</b>

Notes: Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Kimley-Horn, 2023

### 5.2.1.2. Commercial Service and GA Visitors

As shown in **Table 5-5**, the nearly 2.5 million commercial service visitors and 42,000 GA visitors supported just over 18,000 and 110 jobs, respectively. The jobs associated with the commercial service visitors generated approximately \$537.9 million in payroll, \$793.9 million in value added, and almost \$1.4 billion in business revenues. The jobs associated with GA visitors generated approximately \$3.4 million in payroll, almost \$5.0 million in value added, and \$8.6 million in business revenues. **When combined, the total direct visitor spending impacts generated slightly less than \$1.4 billion in business revenues for the St. Louis metropolitan region, which is associated with over 18,100 jobs, \$541.2 million in payroll, and \$798.9 million in value-added benefits.**

**Table 5-5. 2019 Off-Airport Visitor Spending Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Commercial Service	18,001	\$537,854,000	\$793,908,000	\$1,376,990,000
GA	113	\$3,363,000	\$4,964,000	\$8,610,000
<b>2019 Total Visitor Spending Direct Impacts</b>	<b>18,114</b>	<b>\$541,217,000</b>	<b>\$798,872,000</b>	<b>\$1,385,600,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; Kimley-Horn, 2023

## 5.2.2. 2019 Off-Airport Multiplier Impacts

### 5.2.2.1. Aviation-Reliant Businesses

As shown in **Table 5-6**, the indirect impacts of the off-airport aviation-reliant businesses contribute nearly 1,600 jobs to the St. Louis metropolitan region, which is slightly less than the induced impacts of this off-airport activity, which generated nearly 2,100 jobs. **When combined, the multiplier impacts of aviation-reliant businesses support over 3,600 jobs and approximately \$212.0 million in payroll. The multiplier impacts of these aviation-reliant businesses also produced almost \$626.5 million in business revenues, which corresponds with approximately \$346.5 million in value added to the GRP.**

**Table 5-6. 2019 Off-Airport Aviation-Reliant Businesses Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Aviation-Reliant Businesses	Indirect	1,569	\$104,106,000	\$156,691,000	\$297,243,000
	Induced	2,064	\$107,841,000	\$189,848,000	\$329,244,000
<b>2019 Total Aviation Reliant Businesses Multiplier Impacts</b>	<b>N/A</b>	<b>3,633</b>	<b>\$211,947,000</b>	<b>\$346,539,000</b>	<b>\$626,487,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Kimley-Horn, 2023

### 5.2.2.2. Commercial Service and GA Visitors

**Table 5-7** presents the induced, indirect, and combined multiplier impacts related to commercial service and GA visitor spending. Given that more visitors travel to St. Louis via scheduled air service, the indirect and induced impacts of commercial service visitor spending is higher than the indirect and induced impacts of GA visitor spending. **When combined, the multiplier impacts of visitors travelling into the Airport via commercial service or GA result in more than 8,500 jobs, which generated \$477.8 million in payroll. The visitor spending multiplier impacts contributed \$795.6 million in value-added benefits, resulting in business revenues of approximately \$1.4 billion.**

**Table 5-7. 2019 Off-Airport Visitor Spending Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Commercial Service	Indirect	3,792	\$226,090,000	\$352,371,000	\$672,885,000
	Induced	4,684	\$248,702,000	\$438,232,000	\$757,789,000
GA	Indirect	24	\$1,414,000	\$2,203,000	\$4,207,000
	Induced	29	\$1,555,000	\$2,740,000	\$4,738,000
<b>Total Visitor Spending Indirect Impacts</b>	<b>N/A</b>	<b>3,816</b>	<b>\$227,504,000</b>	<b>\$354,574,000</b>	<b>\$677,092,000</b>
<b>Total Visitor Spending Induced Impacts</b>	<b>N/A</b>	<b>4,713</b>	<b>\$250,257,000</b>	<b>\$440,972,000</b>	<b>\$762,527,000</b>
<b>2019 Total Visitor Spending Multiplier Impacts</b>	<b>N/A</b>	<b>8,529</b>	<b>\$477,761,000</b>	<b>\$795,546,000</b>	<b>\$1,439,619,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; Kimley-Horn, 2023

### 5.2.3. 2019 Total Off-Airport Impacts

The combined direct and multiplier impacts of off-airport activity, including aviation-reliant businesses as well as commercial service and GA visitors, generated nearly

**33,800 jobs**, with over 26,600 jobs attributable to visitor spending and approximately 7,200 jobs attributable to aviation-reliant businesses (see **Table 5-8**). **Approximately \$4.2 billion in business revenues were generated from these off-airport impacts, which is also associated with \$2.2 billion in value added and approximately \$1.5 billion in payroll.**

**Table 5-8. 2019 Off-Airport Total Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Aviation-Reliant Businesses	7,151	\$439,021,000	\$620,162,000	\$1,385,339,000
Commercial Service and GA Visitors	26,643	\$1,018,978,000	\$1,594,418,000	\$2,825,218,000
<i>Commercial Service Visitors</i>	26,477	\$1,012,646,000	\$1,584,511,000	\$2,807,663,000
<i>GA Visitors</i>	166	\$6,332,000	\$9,907,000	\$17,555,000
<b>2019 Off-Airport Total Impacts</b>	<b>33,794</b>	<b>\$1,457,999,000</b>	<b>\$2,214,580,000</b>	<b>\$4,210,557,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Kimley-Horn, 2023*

### 5.3. 2019 Total Airport Impacts

The total impacts of St. Louis Lambert International Airport are the culmination of the on-airport and off-airport activity, including the direct, indirect, and induced impacts which were presented throughout **Sections 5.1** and **5.2**. As shown in **Table 5-9**, the total 2019 direct impacts of on- and off-airport activity contributed almost 45,600 jobs, and the multiplier impacts contributed more than 57,200 jobs, which results in a total impact of approximately 102,800 jobs. The total direct impacts of on- and off-airport impacts generated a higher payroll and business revenues than the multiplier impacts of on- and off-airport impacts. **When the 2019 direct and multiplier impacts are combined, more than 102,800 jobs from on- and off-airport impacts generated approximately \$7.5 billion in payroll, and \$27.5 billion in business revenues, contributing \$10.0 billion in value added to the region’s economy, annually as of 2019.**

**Table 5-9. 2019 St. Louis Lambert International Airport Total Airport Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Total Direct Impacts	45,596	\$3,957,260,000	\$4,255,283,000	\$17,058,789,000
Total Multiplier Impacts	57,219	\$3,493,801,000	\$5,747,619,000	\$10,445,692,000
<i>Total Indirect Impacts</i>	22,348	\$1,664,694,000	\$2,504,258,000	\$4,823,123,000
<i>Total Induced Impacts</i>	34,871	\$1,829,107,000	\$3,243,361,000	\$5,622,569,000
<b>2019 Total Airport Impacts</b>	<b>102,815</b>	<b>\$7,451,061,000</b>	<b>\$10,002,902,000</b>	<b>\$27,504,480,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Airline Data Inc, 2019; Flight Aware, 2019; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Kimley-Horn, 2023*

As shown in Table 5-10, almost 42,300 jobs will be supported by total airport impacts, alone, which results in approximately \$2.0 billion in total payroll. Activity associated with airport impacts added approximately \$3.4 billion in value to the GRP, resulting in approximately \$6.1 billion in total business revenues. Included within the category of “airport impacts” is future airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. The aerospace manufacturing activity supported almost 53,400 total jobs, which corresponds with approximately \$5.0 billion in payroll, \$6.0 billion in value added, and almost \$20.1 billion in business revenues. The impact of off-airport aviation-reliant business activity resulted in 7,151 jobs added to the St. Louis region, generating \$439.0 million in payroll, and adding approximately \$620.2 million in value to the GRP, which generated almost \$1.4 billion in business revenues.

**Table 5-10. 2019 St. Louis Lambert International Airport Total Impacts by Activity Type**

Activity	Jobs	Payroll	Value Added	Business Revenues
Airport Impacts*	42,295	\$1,975,593,000	\$3,386,269,000	\$6,060,982,000
Aerospace Manufacturing	53,368	\$5,036,447,000	\$5,996,471,000	\$20,058,159,000
Aviation-Reliant Businesses	7,151	\$439,021,000	\$620,162,000	\$1,385,339,000
<b>Total</b>	<b>102,815</b>	<b>\$7,451,061,000</b>	<b>\$10,002,902,000</b>	<b>\$27,504,480,000</b>

Notes: \*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Airline Data Inc, 2019; Flight Aware, 2019; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Kimley-Horn, 2023

It is important to note that this AEIS, which presents the economic impact of the Airport based on 2019 data is the first major update since the previous 2013 AEIS for the Airport. The 2013 study was conducted by another consulting firm and was prepared for the St. Louis Airport Authority. When considering the airport impacts<sup>26</sup> only, the results of the 2019 study indicates that total payroll has increased by approximately 100% (approximately \$1 billion to \$2 billion) since 2013. The number of jobs that the airport supports has increased by 69% since 2013 (25,000 jobs to 42,295 jobs), according to the results of this current 2019 study. Overall, the economic impact of the Airport, based on the airport impacts only, is 68% more than the total impact reported in 2013 (approximately \$3.6 billion to \$6.1 billion). The impacts of aerospace manufacturing and aviation-reliant businesses was not included, or accounted for differently, in the 2013 study and is therefore not included in this comparison between the 2013 and 2019 results.<sup>27</sup>

<sup>26</sup> Airport impacts include the economic contributions made by airport administration, airport capital expenditures, tenant employment and tenant capital expenditures, and visitor spending. These impacts do not include contributions made by the on-airport aerospace manufacturing industry or the off-airport aviation reliant businesses.

<sup>27</sup> The 2013 impacts remained in 2013 dollars for the comparison with 2019 impacts.

## 5.4. Supplier Diversity Program Impacts

As mentioned in **Section 4.2.4**, the Supplier Diversity Program creates opportunities for WBE and MBE firms, which are both considered under the broader DBE umbrella. St. Louis Lambert International Airport awards contracts to WBE and MBE businesses related to capital expenditures, professional services, and service contracts. As such, the impacts of the Supplier Diversity Program are nested within the airport administration and capital expenditures activities. As a note, the professional services and service contracts expenditures are associated specifically with the airport contracted services component of the overall airport administration impacts. It is important to reiterate that the impacts of the Supplier Diversity Program are not in addition to the impacts presented in **Table 5-9**, but rather are included as a part of the Airport’s total impact, including the direct, indirect, and induced impacts.

**Table 5-11** provides a breakdown of the total number of jobs, as well as payroll, value added, and business revenues associated with the professional services and service contracts of the WBE and MBE programs. As shown, of the Airport’s total airport contracted services impacts (including direct, indirect, and induced impacts), nearly 70 jobs, \$3.3 million in payroll, and \$8.6 million in business revenues are attributable to WBE and MBE firms that participate in the 2019 Supplier Diversity Program.

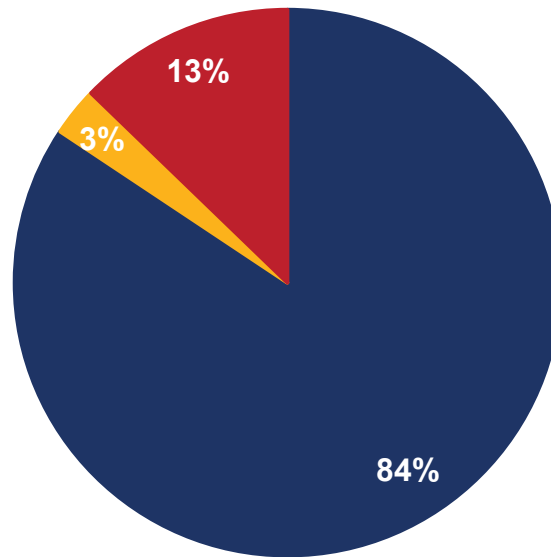
**Table 5-11. 2019 Airport Contracted Services Impacts Attributable to the Airport’s Supplier Diversity Program**

Service Type	Program	Jobs	Payroll	Value Added	Business Revenues
Professional Services	WBE	4	\$194,000	\$277,000	\$504,000
	MBE	28	\$1,400,000	\$1,998,000	\$3,637,000
	<i>WBE &amp; MBE</i>	32	<i>\$1,594,000</i>	<i>\$2,275,000</i>	<i>\$4,141,000</i>
Contract Services	WBE	8	\$414,000	\$591,000	\$1,075,000
	MBE	26	\$1,304,000	\$1,861,000	\$3,388,000
	<i>WBE &amp; MBE</i>	35	<i>\$1,718,000</i>	<i>\$2,452,000</i>	<i>\$4,463,000</i>
Total for Professional and Contract Services	<b>Total WBE</b>	<b>12</b>	<b>\$608,000</b>	<b>\$868,000</b>	<b>\$1,579,000</b>
	<b>Total MBE</b>	<b>55</b>	<b>\$2,704,000</b>	<b>\$3,859,000</b>	<b>\$7,025,000</b>
	<b>Total WBE &amp; MBE</b>	<b>67</b>	<b>\$3,312,000</b>	<b>\$4,727,000</b>	<b>\$8,604,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.*

As shown in **Figure 5-1**, the WBE and MBE firms on contract for professional services and contract services account for 16% of the total business revenues associated with St. Louis Lambert International Airport’s airport contracted services. WBE contracts account for 3% and MBE contracts account for 13% of the total airport contracted services impacts. As a note, the results of **Figure 5-1** consider the direct, indirect, and induced impacts of airport contracted services.

**Figure 5-1. 2019 MBE and WBE Contributions to Total Airport Contract Service Impacts**



- Non-Supplier Diversity Program Contributions to Total Airport Contract Services
- WBE Contribution to Total Airport Contract Services
- MBE Contribution to Total Airport Contract Services

Sources: St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.

The impact attributable to the WBE and MBE firms participating in the 2019 Supplier Diversity Program specific to capital expenditures or construction is shown in **Table 5-12**. As shown, approximately 120 of the total jobs associated with St. Louis Lambert International Airport’s capital expenditure impacts are attributable to the Supplier Diversity Program. Approximately \$19.2 million in total business revenues of the airport capital expenditures impacts are attributable to the WBE and MBE firms that participated in the 2019 Supplier Diversity Program. It is important to note that the impacts presented in **Table 5-12** account for WBE and MBE share of direct, indirect, and induced impacts of airport capital expenditures.

**Table 5-12. 2019 Airport Capital Expenditure Impacts Attributable to the Airport’s Supplier Diversity Program**

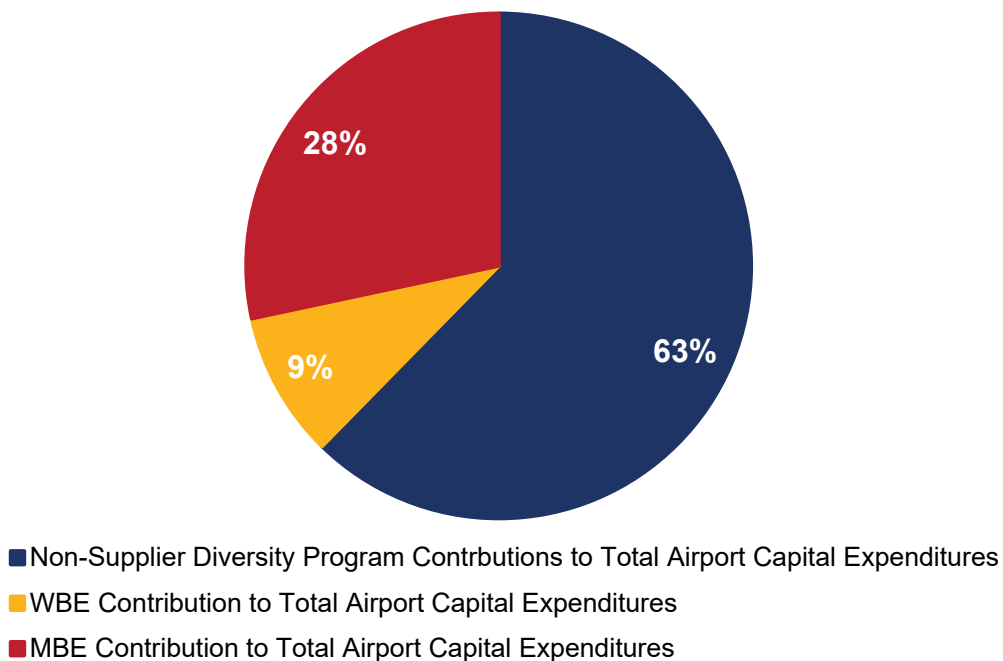
Service Type	Program	Jobs	Payroll	Value Added	Business Revenues
Capital Expenditures	WBE	29	\$1,783,000	\$2,485,000	\$4,746,000
	MBE	88	\$5,419,000	\$7,552,000	\$14,422,000
	<b>WBE &amp; MBE</b>	<b>117</b>	<b>\$7,202,000</b>	<b>\$10,037,000</b>	<b>\$19,168,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.



As shown in **Figure 5-2**, 37% of the Airport’s total airport capital expenditure impacts are attributable to the Supplier Diversity Program. WBE firms account for 9% and MBE firms account for 28% of the total impacts associated with on-airport construction. The results presented in **Figure 5-2** account for the direct, indirect, and induced airport capital expenditure impacts.

**Figure 5-2. 2019 MBE and DBE Contributions to Total Airport Capital Expenditure Impacts**



Sources: St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.

### 5.5. 2019 Tax Impacts

In addition to the 2019 on- and off-airport impacts presented in **Sections 5.1, 5.2, and 5.3**, activity occurring on- and off-airport also generates tax revenues for all levels of government, from the local level, which includes city, special districts and county, as well as at the statewide, and federal level. The county tax impacts are inclusive of the 15-county study region and the state taxes include impacts of the jurisdictions within Missouri and Illinois that are included in the study region. Special districts include school, fire, and other such districts specific to the region, although not identified separately in the analysis.

Tax revenues are generated from all the activities that created the impacts presented in **Section 4.2.1 and 4.2.2**, including airport administration, airport tenants, airport capital improvements, aerospace manufacturing, off-airport reliant businesses, and visitor spending. The taxes presented in **Table 5-13 and Table 5-14** include taxes paid through employee compensation, taxes on production and imports, other property income, and personal taxes. The tax impacts

presented in **Table 5-13** and **Table 5-14** are considerably higher than the tax impacts presented in the previous 2013 AEIS developed for the Airport due to the type of taxes included in the previous analysis, which only included sales tax and earnings tax. It is important to emphasize that while the Airport is in the City of St. Louis, the taxes generated from its activity go far beyond the boundaries of the city, and support public expenses at the city, special district, county, state, and federal level. The City of St. Louis has a unique city earnings tax, which taxes individuals who work within the City of St. Louis, including those that do not live within the city boundaries. The revenues generated from the city earnings tax is included within the city tax impacts presented in **Table 5-13** and **Table 5-14**. It is important to note that different taxes are levied at different levels of government and each level may or may not collect taxes within the study region.

The tax impacts presented in **Table 5-13** demonstrate tax revenues generated from the direct impacts associated with employment and business activity associated with the on- and off-airport activity included in this analysis. As shown, the airport impact category, which includes the impacts of the airport administration, tenant activity (excluding aerospace manufacturing), capital expenditures, and visitor spending generated a total of \$483.9 million in tax revenues across all jurisdictions. When combined, all direct airport activity generated approximately \$237.7 million in local tax revenues. Approximately \$212.2 million and \$762.9 million in tax revenues were generated at the state and federal level.

Included within the state tax impacts is the tax revenue generated from the sale of jet fuel. The State of Missouri applies a sales tax on the sale of jet fuel, as opposed to an excise tax. In 2019 alone, the State of Missouri paid approximately \$6.8 million towards jet fuel taxes and jet fuel sales at the Airport accounted for approximately 60% of that, which is approximately \$4.1 million. **More than \$1.2 billion in tax revenue was generated in 2019 from direct on- and off-airport activity, when considering all levels of taxation.**

**Table 5-13. 2019 Tax Revenues Generated from Direct On- and Off-Airport Activity**

Activity	Local	State	Federal	Total
Airport Impacts*	\$156,529,000	\$109,637,000	\$217,686,000	\$483,851,000
Aerospace Manufacturing	\$71,657,000	\$92,482,000	\$501,077,000	\$665,216,000
Aviation- Reliant Businesses	\$9,524,000	\$10,113,000	\$44,105,000	\$63,743,000
<b>2019 Direct Tax Revenues</b>	<b>\$237,710,000</b>	<b>\$212,232,000</b>	<b>\$762,868,000</b>	<b>\$1,212,810,000</b>

Notes: \*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Kimley-Horn, 2023.

**Table 5-14.** Tax Revenues Generated from Total On- and Off-Airport Activity provides an overview of the total tax revenue impacts related to on- and off-airport activity, which is inclusive of direct, indirect, and induced impacts. When the multiplier impacts (indirect and induced impacts) are considered, the tax revenue impacts are approximately doubled across each activity and taxation level. Federal taxes have the highest tax revenue impacts from on- and off-airport activity, at almost \$1.5 billion. Tax revenues generated at the local level amount to

approximately \$487.7 million. **Approximately \$431.8 million in tax revenues were generated at the state level. Approximately \$2.4 billion in tax revenues were generated from total on- and off-airport activity in 2019, which includes direct, indirect, and induced impacts.**

**Table 5-14. Tax Revenues Generated from Total On- and Off-Airport Activity**

Total Impacts	Local	State	Federal	Total
Airport Impacts*	\$232,074,000	\$173,927,000	\$418,222,000	\$824,222,000
Aerospace Manufacturing	\$231,144,000	\$234,634,000	\$980,107,000	\$1,445,886,000
Aviation-Reliant Businesses	\$24,455,000	\$23,322,000	\$88,078,000	\$135,855,000
<b>2019 Total Tax Revenues</b>	<b>\$487,673,000</b>	<b>\$431,883,000</b>	<b>\$1,486,407,000</b>	<b>\$2,405,963,000</b>

*Notes: Impacts presented in Table 5-14 include direct, indirect, and induced impacts. \*\*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Kimley-Horn, 2023.*

## 5.6. Community Benefits

The impacts presented in this section are only one part of the story demonstrating the immense value that St. Louis Lambert International Airport provides to the surrounding region because behind those numbers are real people, working across many industries in the region, to provide goods and services to the MSA. the Airport is a tremendous economic generator, supporting jobs on and off the Airport, generating payroll, and contributing to the GRP. Moreover, the Airport is a vital component of the region’s transportation system as it supports the movement of goods and services and provides transportation opportunities for business and recreational purposes.

Businesses from all over the country and the world rely on services provided by the Airport, which is showcased in the business profiles of Bayer, Boeing, and Bunge presented in the following subsections. These business profiles offer three examples of how the Airport is supporting global companies that have headquarters in the St. Louis MSA. These examples represent a few of many stories that could be shared about the way area businesses rely on the Airport to successfully perform their business operations. Without the Airport, area businesses would face many challenges related to longer wait times for goods or supplies and longer travel days due to the loss of critical air service.

### 5.6.1. Bayer

Bayer is a multinational pharmaceutical and biotechnology company that is a world pioneer in plant biotechnology and genomics. Bayer is a multifaceted firm, and the combined agriculture business will have its global Seeds & Traits and North American commercial headquarters in St. Louis, Missouri. Bayer employs nearly 6,000 people in the St. Louis area across multiple functions including their Crop Science Division and corporate administration, including finance, information technology, and communications. Worldwide, the company employs approximately 100,000 people, of which 40% (or 40,000) are in the Crop Science Division. This Division has primary locations in St. Louis and in Monheim, Germany. The Bayer Crop Science Division headquarters in St. Louis is responsible for the company’s North American business, which represents approximately 40% of Bayer’s worldwide business. The St. Louis facility boasts the

largest research site within the company's entire network, accounting for 1,500 research and development employees out of the company's total 7,000 R&D employees. Bayer Crop Science has major AgTech research & development operations in Greater St. Louis, investing \$2 billion annually.

Due to the global nature of Bayer's Crop Science operation, approximately one-third of the St. Louis staff (2,000) need to travel frequently for business—often to Germany. When asked about Bayer's relationship with the Airport, Bayer representatives said, "We are highly reliant on St. Louis Lambert International Airport to provide both domestic and international service to get our staff to major markets with thousands of our team members traveling through St. Louis every year."

Employees rely on both domestic and international air service provided by the Airport to reach clients, other Bayer locations, and to bring vendors and clients to their St. Louis headquarters. The need for efficient connections between St. Louis and Germany is so important that Bayer financially supports the nonstop Lufthansa Airlines service to Frankfurt, Germany, in order to meet the firm's international travel needs. Recent demand spurred a request from Bayer to increase existing nonstop service on Lufthansa from three to five days a week. Although some challenges have prevented the increase in service frequency so far, the financial support of the Lufthansa service offered at the Airport demonstrates how valuable it is to Bayer operations. The Germany service frequently reduces travel duration by eliminating connections.

Outside of the Lufthansa service, Bayer also relies on other scheduled air service at the Airport to access important markets in other parts of North America, South America, Africa, and Europe. Looking to the future, Bayer is interested in nonstop scheduled service to São Paulo, Brazil to reach their South American markets. In addition to using commercial service, some Bayer employees travel via GA when staff need to reach areas without adequate commercial service options. This minimizes the time needed away from headquarters and eliminates unnecessary overnight stays.

Bayer's reliance on the Airport will continue as the region's economy grows and diversifies, and their presence expands. The company relies on St. Louis Lambert International Airport to help promote a well-connected urban environment that offers efficient scheduled air service and a thriving community. This positions Bayer to recruit and acquire talent from all over the globe who are willing to locate in St. Louis, knowing they can access air service to reach a variety of locations to visit family, take vacations, and more. Bayer, along with the broader agriculture industry in the region including corn and soybean commodity groups and the growing AgTech industry, greatly depend on the air service offered at the Airport to thrive in their markets and be resilient in the years to come.

### 5.6.2. Boeing

The Boeing Company is a U.S.-based multinational corporation that is involved in all aspects of aerospace, including the manufacturing, designing, and selling of all types of aircraft, from fixed wing to rotorcraft, and rockets to satellites. Boeing has approximately 16,000 employees in the St. Louis region, and approximately half of them are engineers. It was reported that in 2022, an

additional 900 jobs were added at the St. Louis location, with estimates indicating an additional 10,000 new employees will be added to the company, firmwide, in the next year.<sup>28</sup>

The St. Louis Boeing location is co-located at the Airport. Boeing's St. Louis location primarily supports the production of the Boeing F/A-18E/F Super Hornet for the U.S. Navy, which is a twin-engine, fighter aircraft that can operate from an aircraft carrier. Boeing also supports the production of the Boeing F-15EX, which is an all-weather, multirole strike fighter produced for the U.S. Air Force.

Boeing employs a variety of staff to support the production of aircraft. The staff positions at the St. Louis location are aviation-related and include designers, sheet metal employees, engineers, and administrative staff; only a small handful of staff, including the aircraft arresting system specialists, require airside access. The Boeing facility in St. Charles primarily specializes in weapons and missile production.

The economic impacts of Boeing are spread far across the region and state with more than 350 material and service suppliers across Missouri supporting the aircraft production occurring at the Airport. In total, Boeing spent approximately \$676 million at these suppliers in 2021, with most of these suppliers located within a 70-mile radius of St. Louis Lambert International Airport. Boeing is committed to its presence at the Airport, demonstrated by an investment of nearly \$700 million on capital improvements at their St. Louis Lambert International Airport facilities between 2011 and 2021. Outside of their presence in St. Louis, Boeing's impact continues to grow in the region, with a \$200 million expansion at the MidAmerica Airport in Illinois, which is expected to finish by 2023. This facility will be used to develop the MQ-25, which is an unmanned drone that refuels other aircraft midflight, allowing planes to launch from carriers and travel further than they otherwise would. The Boeing investment at MidAmerica Airport is likely to have a ripple effect throughout the region, including the St. Louis area, which is only 40 miles away from MidAmerica Airport.

According to Boeing representatives, "Boeing's presence in St. Louis is strong, with 16,000 employees in the St. Louis metropolitan area alone, and future investments being made at the MidAmerica St. Louis Airport, expected to lead to more growth for the region in the future. Our activity at St. Louis Lambert International Airport is important to the nation's defense industry." Boeing's two locations in the St. Louis region are significant drivers of economic impact at St. Louis Lambert International Airport and beyond. Boeing's operations are highly reliant on Airport access for testing, development, and mass production. Continued partnership with the Airport is key to their current and future success.

### 5.6.3. Bunge

Bunge is a global leader in agribusiness and food and ingredients. From humble beginnings in 1818, the company has grown into a global presence, with more than 300 facilities in over 40

<sup>28</sup> Merrilees, A., "Boeing adds 900 St. Louis jobs, looks to its future. And a new fighter jet.", St. Louis Dispatch, February 16, 2023. [https://www.stltoday.com/business/local/boeing-adds-900-st-louis-jobs-looks-to-its-future-and-a-new-fighter-jet/article\\_6bc556b4-5497-595d-808a-a5b2fdf32ac4.html#:~:text=The%20company%20added%20900%20jobs,what%20those%20aircraft%20will%20be.\(Accessed April 2023\).](https://www.stltoday.com/business/local/boeing-adds-900-st-louis-jobs-looks-to-its-future-and-a-new-fighter-jet/article_6bc556b4-5497-595d-808a-a5b2fdf32ac4.html#:~:text=The%20company%20added%20900%20jobs,what%20those%20aircraft%20will%20be.(Accessed April 2023).)

countries and 23,000 employees worldwide. The company started as an import-export trading company in Amsterdam and over the next 200+ years continued growing their business and today connect farmers to consumers to sustainably deliver essential food, feed, and fuel to the world. Bunge is the world's leader in oilseed processing and a leading producer and supplier of specialty plant-based oils and fats. The company works with customers on both ends of the food supply—partnering with farmers to bring quality products from where they're grown to where they're consumed. At the same time, Bunge collaborates with food customers to develop tailored and innovative solutions to meet evolving dietary needs and trends in every part of the world. Bunge works in a variety of markets including animal feed and pet food, bakery and cereals, beverages, confectionary and snacks, biofuels, nutrition, and more.<sup>29</sup>

St. Louis served as Bunge's North America headquarters beginning in 1990. In 2019, the company announced it was moving its global headquarters from White Plains, New York to St. Louis to be closer to its operations. Today, St. Louis is home to about 800 Bunge employees – approximately 750 at the headquarters and another 40 or so at the research and innovation center located 15 minutes away. Of that, approximately 200 of them travel regularly in support of business activities. Bunge employees travel for trainings to support operations in other manufacturing and office locations, and to collaborate with colleagues across the globe. As the headquarters, St. Louis frequently sends and receives employees from locations in Europe, South America, Asia-Pacific, and other parts of North America. While the St. Louis headquarters was designed to house large training sessions, in some instances, Bunge has moved meetings to Miami, New York, or Toronto as these cities offer more direct international service. As St. Louis Lambert International Airport continues to expand international commercial airline service across Europe and South America, Bunge hopes there may be more opportunities to host those events in St. Louis.

In addition to internal Bunge employee travel, the company also generates travel to the area from potential and existing customers who often bring in executives to meet with Bunge executives, tour facilities, test products, and more. These potential and existing customers are also traveling from locations in other parts of North America, Europe, South America, and Asia-Pacific. Bunge also recently announced a merger with another global agribusiness, which, if approved, would add an additional 13,000 employees to the company worldwide. The company being combined with Bunge complements Bunge's existing footprint and will likely increase demand for international air service. Between employees and customers, Bunge invests a significant amount of money annually to support the travel needs of their company. Considering that Bunge operates on a global scale, it is no wonder they are reliant on scheduled air service to conduct their daily business operations.

Bunge has a small private corporate aviation contract; however, Bunge relies on traditional scheduled airline service for most travel. While Bunge offers flexible work arrangements as part of its effort to promote a healthy work/life balance and create the best work environment for their employees, the company also values in-person interactions and the culture of collaboration and belonging that it creates. Making sure employees have access to frequent and comprehensive air service is essential to that mission of togetherness. Bunge executives located in St. Louis

<sup>29</sup> Bunge.com

believe it is a world-class city and feel the city deserves a world-class airport. Bunge would like to see the Airport continue to expand nonstop international service to create a world-class airport so that the company can continue to recruit world-class talent, as well as send and receive employees and clients from all over the world in the most efficient manner possible.

## 6. 2032 Projected Future Economic Contributions

In addition to calculating the annual economic impact of St. Louis Lambert International Airport based on activity from 2019, this study also estimates the future economic contributions of the Airport for 2032 based on two future scenarios: 1) completion of the proposed airport development plan identified in the recent Master Plan<sup>30</sup> and 2) increases to nonstop international air service. These scenarios provide an opportunity to estimate the economic impact of the Airport in 2032 based on increased capacity and demand at the Airport, which includes additional staff to support more demand, more opportunities for future business development, and the additional visitors traveling to St. Louis Lambert International Airport via the expanded international service.

The following subsections provide information on the methodology and assumptions required for calculating the future impact of the Airport based on the same on- and off-airport activities presented in **Section 5**. Due to the increased activity anticipated at the Airport, there will also be increases to the tax impacts in 2032, which are also presented. It is important to note that the economic impacts presented in the following sections are based on estimates of activity occurring on- and off-airport in 2032; however, to provide an even comparison to the results presented in **Section 5**, the future impacts are presented in 2019 dollars.

### 6.1. 2032 On-Airport Impacts

As discussed in **Section 4.2.1**, on-airport activities include airport administration (including airport employees and airport contracted services), airport tenants, airport capital expenditures, and the major aerospace manufacturing presence at the Airport. By 2032 it can be assumed that impacts associated with each of these activities will be higher than impacts in 2019 due to growth associated with airport operations, airport tenants<sup>31</sup>, and on-airport construction. To estimate the growth of airport administration and airport tenants several factors were considered, including growth in passengers, operations, changes to industries, and Moody's Analytics growth rate projections for 2032. Moody's Analytics is an industry-accepted financial intelligence and analytics tool that develops estimates for future economic conditions. The future impacts for the major on-airport aerospace industry presence were not developed based on industry assumptions or trends, and instead, were developed based on publicly available documentation regarding future employment levels as well as planned future expansion and construction projects.

Impacts of airport capital expenditures in 2032 were developed based on the preferred airport development plan that was developed as part of the recent St. Louis Lambert International Airport Master Plan. The purpose of the preferred airport development plan is to identify the capital improvements necessary for the Airport to meet projected future demand, as identified in the Master Plan's forecasting efforts. The preferred airport development plan was developed using an alternatives analysis process that built upon the Master Plan's FAA-approved forecast and is intended to accommodate the long-term facility needs. The preferred airport development

<sup>30</sup> Estimated 2032 impacts assume the completion of the Airport's preferred airport development plan.

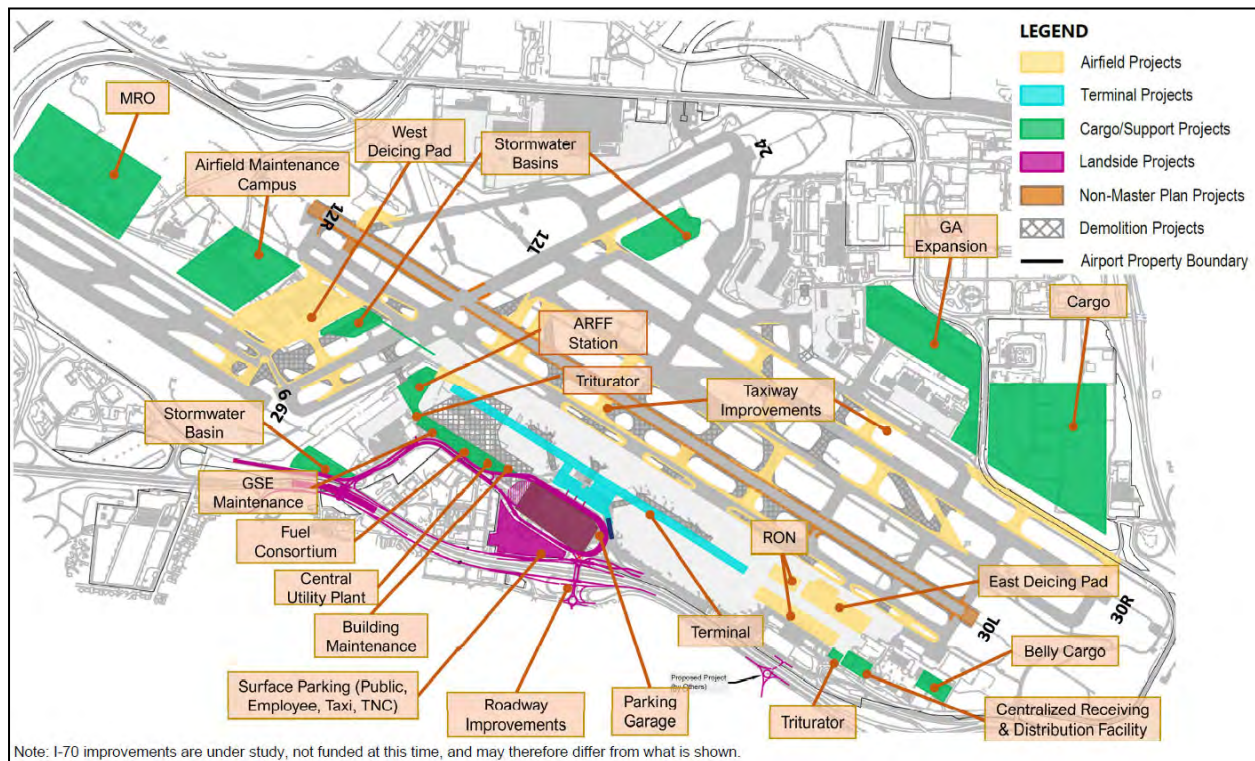
<sup>31</sup> Capital expenditures incurred by tenants were included in this analysis.



plan started with identifying airfield projects, then the terminal projects necessary to meet passenger demand, then multimodal and landside projects were assessed, and finally cargo facility needs were integrated.

As shown in **Figure 6-1**, the preferred airport development plan includes several large-scale airside and landside capital improvements. This development is anticipated to occur over a 10-year time frame; therefore, information was collected on the anticipated expenditures to be paid out by the Airport annually over the 10-year time frame. For consistency in the process of determining the 2019 capital expenditures analysis, an average annual capital expenditure amount for 2032 was developed based on five years of spending data (2028-2032) for future capital expenditure costs anticipated by the Airport as estimated by the Airport through the Master Plan and subsequent evaluations.

**Figure 6-1. Proposed Airport Development Plan**



### 6.1.1. 2032 On-Airport Direct Impacts

**Table 6-1** presents the direct impacts of on-airport activity, estimated for the future year 2032. As shown, it is anticipated that the Airport will employ approximately 700 people, and through contracted services, support an additional nearly 370 jobs, resulting in more than 1,000 direct airport administration jobs in 2032. These 2032 total airport administration jobs are projected to support \$72.4 million in payroll, contributing \$123.4 million in value to the future GRP, and \$245.4 million in business revenues. Future impacts of airport tenants, including tenant capital

expenditures, are anticipated to support almost 8,000 jobs and approximately \$498.2 million in payroll.

The construction related to the Airport’s preferred airport development plan is anticipated to generate more than 3,600 jobs and \$236.7 million in payroll, ultimately generating approximately \$547.1 million in business revenues in 2032. The expansion of the major aerospace manufacturing industry presence on the Airport is anticipated to generate more than 19,000 jobs, resulting in \$2.9 billion in future 2032 payroll impacts. **When all the on-airport activities are considered, including the aerospace manufacturing industry, the Airport is anticipated to support almost 32,000 jobs in 2032, which will generate almost \$3.7 billion in payroll, adding \$3.8 billion in value to the GRP, and generating approximately \$16.5 billion in business revenues.**

**Table 6-1. 2032 On-Airport Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	1,065	\$72,415,000	\$123,440,000	\$245,442,000
<i>Airport Employees</i>	<i>700</i>	<i>\$56,169,000</i>	<i>\$103,288,000</i>	<i>\$207,330,000</i>
<i>Airport Contracted Services</i>	<i>365</i>	<i>\$16,246,000</i>	<i>\$20,152,000</i>	<i>\$38,112,000</i>
Airport Tenants*	7,938	\$498,225,000	\$1,000,963,000	\$1,770,587,000
Airport Capital Expenditures	3,612	\$236,741,000	\$270,094,000	\$547,056,000
<b>Subtotal Direct On-Airport</b>	<b>12,615</b>	<b>\$807,381,000</b>	<b>\$1,394,497,000</b>	<b>\$2,563,085,000</b>
Aerospace Manufacturing**	19,051	\$2,918,258,000	\$2,436,387,000	\$13,893,182,000
<b>2032 Total Direct On-Airport</b>	<b>31,666</b>	<b>\$3,725,639,000</b>	<b>\$3,830,884,000</b>	<b>\$16,456,267,000</b>

Notes: \*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Moody’s Analytics for 2032, 2023; Kimley-Horn, 2023.

### 6.1.2. 2032 On-Airport Multiplier Impacts

**Table 6-2** presents the multiplier impacts of on-airport activity, estimated for the future year 2032. These estimates present both indirect and induced impacts. As shown, the indirect and induced impacts of airport administration are projected to result in a total of over 1,100 jobs, which includes impacts of both airport employees and airport contracted services. The multiplier impacts of airport administration are projected to generate approximately \$96.6 million in payroll, \$213.8 million in value added, and \$394.2 million in business revenues. Activity projected for airport tenants is anticipated to produce more than 9,000 jobs, \$522.0 million in payroll, \$863.2 million in value added, and approximately \$1.6 billion in business revenues, when the indirect and induced impacts are combined. Excluding the multiplier impacts of the aerospace manufacturing industry, **the estimated 2032 multiplier impacts of on-airport activity will support almost 13,400 jobs, generating approximately \$797.1 million in payroll, adding almost \$1.4 billion in value to GRP, and generating \$2.5 billion in business revenues. When the aerospace manufacturing multiplier impacts are**

considered, then it is anticipated that the multiplier impacts of future on-airport activity will support more than 52,500 jobs, which results in \$3.3 billion in payroll impacts, adding \$5.4 billion of value to the GRP, and generating \$9.8 billion in business revenues.

**Table 6-2. 2032 On-Airport Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	Indirect	515	\$37,352,000	\$80,163,000	\$152,069,000
	Induced	594	\$59,219,000	\$133,594,000	\$242,082,000
Airport Employees	Indirect	406	\$30,660,000	\$70,072,000	\$133,987,000
	Induced	451	\$51,741,000	\$120,434,000	\$219,258,000
Airport Contracted Services	Indirect	108	\$6,692,000	\$10,091,000	\$18,082,000
	Induced	143	\$7,478,000	\$13,161,000	\$22,824,000
Airport Tenants*	Indirect	4,375	\$271,272,000	\$421,828,000	\$818,859,000
	Induced	4,799	\$250,741,000	\$441,332,000	\$765,365,000
Airport Capital Expenditures	Indirect	1,149	\$76,112,000	\$128,667,000	\$246,164,000
	Induced	1,959	\$102,402,000	\$179,945,000	\$311,897,000
<b>Subtotal On-Airport Indirect Impacts</b>	<b>N/A</b>	<b>6,039</b>	<b>\$384,736,000</b>	<b>\$630,658,000</b>	<b>\$1,217,092,000</b>
<b>Subtotal On-Airport Induced Impacts</b>	<b>N/A</b>	<b>7,351</b>	<b>\$412,362,000</b>	<b>\$754,871,000</b>	<b>\$1,319,344,000</b>
<b>Subtotal On-Airport Multiplier Impacts</b>	<b>N/A</b>	<b>13,390</b>	<b>\$797,098,000</b>	<b>\$1,385,529,000</b>	<b>\$2,536,436,000</b>
Aerospace Manufacturing**	Indirect	13,849	\$1,146,755,000	\$1,690,196,000	\$3,258,763,000
	Induced	25,309	\$1,322,243,000	\$2,328,352,000	\$4,037,878,000
<b>Total On-Airport Indirect Impacts</b>	<b>N/A</b>	<b>19,888</b>	<b>\$1,531,491,000</b>	<b>\$2,320,854,000</b>	<b>\$4,475,855,000</b>
<b>Total On-Airport Induced Impacts</b>	<b>N/A</b>	<b>32,660</b>	<b>\$1,734,605,000</b>	<b>\$3,083,223,000</b>	<b>\$5,357,222,000</b>
<b>2032 Total On-Airport Multiplier Impacts</b>	<b>N/A</b>	<b>52,547</b>	<b>\$3,266,096,000</b>	<b>\$5,404,077,000</b>	<b>\$9,833,077,000</b>

\*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; 2023; Kimley-Horn, 2023.

### 6.1.3. 2032 Total On-Airport Activity Impacts

Table 6-3 presents the estimated 2032 total impacts of on-airport activity at the Airport. As shown, the impacts estimated for 2032 on-airport activity, excluding impacts of the aerospace industry, will support over 26,000 jobs, which in turn, will generate almost \$1.6 billion in payroll, adding approximately \$2.8 billion to the GRP, and approximately \$5.1 billion in business revenues. The future total impact of the aerospace manufacturing industry will support more

than 58,200 jobs, resulting in almost \$5.4 billion in payroll, approximately \$6.5 billion in value added, and almost \$21.2 billion in business revenue impacts. **When all on-airport activities are considered, the total estimated 2032 impact of future on-airport activity is anticipated to support more than 84,200 jobs, generating approximately \$7.0 billion in payroll, and producing approximately \$26.3 billion in business revenues, while contributing over \$9.2 billion to the GRP.**

**Table 6-3. 2032 On-Airport Total Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Airport Administration	2,173	\$168,986,000	\$337,197,000	\$639,593,000
<i>Airport Employees</i>	1,557	\$138,570,000	\$293,793,000	\$560,575,000
<i>Airport Contracted Services</i>	616	\$30,416,000	\$43,403,000	\$79,018,000
Airport Tenants*	17,111	\$1,020,238,000	\$1,864,122,000	\$3,354,811,000
Airport Capital Expenditures	6,720	\$415,255,000	\$578,707,000	\$1,105,118,000
<b>Subtotal On-Airport</b>	<b>26,005</b>	<b>\$1,604,479,000</b>	<b>\$2,780,025,000</b>	<b>\$5,099,522,000</b>
Aerospace Manufacturing**	58,208	\$5,387,256,000	\$6,454,936,000	\$21,189,823,000
<b>2032 Total On-Airport</b>	<b>84,213</b>	<b>\$6,991,735,000</b>	<b>\$9,234,961,000</b>	<b>\$26,289,345,000</b>

\*Employment and capital expenditure impacts exclude the major on-airport aerospace firms. \*\*Impacts generated from the major on-airport aerospace firms. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; St. Louis Lambert International Airport, 2019; Moody's Analytics for 2032, 2023; Kimley-Horn, 2023.

## 6.2. 2032 Off-Airport Impacts

As discussed in **Section 4.2.2**, off-airport activities include both aviation-related or reliant businesses located off the Airport's property and impacts associated with visitors traveling to the St. Louis region via either GA or commercial service operations at the Airport.

The estimated growth for the aviation-reliant business sectors included in this analysis were developed based on Airport and socioeconomic factors, including Moody's Analytics growth projections for 2032.

To estimate impacts of visitor spending in 2032 it was necessary to determine an estimate for the number of GA and commercial service visitors as well as an average per visitor spending amount for both GA and commercial service visitors. These are the same two factors used to determine 2019 visitor spending impacts, as discussed in **Section 4.2.2.2**. The estimate for the future GA and commercial service visitors was developed based on the forecasts developed for the recent St. Louis Lambert International Airport Master Plan.

According to the recent St. Louis Lambert International Airport Master Plan, it is anticipated that 2032 GA operations will remain consistent with 2019 operations. Therefore, the number of 2032 GA visitors will remain consistent with the estimate for 2019 GA visitors, as presented in **Section 4.2.2.2**. Moreover, the per visitor spending amount for GA visitors was held constant at

the 2019 amount, which was \$252. Therefore, it is anticipated that the direct spending by GA visitors in 2032 will remain constant with direct GA visitor spending in 2019.

The recent St. Louis Lambert International Airport Master Plan was also referenced to determine the number of commercial service passengers based on the projected number of enplanements in 2032, which is approximately 9.2 million as presented in the St. Louis Lambert International Airport Forecast Adjustment Memo submitted to the FAA. These 2032 enplanements were separated by domestic and international service, with international enplanements accounting for 6% of the total enplanements (nearly 600,000) and the remaining 94% of enplanements (8.6 million) considered domestic. In 2019, only 2% of enplanements were international; however, the share of international enplanements was increased to 6% to account for forecasted growth of existing international service as well as the introduction of new international service as estimated by the Airport. St. Louis Lambert International Airport anticipates increases to the existing nonstop Lufthansa service, initiated after 2019 but before 2023, as well as the introduction of new nonstop international service to other destinations in Europe via another European carrier, and new nonstop service to cities in South America, the Caribbean, Canada, and Mexico. It is important to note that the 8,608,530 domestic enplanements were decreased by 23% to isolate only the origin and destination enplanements, which results in 6,628,568 O&D domestic enplanements being included in this analysis.

The number of domestic (6.6 million) and international enplanements (nearly 600,000) estimated for 2032 were used to determine the estimate for true visitors, which are considered non-local visitors. A percentage of true domestic and international visitors was calculated based on information provided by Airline Data, Inc. and other growth factors, as it is assumed that the number of true visitors will increase as the Airport expands their domestic and international nonstop service destinations. It was assumed that 48% of domestic and 48% of international passengers could be considered true visitors, resulting in approximately 3.2 million domestic and 280,000 international visitors in 2032.

With an estimate for domestic and international visitors developed, it was then necessary to determine an estimate for the amount of money each visitor will spend during their trip. The 2019 commercial service visitor per trip spending amount of \$692 was held constant for domestic visitors for the 2032 impact analysis. Due to the anticipated increase in overall international visitors departing via the Airport in 2032, it was determined that a higher rate of spending per visitor would be applied to international visitors because, on average, international visitors typically spend more money per trip than domestic visitors.<sup>32</sup> Using estimates derived from other future visitor spending analyses conducted in other major cities, it was determined that international visitor's spend, on average, approximately 58% more per trip than domestic travelers. Therefore, the 2032 per visitor per trip spending amount for domestic visitor was increased by 58%, resulting in an international visitor spending per trip amount of \$1,093. As was done to determine the direct visitor spending amounts for 2019 visitors, the total number of

<sup>32</sup> This was not a factor for the 2019 analysis as such a small percentage of total true visitors were international visitors.

true visitors was multiplied by the per visitor per trip spending amounts to determine an estimate for 2032 domestic and international visitor spending.

The following sections present the results of the off-airport impact analysis for both off-airport aviation-reliant businesses and commercial service and GA visitors. The impacts of future international air service, specifically, is presented in **Section 6.2.4**.

### 6.2.1. 2032 Off-Airport Direct Impacts

The following subsections present the estimated 2032 direct impacts of off-airport aviation reliant businesses and visitor spending separately. The combined total impacts of off-airport activity are presented in **Section 6.2.3**.

#### 6.2.1.1. Aviation-Reliant Business

As shown in **Table 6-4**, it is anticipated that **4,900 jobs** will be supported by direct off-airport aviation-reliant business activity in 2032. These jobs are projected to support approximately \$315.4 million in payroll, contributing almost \$376.8 million in value added, and overall generating approximately \$1.1 billion in direct business revenue impacts.

**Table 6-4. 2032 Off-Airport Aviation-Reliant Businesses Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
2032 Total Aviation-Reliant Businesses Direct Impacts	4,899	\$315,433,000	\$376,782,000	\$1,059,857,000

*Notes: Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Moody's Analytics for 2032, 2023; Kimley-Horn, 2023*

#### 6.2.1.2. Commercial Service and GA Visitors

As shown in **Table 6-5**, it is projected that over 26,600 direct jobs will be supported by commercial service visitors traveling via the Airport in 2032, which will generate approximately \$796.5 million in direct payroll, adding \$1.2 billion in value to the GRP, and \$2.0 billion in business revenue impacts. GA visitors traveling via the Airport in 2032 are anticipated to support just over 110 direct jobs, generating approximately \$3.4 million in payroll, almost \$5.0 million in value added, and \$8.6 million in business revenue impacts. **When combined, the activity stemming from direct impacts of commercial service and GA visitors in 2032 are estimated to provide nearly 27,000 direct jobs, generating almost \$800 million in payroll, \$1.2 billion in value added, and more than \$2.0 billion in business revenues.**

**Table 6-5. 2032 Off-Airport Visitor Spending Direct Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Commercial Service	26,658	\$796,491,000	\$1,175,673,000	\$2,039,140,000
GA	113	\$3,363,000	\$4,964,000	\$8,610,000
<b>2032 Total Visitor Spending Direct Impacts</b>	<b>26,770</b>	<b>\$799,854,000</b>	<b>\$1,180,637,000</b>	<b>\$2,047,750,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; St. Louis Lambert International Airport Master Plan, 2022; Kimley-Horn, 2023

### 6.2.2. 2032 Off-Airport Multiplier Impacts

The following subsections present the estimated 2032 multiplier impacts of off-airport aviation-reliant businesses and visitor spending separately. The combined total impacts of off-airport activity are presented in **Section 6.2.3**.

#### 6.2.2.1. Aviation-Reliant Businesses

Future 2032 multiplier impacts of off-airport aviation-reliant businesses are anticipated to provide more than 5,000 jobs, as shown in **Table 6-6**. **When indirect and induced impacts are combined as total multiplier impacts for off-airport aviation-reliant businesses in 2032, the payroll multiplier impacts for future aviation-reliant businesses are projected to be approximately \$292.7 million, generating \$479.1 million in value added, resulting in \$865.7 million in multiplier business revenues.**

**Table 6-6. 2032 Off-Airport Aviation-Reliant Businesses Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Aviation-Reliant Businesses	Indirect	2,154	\$143,303,000	\$216,132,000	\$409,651,000
	Induced	2,859	\$149,381,000	\$262,975,000	\$456,062,000
<b>2032 Total Aviation-Reliant Businesses Multiplier Impacts</b>	<b>N/A</b>	<b>5,013</b>	<b>\$292,684,000</b>	<b>\$479,107,000</b>	<b>\$865,713,000</b>

Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Moody's Analytics for 2032, 2023; Kimley-Horn, 2023

#### 6.2.2.2. Visitor Spending

As shown in **Table 6-7**, the majority of the multiplier impacts associated with visitor spending in 2032 in terms of jobs and all other indicators are anticipated to come from commercial service visitor spending with over 12,500 jobs. Commercial service visitors are anticipated to support approximately \$703.1 million in multiplier payroll impacts, which results in approximately \$1.2 billion in value-added impacts, and \$2.1 billion in business revenues in 2032. Estimates for

multiplier impacts related to future GA visitors indicates that just over 50 jobs will be supported by this activity, resulting in multiplier payroll impacts of almost \$3.0 million.

**When all future visitor impacts are combined, it is anticipated that multiplier impacts related to future 2032 visitor spending will support more than 12,605 jobs, generating \$706.1 million in payroll, which is anticipated to add almost \$1.2 billion in value to the regional economy, resulting in approximately \$2.1 billion in multiplier business revenues impacts.**

**Table 6-7. 2032 Off-Airport Visitor Spending Multiplier Impacts**

Category	Impact	Jobs	Payroll	Value Added	Business Revenues
Commercial Service	Indirect	5,615	\$334,810,000	\$521,815,000	\$996,454,000
	Induced	6,937	\$368,295,000	\$648,964,000	\$1,122,185,000
GA	Indirect	24	\$1,414,000	\$2,203,000	\$4,207,000
	Induced	29	\$1,555,000	\$2,740,000	\$4,738,000
<b>Total Visitor Spending Indirect Impacts</b>	<b>N/A</b>	<b>5,639</b>	<b>\$336,224,000</b>	<b>\$524,018,000</b>	<b>\$1,000,661,000</b>
<b>Total Visitor Spending Induced Impacts</b>	<b>N/A</b>	<b>6,966</b>	<b>\$369,850,000</b>	<b>\$651,704,000</b>	<b>\$1,126,923,000</b>
<b>2032 Total Visitor Spending Multiplier Impacts</b>	<b>N/A</b>	<b>12,605</b>	<b>\$706,074,000</b>	<b>\$1,175,722,000</b>	<b>\$2,127,584,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; St. Louis Lambert International Airport Master Plan, 2022; Kimley-Horn, 2023*

### 6.2.3. 2032 Total Off-Airport Multiplier Impacts

The total future off-airport impacts, for both aviation-reliant businesses and visitor spending, is presented in **Table 6-8**. As shown, almost 10,000 jobs will be generated from future aviation-reliant business impacts, resulting in total payroll impacts of approximately \$608.1 million, \$855.9 million in value added, and \$1.9 billion in total business revenue impacts. The total impacts of commercial service and GA visitors in 2032 is anticipated to support nearly 39,400 jobs, which are projected to produce \$1.5 billion in payroll, adding approximately \$2.4 billion in value to the GRP, and generating almost \$4.2 billion in total business revenue impacts. **When considering the future 2032 impacts of all off-airport activity, there are an estimated 49,300 jobs attributable to total off-airport impacts, resulting in \$2.1 billion in payroll impacts, \$3.2 billion in value added, and \$6.1 billion in total business revenue impacts.**



**Table 6-8. 2032 Off-Airport Total Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Aviation-Reliant Businesses	9,912	\$608,117,000	\$855,888,000	\$1,925,570,000
Commercial Service and GA Visitors	39,375	\$1,505,926,000	\$2,356,359,000	\$4,175,334,000
<i>Commercial Service Visitors</i>	39,209	\$1,499,594,000	\$2,346,452,000	\$4,157,779,000
<i>GA Visitors</i>	166	\$6,332,000	\$9,907,000	\$17,555,000
<b>2032 Total Off-Airport Impacts</b>	<b>49,287</b>	<b>\$2,114,043,000</b>	<b>\$3,212,247,000</b>	<b>\$6,100,904,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; St. Louis Lambert International Airport Master Plan, 2022; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Moody's Analytics for 2032, 2023; Kimley-Horn, 2023.*

#### 6.2.4. Impacts of Future International Air Service

As noted, in 2019 there was limited nonstop international air service offered at the Airport. Therefore, the 2019 visitor spending impacts presented in **Section 5.2** primarily comprise GA and domestic commercial service visitors. Following 2019, the Airport introduced nonstop air service to Europe via Lufthansa. This Lufthansa service was not only a welcome change for those traveling to Europe on vacation but added immense value to the global corporate headquarters located in St. Louis, as it provided an efficient and frequent connection overseas. This service was generated as a result of the business community providing financial support to ensure its success, supporting their own travel needs and providing more opportunities for the region's residents and other businesses to travel nonstop to Europe.

Initially, Lufthansa offered service three times a week; however, it is anticipated that in 2032 Lufthansa will increase their service to at least five times a week. Moreover, the Airport anticipates that additional international service will be available at the Airport in 2032, including nonstop service to locations in Europe, South America, as well as the Caribbean, Mexico, and Canada, all occurring multiple times a week.

As discussed in **Section 6.2**, the number of international visitors anticipated in 2032 was calculated based on the St. Louis Lambert International Airport Master Plan forecast data, information provided by the Airport, and review of industry reports, such as Airline Data, Inc. Using the number of international visitors, it was possible to determine the future potential impact of international air service at the Airport, which is presented in **Table 6-9**. As shown, direct impacts of visitors using future international service are anticipated to support more than 3,200 jobs, which will result in almost \$100 million in payroll impacts, \$143.6 million in value added, and \$249.1 million in direct business revenues. **When considering the direct, indirect, and induced impacts, it is anticipated that future visitors utilizing international air service at the Airport will support nearly 4,800 total jobs, generating \$183.2 million in payroll. The total impact of future visitor impacts resulting from international air service is anticipated to add approximately \$286.7 million in value to the GRP, resulting in approximately half a billion dollars of total business revenues for the St. Louis region.** It is important to note that

the impacts presented here are not in addition to the impacts presented in Table 6-8, but rather included within those impacts.

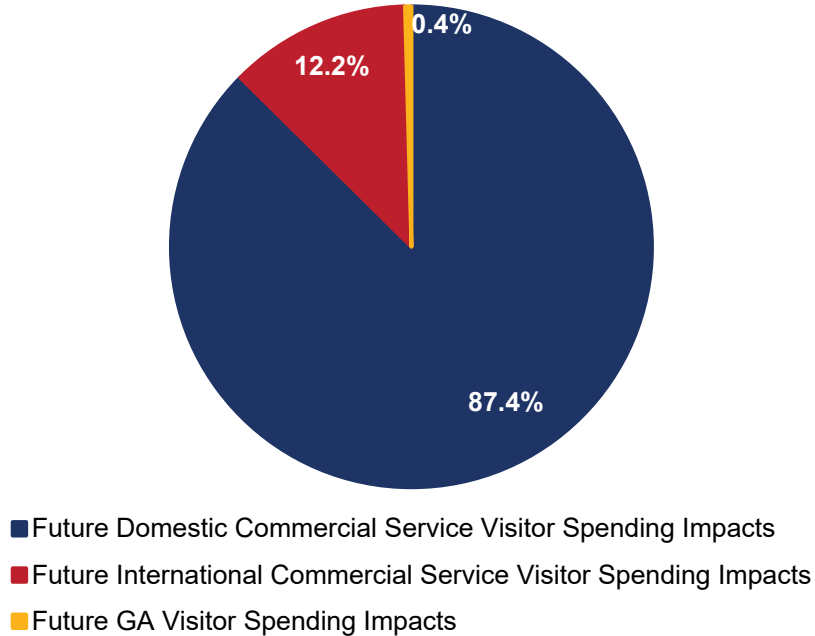
**Table 6-9. 2032 Total Impacts of Future International Air Service at St. Louis Lambert International Airport**

Future International Air Service Impacts	Jobs	Payroll	Value Added	Business Revenues
Direct Impacts	3,257	\$97,307,000	\$143,632,000	\$249,121,000
Indirect Impacts	686	\$40,904,000	\$63,750,000	\$121,737,000
Induced Impacts	847	\$44,995,000	\$79,284,000	\$137,097,000
<b>2032 Total International Air Service Impacts</b>	<b>4,790</b>	<b>\$183,205,000</b>	<b>\$286,666,000</b>	<b>\$507,955,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; S St. Louis Lambert International Airport Master Plan, 2022; Kimley-Horn, 2023.*

**Figure 6-2** presents the percent share of total visitor spending impacts generated from future international air service within the total, which also includes domestic commercial service and GA impacts. As shown, future international air service visitor spending is anticipated to account for approximately 12% of the total 2032 visitor spending impacts, with domestic commercial service visitor spending impacts accounting for slightly more than 87% and GA visitor spending impacts accounting for less than 1%.

**Figure 6-2. Share of 2032 Total Visitor Spending Impacts by Type of Visitor**



*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; St. Louis Lambert International Airport Master Plan, 2022; Kimley-Horn, 2023.*

It is important to note that there are several other factors that contribute to the economic impact of new international flights that are not represented in the international visitor spending impacts presented in **Section 6.2.4**. These factors include increases in airport landing fees as a result of the actual flight operations and additional fuel sales, as well as impacts related to cargo and freight activity. Impacts of cargo and freight activity are two-fold, as it would include the impact of the overall weight of the goods as well as the value of the goods. Other factors that contribute to the impact of international flights are associated economic development opportunities for the region, as companies will often grow their impact as new international service becomes available, bringing new money and new business opportunities to the region. Finally, there are impacts associated with time-savings, as many firms prefer to fly non-stop and will travel to airports within their region to access nonstop service. These additional benefits were not calculated as part of this analysis given the lack of specificity of the future international air service.

### 6.3. 2032 Total Airport Impacts

**Table 6-10** presents the total future Airport impacts anticipated for the year 2032, inclusive of all on- and off-airport activities. As shown, it is anticipated that in 2032, direct impacts of on- and off-airport activity will generate more than 63,300 jobs in the St. Louis region, which will result in almost \$4.8 billion in payroll impacts, approximately \$5.4 billion in value-added impacts, and \$19.6 billion in business revenues. The multiplier impacts of future 2032 on- and off-airport

impacts will support more than 70,000 jobs, \$4.3 billion in payroll, approximately \$7.1 billion in value-added impacts, and \$12.8 billion in business revenues. **When combined, the direct and multiplier impacts of on- and off-airport activity in 2032 are anticipated to provide just over 133,500 jobs in the St. Louis region, which will result in almost \$9.1 billion paid out in payroll, adding \$12.5 billion to the GRP, and generating almost \$32.4 billion in total business revenues.**

**Table 6-10. 2032 St. Louis Lambert International Airport Total Airport Impacts**

Category	Jobs	Payroll	Value Added	Business Revenues
Total Direct Impacts	63,335	\$4,840,926,000	\$5,388,303,000	\$19,563,874,000
Total Multiplier Impacts	70,166	\$4,264,853,000	\$7,058,906,000	\$12,826,374,000
<i>Total Indirect Impacts</i>	<i>27,681</i>	<i>\$2,011,018,000</i>	<i>\$3,061,004,000</i>	<i>\$5,886,167,000</i>
<i>Total Induced Impacts</i>	<i>42,485</i>	<i>\$2,253,836,000</i>	<i>\$3,997,902,000</i>	<i>\$6,940,207,000</i>
<b>2032 Total Airport Impacts</b>	<b>133,501</b>	<b>\$9,105,778,000</b>	<b>\$12,447,209,000</b>	<b>\$32,390,249,000</b>

*Notes: Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; St. Louis Lambert International Airport Master Plan, 2022; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Moody's Analytics for 2032, 2023; St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.*

**As shown in Table 6-11, it is anticipated that 65,380 jobs will be supported by total airport impacts, alone, in 2032. These total airport impact jobs are anticipated to support approximately \$3.1 billion in payroll, generating \$5.1 billion in value-added benefits, and approximately \$9.3 billion in total business revenues.** Included within the category of “airport impacts” is future airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. The aerospace manufacturing activity anticipated for 2032 is projected to support 58,208 total jobs, which corresponds with approximately \$5.4 billion in payroll, \$6.5 billion in value added, and almost \$21.2 billion in business revenues. The future impact of off-airport aviation-reliant businesses is anticipated to result in almost 10,000 jobs added to the St. Louis region in 2032, resulting in \$608.1 million in payroll, adding \$855.9 million in value to the GRP, which will generate \$1.9 billion in business revenues.

**Table 6-11. 2032 St. Louis Lambert International Airport Total Impacts by Activity Type**

Activity	Jobs	Payroll	Value Added	Business Revenues
Airport Impacts*	65,380	\$3,110,405,000	\$5,136,385,000	\$9,274,856,000
Aerospace Manufacturing	58,208	\$5,387,256,000	\$6,454,936,000	\$21,189,823,000
Aviation Reliant Businesses	9,912	\$608,117,000	\$855,888,000	\$1,925,570,000
<b>Total</b>	<b>133,501</b>	<b>\$9,105,778,000</b>	<b>\$12,447,209,000</b>	<b>\$32,390,249,000</b>

*Notes: \*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Airline Data Inc, 2019; Flight Aware, 2019; St. Louis Lambert International Airport Master Plan, 2022; NAICS Association, 2023; CoStar, 2023; D&B Hoovers, 2023; ESRI Business Analyst, 2023; Moody's Analytics for 2032, 2023; St. Louis Lambert International Airport, 2019; Kimley-Horn, 2023.*

When comparing the results of the current 2019 airport impact economic contributions to the estimated future 2032 airport impact economic contributions, it is anticipated that total payroll impacts will increase by 56% (\$2.0 billion to \$3.1 billion) between 2019 and 2032. The number of jobs that the airport impacts support is anticipated to grow 55% (42,295 to 65,380) between 2019 and 2032. When looking at the total contributions of the airport impacts, there is an anticipated 53% increase (\$6.1 billion to \$9.3 billion) in total airport impact between 2019 and what is estimated for 2032. The growth of airport impacts anticipated between 2019 and 2032 is comparable to the growth identified between the previous 2013 study and this study.

#### **6.4. 2032 Tax Impacts**

Tax impacts for 2032 were developed using the same process as tax impacts for the 2019 analysis. IMPLAN provides tax estimates at the city, special district, county, state, and federal level for each category of impact, whether on- or off-airport. As with the 2019 tax impacts, the 2032 tax impacts represent taxes paid by employee compensation, taxes of production and imports, other property income, and personal taxes.

As shown in **Table 6-12**, the local tax impacts related to the anticipated direct on- and off-airport activity is projected to reach approximately \$287.3 million, with airport impacts, including airport administration, airport tenants (excluding aerospace manufacturing), capital expenditures, and visitor spending, contributing the most to this. **The total direct tax impacts across all on- and off-airport activity anticipated in 2032 is almost \$1.5 billion, with most of those tax impacts coming from federal tax impacts.**

**Table 6-12. 2032 Tax Revenues Generated from Direct On- and Off-Airport Activity**

Direct Impacts	Local	State	Federal	Total
Airport Impacts*	\$199,617,000	\$146,409,000	\$333,047,000	\$679,072,000
Aerospace Manufacturing	\$75,190,000	\$98,513,000	\$536,836,000	\$710,540,000
Aviation-Reliant Businesses	\$12,478,000	\$13,623,000	\$61,089,000	\$87,189,000
<b>2032 Direct Tax Revenues</b>	<b>\$287,285,000</b>	<b>\$258,545,000</b>	<b>\$930,972,000</b>	<b>\$1,476,801,000</b>

Notes: \*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollar values were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Kimley-Horn, 2023.

The total tax impacts (including direct and multiplier impacts), across all jurisdictions, anticipated for on- and off-airport activity projected in 2032 is approximately \$2.9 billion, as shown in Table 6-13. Most of these tax impacts are associated with federal taxes, with federal taxes accounting for \$1.8 billion of the total 2032 estimate. Approximately \$528.3 million in state taxes, and \$596.7 million in local taxes are estimated to make up the remainder of the total future tax impacts for all on- and off-airport activity anticipated to occur in 2032.

**Table 6-13. 2032 Tax Revenues Generated from Total On- and Off-Airport Activity**

Total Impacts	Local	State	Federal	Total
Airport Impacts*	\$316,188,000	\$245,045,000	\$637,559,000	\$1,198,790,000
Aerospace Manufacturing	\$247,529,000	\$251,422,000	\$1,048,437,000	\$1,547,389,000
Aviation-Reliant Businesses	\$33,016,000	\$31,822,000	\$121,823,000	\$186,661,000
<b>2032 Total Tax Revenues</b>	<b>\$596,733,000</b>	<b>\$528,289,000</b>	<b>\$1,807,819,000</b>	<b>\$2,932,840,000</b>

Notes: Impacts presented in Table 6-13 include direct, indirect, and induced impacts. \*Includes airport administration, airport tenants, airport capital expenditures, and visitor spending impacts. Totals may not sum due to rounding. Dollars were rounded to the nearest thousand. Dollars are presented in 2019 dollars. Sources: IMPLAN V6.4, 2023; Kimley-Horn, 2023.

## 7. Conclusion

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The St. Louis Lambert International Airport has a long history of serving the air transportation needs of the St. Louis region and will continue to do so long into the future. The Airport provides a critical transportation link for the region, and many businesses in the region are reliant upon the Airport for job creation and support, as well as transporting people and goods.

**As demonstrated in this report, St. Louis Lambert International Airport is a thriving hub for economic activity, generating economic activity on and off the Airport, with more than 300 businesses on-site and nearly 250 reliant upon it. Moreover, the on-airport and off-airport activity presented in this report generated \$27.5 billion in economic impact for the region in 2019 and is anticipated to generate \$32.4 billion by 2032.**