

Contribution of General Aviation to the US Economy in 2023

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Contribution of General Aviation to the US Economy in 2023

Executive summary

PwC was engaged by the General Aviation Manufacturers Association (“GAMA”) to quantify the contribution of general aviation to the US national and state economies in 2023.

In addition to GAMA, the general aviation industry associations include: the Aircraft Electronics Association, Aircraft Owners and Pilots Association, Experimental Aircraft Association, National Air Transportation Association, National Association of State Aviation Officials, National Business Aviation Association, and Vertical Aviation International.

General aviation is defined as the manufacture and operation of any type of aircraft that has been issued an airworthiness certificate by the Federal Aviation Administration (“FAA”), other than aircraft used for scheduled commercial air service or operated by the military.¹ For this study, the general aviation industry is defined to include aircraft and component manufacturing, flight operations, maintenance, and other activities. The economic contribution of the general aviation industry is measured in terms of employment, labor income, output, and gross domestic product (“GDP”) for 2023, the most recent year for which a full, consistent set of national and state-level data is available.²

This report considers four types of economic contributions—direct, indirect, induced, and enabled—that in aggregate provide a measure of the total economic contribution of general aviation:

1. **Direct contribution** is economic activity within the general aviation industry;
2. **Indirect contribution** is economic activity occurring throughout the supply chain associated with general aviation;
3. **Induced contribution** is economic activity resulting from household spending of labor and proprietors’ income earned directly or indirectly from general aviation-related activities, and
4. **Enabled contribution** is economic activity resulting from the visitors’ destination expenditures associated with general aviation flights.

Nationwide 371,900 full- and part-time workers were *directly* employed in general aviation in 2023 (see **Table E-1**, below). Including direct, indirect, induced, and enabled effects, general aviation supported 1.3 million jobs, generated \$107.5 billion in labor income (including wages and salaries and benefits as well as proprietors’ income), produced \$339.2 billion in output, and contributed \$178.1 billion to GDP. Overall, the total GDP contribution attributable to general aviation amounted to approximately \$529 per person in the United States in 2023. At the national level, each direct job in the general aviation industry supported 2.6 jobs elsewhere in the economy.

Table E-1. – Total economic contribution of general aviation to the US economy, 2023
[Dollar amounts in billions]

Item	Direct	Indirect and induced	Enabled	Total	Percent of US economy
Employment (jobs) ⁽¹⁾	371,900	859,200	99,100	1,330,200	0.61%
Labor income ⁽²⁾	\$39.4	\$62.6	\$5.5	\$107.5	0.67%
Output	\$114.8	\$208.3	\$16.1	\$339.2	0.74%
Contribution to GDP	\$59.5	\$109.0	\$9.5	\$178.1	0.64%

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs. (2) Labor income is defined as wages and salaries and benefits as well as proprietors’ income.

¹ This definition includes on-demand Federal Aviation Regulations (“FAR”) Part 135 operations.

² GDP is the sum of value added in all industries. Value added consists of employee compensation, proprietors’ income, income to capital owners from property, and taxes on production and imports. Throughout this report, we refer to value added as contribution to GDP. By comparison, output represents the total value of sales, including the cost of intermediate goods. Value added excludes the value of intermediate inputs.

General aviation contributes to the economies of all 50 states and the District of Columbia. At 146,600 jobs, California has the largest number of total jobs, including direct, indirect, induced, and enabled contributions, attributable to the general aviation industry. The top 10 states ranked by the total number of jobs attributable to general aviation in 2023 were California, Florida, Texas, Georgia, Arizona, Illinois, Ohio, New York, Kansas, and Pennsylvania (**Table E-2**, below). Combined, these 10 states accounted for 52 percent of the total jobs attributable to general aviation in the US in 2023.

Table E-2. – Total economic contribution of general aviation, top 10 states, 2023
[Ranked by total employment contribution, dollar amounts in billions]

State	Total jobs ⁽¹⁾	Total labor income ⁽²⁾	Total output	Total contribution to GDP
California	146,600	\$13.8	\$39.8	\$22.8
Florida	121,100	\$8.7	\$27.4	\$14.1
Texas	106,000	\$8.3	\$27.1	\$14.7
Georgia	56,800	\$4.7	\$16.3	\$8.4
Arizona	48,800	\$3.8	\$12.3	\$6.7
Illinois	46,400	\$4.3	\$12.3	\$6.6
Ohio	44,300	\$3.7	\$11.6	\$5.8
New York	41,600	\$4.5	\$11.6	\$7.0
Kansas	40,400	\$2.9	\$10.9	\$5.0
Pennsylvania	34,200	\$2.9	\$8.7	\$4.5

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

The total (direct, indirect, induced, and enabled) contribution of general aviation to output is largest in California at \$39.8 billion. The top 10 states ranked by total output attributable to general aviation in 2023 were California, Florida, Texas, Georgia, Arizona, Illinois, Ohio, New York, Kansas, and Minnesota (**Table E-3**, below). These 10 states accounted for 53 percent of the total output attributable to general aviation in the US in 2023.



Table E-3. – Total economic contribution of general aviation, top 10 states, 2023
[Ranked by total output contribution, dollar amounts in billions]

State	Total jobs ⁽¹⁾	Total labor income ⁽²⁾	Total output	Total contribution to GDP
California	146,600	\$13.8	\$39.8	\$22.8
Florida	121,100	\$8.7	\$27.4	\$14.1
Texas	106,000	\$8.3	\$27.1	\$14.7
Georgia	56,800	\$4.7	\$16.3	\$8.4
Arizona	48,800	\$3.8	\$12.3	\$6.7
Illinois	46,400	\$4.3	\$12.3	\$6.6
Ohio	44,300	\$3.7	\$11.6	\$5.8
New York	41,600	\$4.5	\$11.6	\$7.0
Kansas	40,400	\$2.9	\$10.9	\$5.0
Minnesota	33,300	\$2.8	\$9.4	\$4.8

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

The total (direct, indirect, induced, and enabled) contribution of general aviation to GDP is largest in California at \$22.8 billion. The top 10 states ranked by total GDP attributable to general aviation in 2023 were California, Texas, Florida, Georgia, New York, Arizona, Illinois, Ohio, Washington, and Kansas (Table E-4, below). These 10 states accounted for 54 percent of the total GDP attributable to general aviation in the US in 2023.

Table E-4. – Total economic contribution of general aviation, top 10 states, 2023
[Ranked by total GDP contribution, dollar amounts in billions]

State	Total jobs ⁽¹⁾	Total labor income ⁽²⁾	Total output	Total contribution to GDP
California	146,600	\$13.8	\$39.8	\$22.8
Texas	106,000	\$8.3	\$27.1	\$14.7
Florida	121,100	\$8.7	\$27.4	\$14.1
Georgia	56,800	\$4.7	\$16.3	\$8.4
New York	41,600	\$4.5	\$11.6	\$7.0
Arizona	48,800	\$3.8	\$12.3	\$6.7
Illinois	46,400	\$4.3	\$12.3	\$6.6
Ohio	44,300	\$3.7	\$11.6	\$5.8
Washington	30,900	\$3.0	\$8.6	\$5.1
Kansas	40,400	\$2.9	\$10.9	\$5.0

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

The top 10 states ranked by total general aviation output contribution per capita are: Kansas, North Dakota, Alaska, Connecticut, Iowa, Arizona, Minnesota, Montana, Georgia, and Colorado (see [Table E-5](#)).

Table E-5. – Top 10 states, ranked by total output contribution per capita, 2023

State	Total output contribution (\$ billions)	Per capita output contribution (\$)
Kansas	\$10.9	\$3,692
North Dakota	\$2.5	\$3,137
Alaska	\$2.0	\$2,745
Connecticut	\$7.4	\$2,025
Iowa	\$5.9	\$1,832
Arizona	\$12.3	\$1,650
Minnesota	\$9.4	\$1,642
Montana	\$1.7	\$1,483
Georgia	\$16.3	\$1,469
Colorado	\$8.1	\$1,366

Source: PwC calculations using the IMPLAN modeling system and data from the US Census Bureau.

The top 10 states ranked by total general aviation GDP contribution per capita are: Kansas, North Dakota, Alaska, Connecticut, Arizona, Minnesota, Iowa, Georgia, Colorado, and Oregon (see [Table E-6](#)).³

Table E-6. – Top 10 states, ranked by total GDP contribution per capita, 2023

State	Total contribution to GDP (\$ billions)	Per capita contribution to GDP (\$)
Kansas	\$5.0	\$1,702
North Dakota	\$1.2	\$1,542
Alaska	\$1.1	\$1,464
Connecticut	\$4.0	\$1,094
Arizona	\$6.7	\$900
Minnesota	\$4.8	\$833
Iowa	\$2.7	\$829
Georgia	\$8.4	\$757
Colorado	\$4.4	\$753
Oregon	\$3.0	\$711

Source: PwC calculations using the IMPLAN modeling system and data from the US Census Bureau.

³ See [Table 7a](#) through [Table 12b](#) in the text for full state-level results.

Contribution of General Aviation to the US Economy in 2023

I. Introduction

PwC was engaged by the General Aviation Manufacturers Association (“GAMA”) to quantify the contribution of general aviation to the US national and state economies in 2023.

In addition to GAMA, the general aviation industry associations include: the Aircraft Electronics Association, Aircraft Owners and Pilots Association, Experimental Aircraft Association, National Air Transportation Association, National Association of State Aviation Officials, National Business Aviation Association, and Vertical Aviation International.

General aviation is defined as the manufacture and operation of any type of aircraft that has been issued an airworthiness certificate by the Federal Aviation Administration (“FAA”), other than aircraft used for scheduled commercial air service or operated by the military.⁴ For the study, the general aviation industry is defined to include aircraft and component manufacturing (including engineering), flight operations, maintenance, and other activities. The economic contribution of the general aviation industry is measured in terms of employment, labor income, output, and gross domestic product (“GDP”) for 2023, the most recent year for which a full, consistent set of national and state-level data are available.⁵

This report considers four types of economic contributions—direct, indirect, induced, and enabled—that in aggregate provide a measure of the total economic contribution of general aviation:

1. **Direct contribution** is economic activity within the general aviation industry;
2. **Indirect contribution** is economic activity occurring throughout the supply chain associated with general aviation;
3. **Induced contribution** is economic activity resulting from household spending of labor and proprietor’s income earned directly or indirectly from general aviation related activities; and
4. **Enabled contribution** is economic activity resulting from the visitors’ destination expenditures associated with general aviation flights.

This report is organized as follows. **Section II** provides background information on general aviation in the US, including statistics on general aviation aircraft manufacturing and operations. **Section III** presents estimates of general aviation’s total economic contributions at the national and state levels in 2023. A summary by state is presented in **Appendix A**. A description of the data sources and methodology is included in **Appendix B**.



⁴ This definition includes on-demand Federal Aviation Regulations (“FAR”) Part 135 operations.

⁵ GDP is the sum of value added in all industries. Value added consists of employee compensation, proprietors’ income, income to capital owners from property, and taxes on production and imports. Throughout this report, we refer to value added as contribution to GDP. By comparison, output represents the total value of sales, including the cost of intermediate inputs. Value added excludes the value of intermediate inputs.

II. Industry background

General aviation includes the manufacture and operation of any type of aircraft that has been issued an airworthiness certificate by the FAA, other than aircraft used for scheduled commercial air service or operated by the military. General aviation includes personal-use aircraft, business aircraft, helicopters, aircraft operated by flight schools, and on-demand passenger or cargo transportation under Federal Aviation Regulation Part 135.⁶

In 2023, more than 214,000 active general aviation aircraft logged 28.6 million flight hours in the United States. The general aviation fleet ranges from small, amateur-built aircraft to large business jets and includes fixed-wing piston and turboprop airplanes, jet-powered airplanes, helicopters, gliders, and hot-air balloons. General aviation aircraft may be wholly-owned, jointly-owned, rented, chartered, or leased. General aviation covers everything from the use of personal aircraft by recreational pilots to business-owned aircraft used to transport people and/or cargo for business purposes. General aviation operations include air tours and sight-seeing flights as well as specialized activities such as air medical services, aerial applications in agriculture, forestry, and other industries, and flight training.

The economic contribution of the general aviation industry includes aircraft and component manufacturing (including engineering), flight operations and maintenance, and destination visitor expenditures enabled by general aviation flights.

A. General aviation aircraft and component manufacturing

General aviation aircraft can be grouped into five categories:

1. Piston-powered airplanes
2. Turboprop airplanes
3. Jet-powered airplanes
4. Rotorcraft (i.e., helicopters)
5. Experimental and other aircraft.⁷

Experimental aircraft may have piston or turbine engines, but are usually piston-powered, and include experimental amateur-built aircraft (commonly referred to as home-built or kit aircraft) flown by aviation enthusiasts primarily for personal transportation or recreational purposes, and certain vintage and rebuilt military aircraft flown for aerial exhibition. Other aircraft include light-sport aircraft, gliders, lighter-than-air aircraft (i.e., hot air balloons).

Nearly 4,000 US manufactured general aviation aircraft were shipped in 2023. Experimental amateur-built aircraft registrations accounted for 34 percent of total shipments of new aircraft⁸ followed by piston-powered aircraft which accounted for nearly 29 percent of all shipments of general aviation aircraft (see **Figure 1**, below).⁹

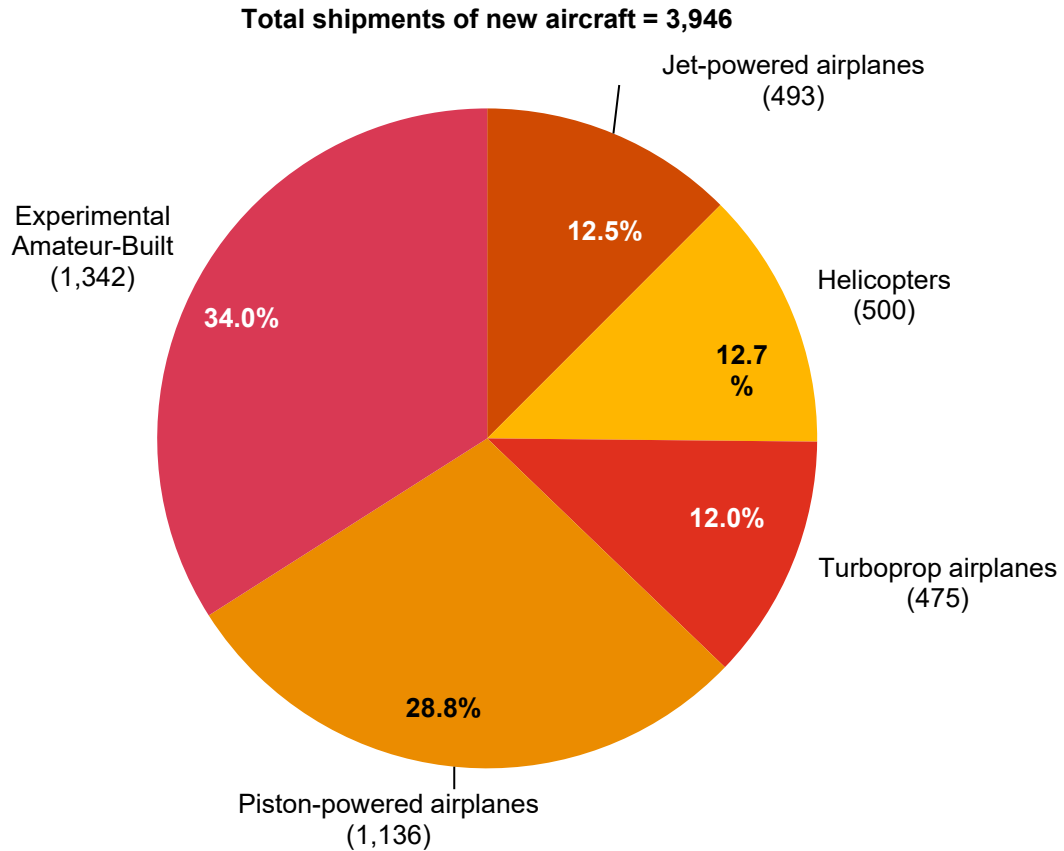
⁶ FAR Part 135 covers the operators that provide air transportation of persons or property for compensation or hire and generally includes commuter airlines and on-demand air transportation service. The latter operates without a set schedule and thus qualifies as general aviation under the definition used for this study.

⁷ In accordance with industry norms, the term “aircraft” refers to any vehicle that is intended to be used for flight in the air, including: airplanes, helicopters, gliders, balloons, etc. Aircraft does not include ultralight vehicles which do not have an airworthiness certificate. The term “airplane” refers to fixed-wing aircraft, while rotorcraft refers to rotary-wing aircraft (i.e., helicopters).

⁸ Experimental aircraft in **Figure 1** are defined as experimental amateur-built aircraft that received an FAA certification of airworthiness, reported by the Experimental Aircraft Association (“EAA”).

⁹ Due to the lack of data on shipments of US manufactured gliders and hot-air balloons, such aircraft are excluded from **Figure 1**.

Figure 1. – Shipments of new US-manufactured general aviation aircraft, 2023



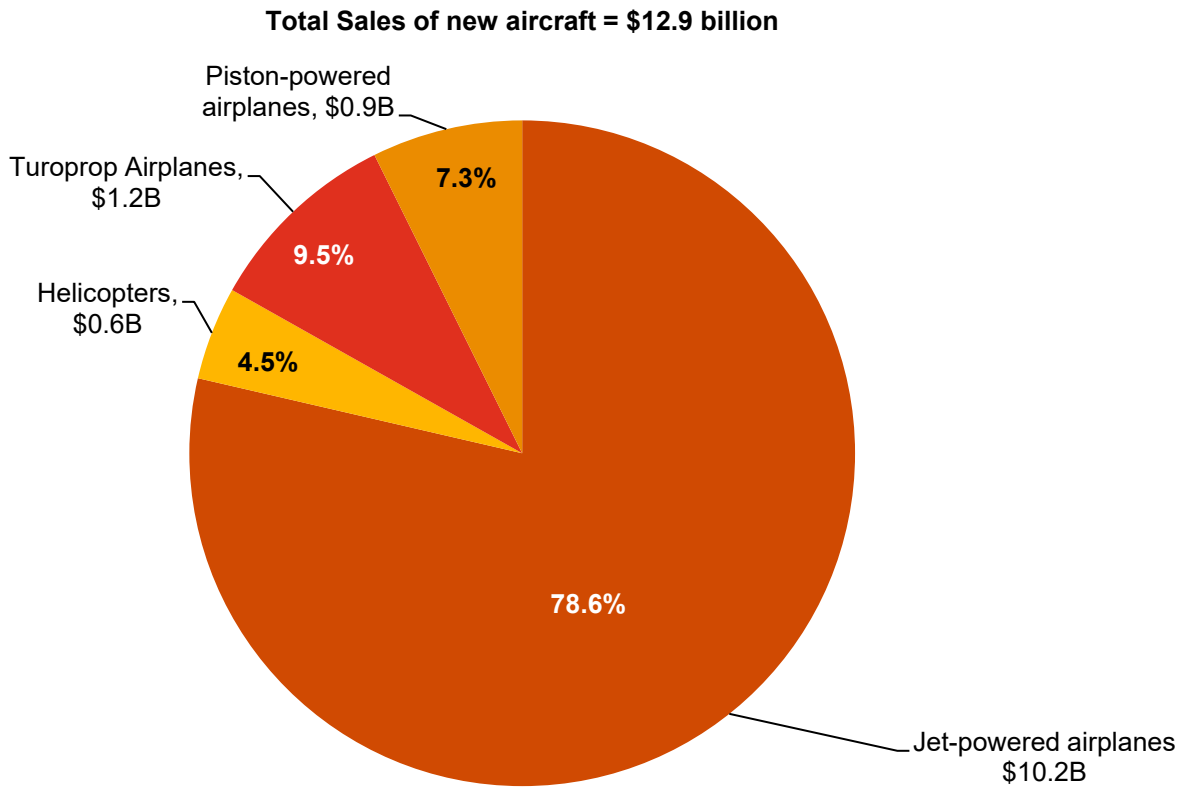
Source: PwC estimates based on data from GAMA's *2023 Year End General Aviation Aircraft Shipment Report*, the EAA, and the FAA aircraft registry.

Total sales of new US-manufactured general aviation aircraft amounted to \$12.9 billion in 2023.¹⁰ Accounting for 12.5 percent of shipments, jet-powered airplanes represented the majority of sales (nearly 80 percent) of new US-manufactured general aviation aircraft (see **Figure 2**, below). Turboprop airplanes had the second highest share of sales in 2023 (9.5 percent), followed by piston-powered airplanes (7.3 percent).¹¹

¹⁰ Due to lack of data for 2023 on sales of experimental and homebuilt aircraft, such aircraft are excluded from **Figure 2**.

¹¹ Sales of other aircraft are excluded from **Figure 2** due to a lack of data. It is our understanding that very few gliders and lighter-than-air aircraft are manufactured in the United States.

Figure 2. – Sales of new US-manufactured general aviation aircraft, 2023



Source: PwC estimates based on GAMA's *2023 Year End General Aviation Aircraft Shipment Report*. Detail may not add up to the total due to rounding.

In addition to the manufacture of new aircraft, US manufacturers also produce a variety of parts and components for use in the manufacture, repair, and upkeep of general aviation aircraft around the world, including aircraft engines and engine components, aircraft assemblies and subassemblies, aircraft parts (such as propellers, wheels, tires, brakes, aircraft interiors, and lighting), and avionics and other electrical components. Aircraft component manufacturers produce parts for both new aircraft and for use in repairing and refurbishing existing aircraft. The process of manufacturing aircraft, parts, engines, and avionics includes engineering as a critical component. Engineering encompasses the design, development, testing, and production of aircraft and components. Engineering can be categorized as a “factoryless goods producer” (“FGP”) that is captured in the relevant manufacturing sector. PwC estimates that total sales of US-manufactured general aviation aircraft components for both new and existing aircraft were approximately \$37 billion in 2023.

B. International trade

International trade plays an important role in the US civil aviation manufacturing industry (which includes both commercial and general aviation). Overall, the US civil aircraft manufacturing industry (including aircraft components) continues to be a net exporter, even after a significant reduction in trade in 2020 due to the Covid-19 pandemic. According to the US Census Bureau, in 2023, the United States exported and imported \$113.7 billion and \$55.2 billion of commercial and general aviation aircraft, engines, and parts, respectively,¹² resulting in a trade surplus of \$58.5 billion for the year.

¹² The Census Bureau trade data on aircraft and parts does not separately identify commercial and general aviation exports. However, data published by the Aerospace Industries Association (“AIA”) indicate that 80 percent of the sales of US-manufactured civil aircraft are accounted for by commercial aircraft. This implies that exports of general aviation aircraft and parts were approximately \$23 billion (20 percent of \$113.7 billion) in 2023.

Table 1. – Balance of trade: civil aircraft, engines, equipment, and parts, 2013-2023
[Dollars amounts in billions]

Year	Exports	Imports	Balance
2013	\$105.0	\$46.9	\$58.1
2014	\$113.1	\$53.3	\$59.9
2015	\$119.5	\$55.2	\$64.3
2016	\$120.9	\$50.0	\$71.0
2017	\$121.0	\$51.3	\$69.6
2018	\$130.8	\$55.3	\$75.4
2019	\$126.0	\$62.8	\$63.2
2020	\$72.0	\$44.2	\$27.9
2021	\$80.0	\$40.9	\$39.0
2022	\$94.3	\$47.1	\$47.2
2023	\$113.7	\$55.2	\$58.5

Source: US Census Bureau, Country and Product Trade Data, End-Use Tables (downloaded January 21, 2025).

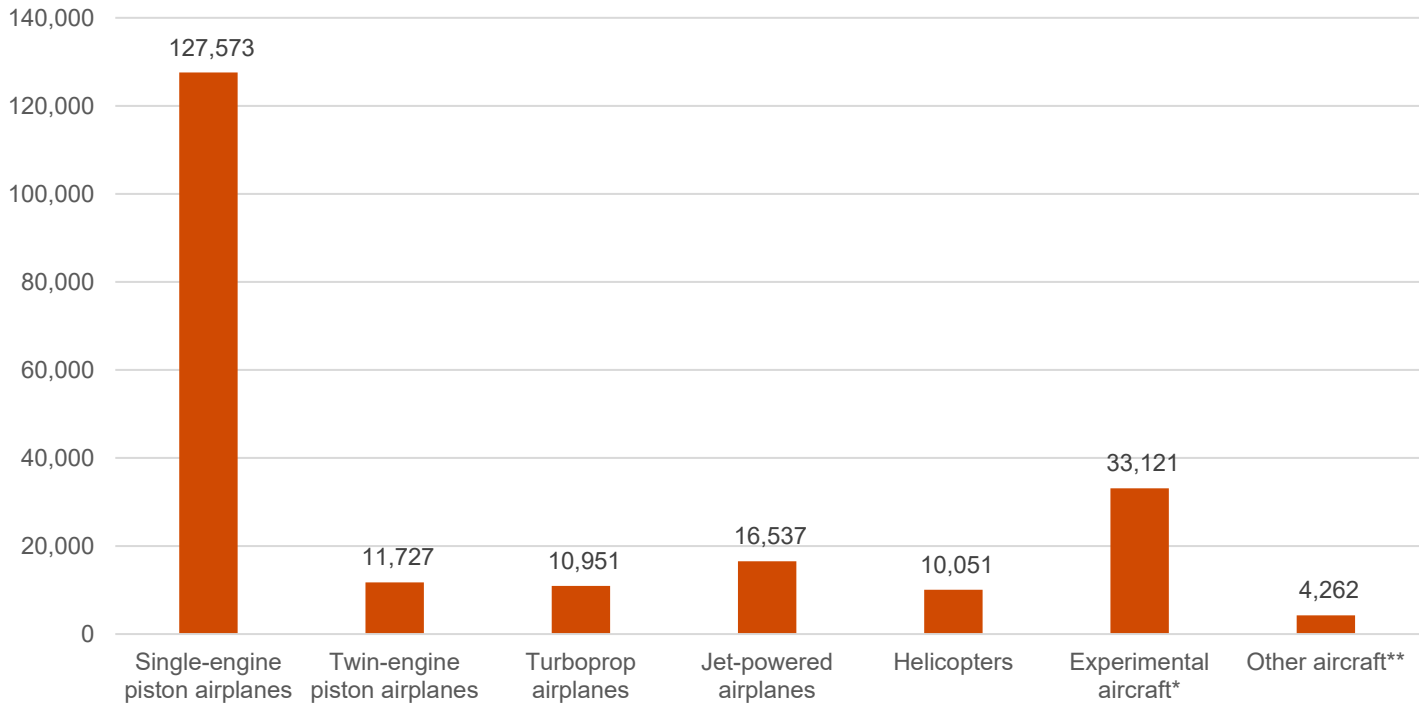
C. General aviation operations

The FAA estimates that there were 214,222 active aircraft in the US general aviation fleet, including on-demand FAR Part 135 aircraft, in 2023.¹³ Single-engine piston airplanes made up the majority of the US fleet, accounting for 60 percent of active general aviation aircraft while twin-engine piston airplanes accounted for an additional 5 percent of the US fleet (see **Figure 3**, below). Experimental aircraft, including special light-sport aircraft, accounted for 15 percent of the US fleet. Jet-powered airplanes accounted for 8 percent of the US general aviation fleet in 2023.

Overall, the US general aviation fleet logged 28.6 million flight hours in 2023 (see **Figure 4**, below). Single-engine piston airplanes accounted for 51 percent of all flight hours in 2023 (14.6 million hours), followed by jet-powered airplanes (16 percent) and helicopters (10 percent).

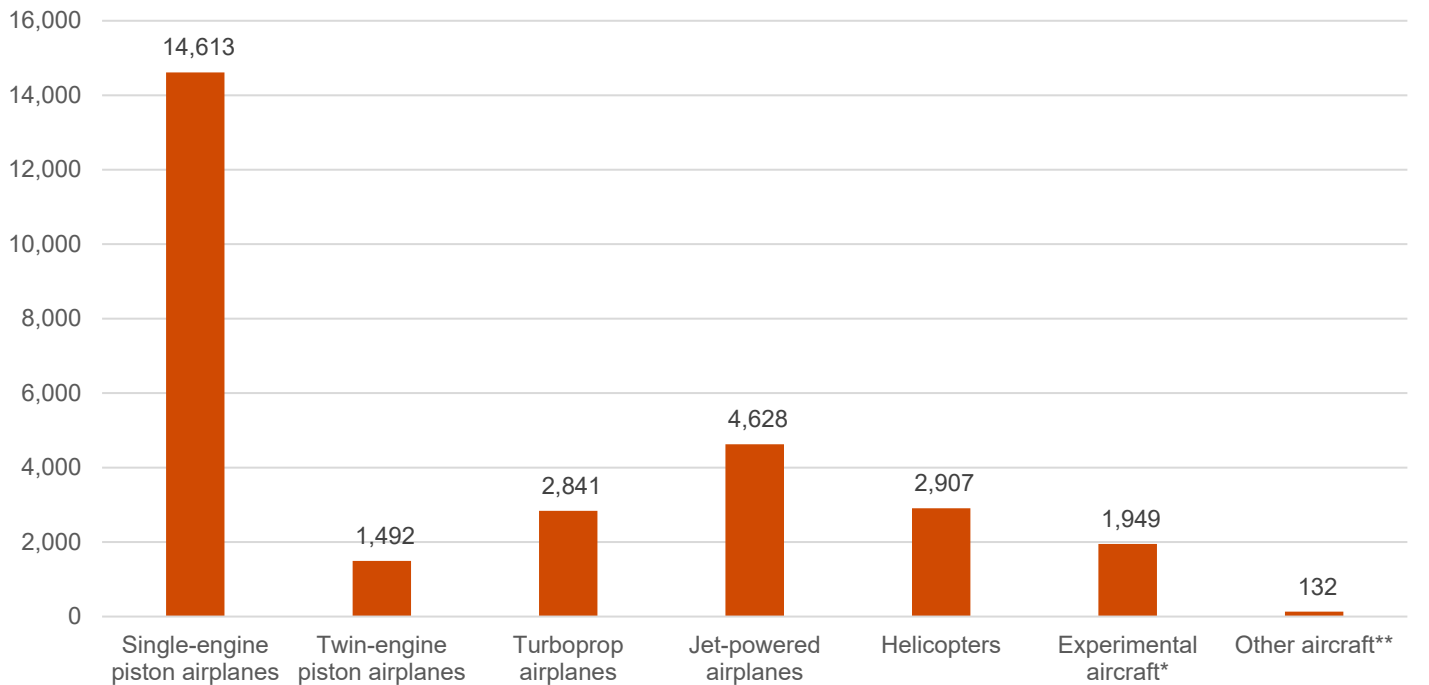
¹³ According to the FAA, there were 272,808 registered general aviation aircraft in the United States in 2023.

Figure 3. – US general aviation fleet size by type of aircraft, 2023



Source: FAA, General Aviation and Part 135 Activity Survey, 2023. *Includes special light-sport aircraft. **Includes gliders and lighter-than-air aircraft.

**Figure 4. – US general aviation flight hours by type of aircraft, 2023
[Thousands of hours]**



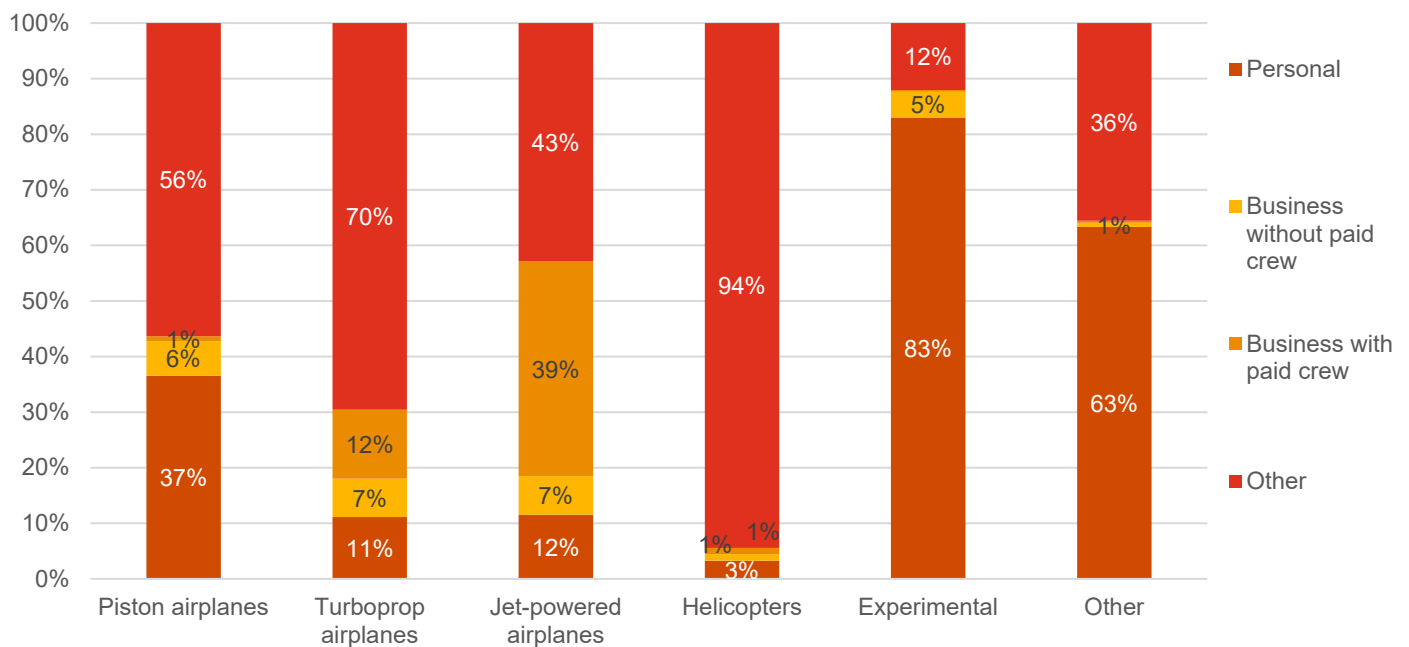
Source: FAA, General Aviation and Part 135 Activity Survey, 2023. *Includes special light-sport aircraft. **Includes gliders and lighter-than-air aircraft.

The FAA classifies general aviation flights into 15 separate use types based on flight information reported by aircraft owners. To develop flight cost profiles, we combined these use types into four major categories.¹⁴

1. **Personal:** Operation of general aviation aircraft for personal/recreational reasons. The pilot of a personal-use aircraft is typically the owner of the aircraft, and it is assumed that owners tie-down their aircraft rather than rent hangar space.¹⁵
2. **Business without a paid professional crew:** Operation of general aviation aircraft for business transportation without a paid, professional flight crew. Such aircraft are typically flown by the owner or operator of the aircraft who does not earn a salary. It is assumed that owners rent space in a shared hangar and pay a business insurance rate on the aircraft.
3. **Business with a paid professional crew:** Operation of general aviation aircraft for business transportation with a paid, professional flight crew. Owners of such aircraft are assumed to rent a hangar, pay a lower business insurance rate, and hire a professional pilot and flight crew. Air taxi and air medical services are assumed to have this cost profile.
4. **Other:** Operation of general aviation aircraft for all other purposes, including flight instruction, aerial application in agriculture and other industries, aerial observation, and sight-seeing. It is assumed that other-use aircraft operate with a paid pilot, but no other paid crew.

Personal-use aircraft accounts for the majority of flight hours for piston-powered and experimental aircraft (see **Figure 5**, below). Business-use with a paid crew accounts for the largest share of flight hours for turboprop and jet-powered airplanes. The “other-use” category accounts for the majority (61 percent) of flight hours for rotorcraft.¹⁶ Compared with just 549 airports that service commercial air transportation, there are more than 19,500 landing facilities in the United States that serviced general aviation aircraft in 2023, including airports, heliports, seaplane bases, and other facilities.¹⁷

Figure 5. – General aviation flight hours by type of aircraft and reason for use, 2023



Source: FAA, General Aviation and Part 135 Activity Survey, 2023. *Includes special light-sport aircraft. **Includes gliders and lighter-than-air aircraft.

¹⁴ See **Appendix B** for a detailed mapping of FAA use types to the four use categories reported in this study.

¹⁵ This assumption is conservative as many personal-use aircraft owners rent space in shared hangars.

¹⁶ Due to the lack of data on the operating costs of gliders and lighter-than-air aircraft, such aircraft are excluded from **Figure 5** and our economic contribution estimates. They accounted for approximately 0.5 percent of total flight hours in 2023.

¹⁷ The number of airports servicing commercial flights is based on data from the FAA's passenger and cargo statistics (https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/). The number of landing facilities servicing general aviation flights is from the Department of Transportation's Bureau of Transportation Statistics (<https://www.bts.gov/content/number-us-airportsa>).

D. General aviation traveler expenditures

It is estimated that approximately 120 million passengers traveled on general aviation flights in the United States in 2023. These passengers purchase goods and services in the destination cities. For example, a business traveler on a business aircraft may incur expenses for a hotel room, local meals, and souvenirs. These travel expenditures provide additional economic benefits to the communities served by general aviation.

PwC estimates that overnight passengers on general aviation aircraft spent \$2.2 billion on meals and \$4.4 billion on lodging in 2023 (see [Table 2](#), below). These estimates do not include spending by general aviation travelers on souvenirs, snacks, and other miscellaneous items.¹⁸

Table 2. – Estimated destination expenditures enabled by general aviation flights, 2023

Type of expenditure	General aviation travel expenditures (\$ billions)
Meals	\$2.2
Lodging	\$4.4
Total	\$6.7

Source: PwC estimates based on data from the FAA and per diem rates published by the General Services Administration and the Department of Defense.



¹⁸ For a description of the methodology used to estimate travel spending see [Appendix B](#).

III. Contribution of general aviation to the US economy

This section presents estimates of the general aviation industry’s contribution to the US national and state economies in 2023, the most recent year for which a consistent set of data is available. The estimates do not account for all of the economic contribution of the general aviation industry due to data limitations.¹⁹

A. National results

Nationwide, 48,600 full- and part-time workers were employed in the manufacture of general aviation aircraft in 2023. Another 74,700 workers were employed in the manufacture of components for general aviation aircraft, for a combined direct employment contribution of 132,800 jobs (see **Table 3**, below). These workers earned \$14.5 billion in labor income in 2023, an average of \$109,028 per job.

In addition, another 239,100 workers were employed in jobs directly related to the operation and maintenance of general aviation aircraft, including jobs in flight training, nonscheduled air transportation, scenic and sightseeing, and support activities for air transportation (such as fixed base operators and other maintenance and repair facilities).²⁰ These workers earned an average labor income per job of \$104,281 in 2023.

General aviation’s direct output was \$114.8 billion in 2023, and its direct contribution to GDP was \$59.5 billion in 2023. Operations and maintenance of general aviation aircraft accounted for over half of all contribution metrics; 64 percent of direct employment and 57 percent of direct GDP.

Table 3. – General aviation’s direct contribution to the US economy, 2023
[Dollar amounts in billions]

Item	Aircraft and component manufacturing	Operations and maintenance	Total direct contribution	Percent of US economy
Employment (jobs) ⁽¹⁾	132,800	239,100	371,900	0.17%
Labor income ⁽²⁾	\$14.5	\$24.9	\$39.4	0.24%
Output	\$54.7	\$60.1	\$114.8	0.25%
Contribution to GDP	\$25.6	\$33.9	\$59.5	0.21%

Source: PwC estimates based on data from GAMA, the FAA, and Conklin & de Decker.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as annual wages and salaries and benefits as well as proprietors’ income.

In 2023, general aviation—including direct, indirect, induced, and enabled contributions—supported 1.1 million full- and part-time US jobs, \$86.5 billion in US labor income (including wages and salaries and benefits as well as proprietors’ income), \$275.3 billion in US output, and \$143.4 billion of GDP (see **Table 4**, below). Each direct job in general aviation supports 1.8 jobs in other sectors of the economy.

¹⁹ The estimates do not include economic contributions associated with: (1) manufacture and operation of gliders and hot-air balloons, (2) payments to aircraft brokers and certain other sales transactions costs, (3) capital expenditures by general aviation aircraft manufacturers, and (4) expenditures for expansion and improvement of general aviation airports.

²⁰ A fixed base operator is an airport-based business which parks, services, fuels and may repair aircraft; it often rents aircraft and may provide flight training.

Table 4. – General aviation’s total contribution to the US economy, 2023
[Dollar amounts in billions]

Item	Direct	Indirect and induced	Enabled	Total contribution	Percent of US economy
Employment (jobs) ⁽¹⁾	371,900	859,200	99,100	1,330,200	0.61%
Labor income ⁽²⁾	\$39.4	\$62.6	\$5.5	\$107.5	0.67%
Output	\$114.8	\$208.3	\$16.1	\$339.2	0.74%
Contribution to GDP	\$59.5	\$109.0	\$9.5	\$178.1	0.64%

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors’ income.

Table 5 provides additional detail on the indirect and induced contributions associated with general aviation aircraft and component manufacturing and the operation and maintenance of general aviation aircraft.

Table 5. – Indirect and induced economic contributions of general aviation in 2023: Aircraft and component manufacturing vs. aircraft operations and maintenance
[Dollar amounts in billions]

Item	Aircraft and component manufacturing	Operations and maintenance	Total	Percent of US economy
Indirect contribution				
Employment (jobs) ⁽¹⁾	95,800	258,300	354,100	0.16%
Labor income ⁽²⁾	\$9.5	\$20.2	\$29.7	0.18%
Output	\$27.9	\$76.7	\$104.6	0.23%
Contribution to GDP	\$14.4	\$36.2	\$50.6	0.18%
Induced contribution				
Employment (jobs) ⁽¹⁾	175,300	329,900	505,200	0.23%
Labor income ⁽²⁾	\$11.4	\$21.5	\$32.9	0.20%
Output	\$36.0	\$67.7	\$103.7	0.23%
Contribution to GDP	\$20.3	\$38.2	\$58.4	0.21%
Total indirect and induced contributions				
Employment (jobs) ⁽¹⁾	271,100	588,200	859,200	0.40%
Labor income ⁽²⁾	\$21.0	\$41.7	\$62.6	0.39%
Output	\$63.9	\$144.4	\$208.3	0.45%
Contribution to GDP	\$34.7	\$74.3	\$109.0	0.39%

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors’ income.

Through its indirect and induced contributions, general aviation supported 467,100 jobs and \$37.7 billion of GDP in the service sector, 91,700 jobs and \$12.3 billion of GDP in the wholesale and retail trade sector, and 109,100 jobs and \$24.9 billion of GDP in the finance and insurance sector (see [Table 6](#), below).

Table 6. – Indirect and induced contributions of general aviation aircraft and component manufacturing and operations by industry, 2023
[Dollar amounts in billions]

Industry supported	Employment (jobs) ⁽¹⁾	Labor income ⁽²⁾	Output	Contribution to GDP
Agriculture, forestry and fishing	9,700	\$0.4	\$1.7	\$0.8
Mining	5,300	\$1.1	\$8.2	\$3.9
Utilities	2,700	\$0.5	\$3.6	\$1.7
Construction	7,800	\$0.5	\$1.4	\$0.7
Manufacturing	44,100	\$4.6	\$44.1	\$11.7
Wholesale and retail trade	91,700	\$5.7	\$20.5	\$12.3
Transportation and warehousing	91,500	\$7.0	\$13.1	\$7.9
Information	14,400	\$2.4	\$10.7	\$5.4
Finance, insurance, real estate, rental and leasing	109,100	\$8.4	\$41.3	\$24.9
Services	467,100	\$30.6	\$61.5	\$37.7
Other	16,000	\$1.5	\$2.1	\$1.9
Total	859,200	\$62.6	\$208.3	\$109.0

Source: PwC estimates based on data from GAMA and the IMPLAN modeling system.

(1) Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors' income.

B. State-level results

General aviation operations and aircraft manufacturing have an economic contribution in all 50 states and the District of Columbia. General aviation's economic contribution varies from state to state, depending on factors such as the availability of alternative modes of transportation, each state's industry mix, wage structure, spending and saving patterns, and connections to other economies.

[Table 7a](#) shows general aviation's state-by-state employment contributions, including direct, indirect and induced, and enabled contributions, where the states are shown alphabetically. [Table 7b](#) is the same as [Table 7a](#), except that the states are ranked by total jobs supported by general aviation. Total jobs supported by general aviation in 2023 ranged from a low of 1,800 in Rhode Island to a high of 146,600 in California. The top 10 states in terms of total jobs supported were California, Florida, Texas, Georgia, Arizona, Illinois, Ohio, New York, Kansas, and Pennsylvania. Combined, these 10 states account for 52 percent of the total jobs attributable to general aviation in the United States. As shown in [Table 7c](#), the total number of jobs supported by general aviation as a share of statewide employment was highest in Kansas, where 2.0 percent of all employment was supported by general aviation, followed by Alaska (1.9 percent) and North Dakota (1.4 percent).

[Table 8a](#) provides general aviation's total labor income (including wages and salaries and benefits as well as proprietors' income) contribution where the states are shown alphabetically. [Table 8b](#) is the same as [Table 8a](#), except that the states are ranked by total labor income supported by general aviation. General aviation's total labor income contribution ranges from a low of \$133 million in Rhode Island to a high of \$13.8 billion in California. The top 10 states in terms of total labor income supported were California (\$13.8 billion), Florida (\$8.7 billion), Texas (\$8.3 billion), Georgia (\$4.7 billion), New York (\$4.5 billion), Illinois (\$4.3 billion), Arizona (\$3.8 billion), Ohio (\$3.7 billion), Washington (\$3.0 billion), and Kansas

(\$2.8 billion). As shown in **Table 8c**, total labor income supported by general aviation as a percent of total labor income in the state is highest in Kansas, Alaska, North Dakota, Arizona, and Connecticut.

Table 9a provides general aviation's total contribution to output by state, including direct, indirect and induced, and enabled effects, where the states are shown alphabetically. **Table 9b** shows the states ranked by total output supported by general aviation. General aviation's total output contribution ranges from a low of \$402 million in Rhode Island to a high of \$39.8 billion in California. The top 10 states in terms of total output contribution were California, Florida, Texas, Georgia, Arizona, Illinois, Ohio, New York, Kansas, and Minnesota. As shown in **Table 9c**, total output supported by general aviation as a percent of total output in the state is highest in Kansas (2.4 percent), Alaska (1.9 percent), and North Dakota (1.7 percent).

Table 10a provides general aviation's total contribution to GDP by state, including direct, indirect and induced, and enabled effects, where the states are shown alphabetically. **Table 10b** shows the states ranked by total GDP supported by general aviation. General aviation's total GDP contribution ranges from a low of \$230 million in Rhode Island to a high of \$22.8 billion in California. The top 10 states in terms of total contribution to GDP were California (\$22.8 billion), Texas (\$14.7 billion), Florida (\$14.0 billion), Georgia (\$8.4 billion), and New York (\$7.0 billion). As shown in **Table 10c**, total GDP supported by general aviation as a percent of total GDP in the state is highest in Kansas, North Dakota, Alaska, Arizona, and Connecticut.

It is important to note that general aviation can have a disproportionate effect on the economies of large, sparsely populated states where there are fewer alternative modes of transportation for passengers and cargo. To reflect this, **Table 11a** and **Table 11b** provide general aviation's total GDP contribution per capita by state in 2023 (sorted alphabetically and ranked by per capita GDP contribution, respectively).

Nationwide, including direct, indirect, induced, and enabled effects, general aviation supported \$529 in GDP per capita in 2023. The top 10 states in terms of general aviation's total GDP contribution per capita were Kansas (\$1,702 per person), North Dakota (\$1,542 per person), Alaska (\$1,462 per person), Connecticut (\$1,094 per person), Arizona (\$900 per person), Minnesota (\$833 per person), Iowa (\$829 per person), Georgia (\$757 per person), Colorado (\$753 per person), and Oregon (\$711 per person).

Table 12a and **Table 12b** provide general aviation's total output contribution per capita by state in 2023 (sorted alphabetically and ranked by per capita output contribution, respectively).

Nationwide, including direct, indirect, induced, and enabled effects, general aviation supported \$1,007 in output per capita in 2023. The top 10 states in terms of general aviation's total output contribution per capita were Kansas (\$3,692 per person), North Dakota (\$3,137 per person), Alaska (\$2,745 per person), Connecticut (\$2,025 per person), Iowa (\$1,832 per person), Arizona (\$1,650 per person), Minnesota (\$1,642 per person), Montana (\$1,483 per person), Georgia (\$1,469 per person), and Colorado (\$1,366 per person).



Table 7a. – General aviation’s employment contribution by state, 2023

Sorted alphabetically

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
Alabama	8,200	14,600	3,200	26,000	0.9%
Alaska	3,100	4,500	1,200	8,800	1.9%
Arizona	14,100	31,700	3,000	48,800	1.1%
Arkansas	8,900	10,700	1,400	20,900	1.2%
California	36,800	97,200	12,600	146,600	0.6%
Colorado	8,700	20,400	2,300	31,400	0.7%
Connecticut	10,800	15,600	600	27,100	1.1%
Delaware	400	1,500	200	2,100	0.3%
District of Columbia	400	1,400	200	2,000	0.2%
Florida	31,200	79,800	10,100	121,100	0.8%
Georgia	18,600	34,900	3,300	56,800	0.8%
Hawaii	1,500	3,400	300	5,100	0.6%
Idaho	4,000	6,600	1,300	11,800	1.0%
Illinois	11,900	31,800	2,700	46,400	0.6%
Indiana	8,700	16,000	1,500	26,200	0.6%
Iowa	6,700	13,500	1,200	21,500	1.0%
Kansas	20,500	18,400	1,500	40,400	2.0%
Kentucky	3,000	8,700	1,200	12,900	0.5%
Louisiana	4,300	11,000	1,400	16,700	0.6%
Maine	1,500	3,200	400	5,100	0.6%
Maryland	2,700	8,800	800	12,300	0.3%
Massachusetts	3,700	11,600	1,800	17,000	0.3%
Michigan	9,200	21,900	2,200	33,200	0.6%
Minnesota	10,600	20,600	2,100	33,300	0.9%
Mississippi	4,200	8,200	1,300	13,700	0.8%
Missouri	4,800	13,100	1,600	19,600	0.5%
Montana	2,300	4,500	900	7,700	1.0%
Nebraska	4,500	6,300	800	11,500	0.8%
Nevada	2,600	6,600	900	10,200	0.5%
New Hampshire	2,000	4,300	300	6,600	0.7%
New Jersey	5,700	18,800	400	24,900	0.4%
New Mexico	2,000	4,100	700	6,900	0.6%
New York	8,000	31,100	2,500	41,600	0.3%
North Carolina	8,400	22,000	2,700	33,100	0.5%
North Dakota	3,200	4,900	400	8,600	1.4%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
Ohio	9,600	31,800	2,900	44,300	0.6%
Oklahoma	5,700	11,500	1,600	18,800	0.8%
Oregon	6,400	14,700	2,000	23,100	0.9%
Pennsylvania	8,000	24,000	2,200	34,200	0.4%
Rhode Island	300	1,400	100	1,800	0.3%
South Carolina	2,300	8,200	1,200	11,700	0.4%
South Dakota	1,600	3,000	400	5,000	0.8%
Tennessee	6,000	16,100	2,000	24,100	0.5%
Texas	27,600	70,700	7,800	106,000	0.5%
Utah	4,400	9,900	1,100	15,400	0.6%
Vermont	1,100	2,100	200	3,400	0.8%
Virginia	4,200	14,800	1,500	20,500	0.4%
Washington	7,900	18,700	4,300	30,900	0.6%
West Virginia	1,200	2,900	200	4,300	0.5%
Wisconsin	7,700	16,700	2,400	26,700	0.7%
Wyoming	600	1,400	300	2,300	0.5%
US Total	371,900	859,200	99,100	1,330,200	0.6%

Note: Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

Table 7b. – General aviation’s employment contribution by state, 2023

Sorted by total employment contribution

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
California	36,800	97,200	12,600	146,600	0.6%
Florida	31,200	79,800	10,100	121,100	0.8%
Texas	27,600	70,700	7,800	106,000	0.5%
Georgia	18,600	34,900	3,300	56,800	0.8%
Arizona	14,100	31,700	3,000	48,800	1.1%
Illinois	11,900	31,800	2,700	46,400	0.6%
Ohio	9,600	31,800	2,900	44,300	0.6%
New York	8,000	31,100	2,500	41,600	0.3%
Kansas	20,500	18,400	1,500	40,400	2.0%
Pennsylvania	8,000	24,000	2,200	34,200	0.4%
Minnesota	10,600	20,600	2,100	33,300	0.9%
Michigan	9,200	21,900	2,200	33,200	0.6%
North Carolina	8,400	22,000	2,700	33,100	0.5%
Colorado	8,700	20,400	2,300	31,400	0.7%
Washington	7,900	18,700	4,300	30,900	0.6%
Connecticut	10,800	15,600	600	27,100	1.1%
Wisconsin	7,700	16,700	2,400	26,700	0.7%
Indiana	8,700	16,000	1,500	26,200	0.6%
Alabama	8,200	14,600	3,200	26,000	0.9%
New Jersey	5,700	18,800	400	24,900	0.4%
Tennessee	6,000	16,100	2,000	24,100	0.5%
Oregon	6,400	14,700	2,000	23,100	0.9%
Iowa	6,700	13,500	1,200	21,500	1.0%
Arkansas	8,900	10,700	1,400	20,900	1.2%
Virginia	4,200	14,800	1,500	20,500	0.4%
Missouri	4,800	13,100	1,600	19,600	0.5%
Oklahoma	5,700	11,500	1,600	18,800	0.8%
Massachusetts	3,700	11,600	1,800	17,000	0.3%
Louisiana	4,300	11,000	1,400	16,700	0.6%
Utah	4,400	9,900	1,100	15,400	0.6%
Mississippi	4,200	8,200	1,300	13,700	0.8%
Kentucky	3,000	8,700	1,200	12,900	0.5%
Maryland	2,700	8,800	800	12,300	0.3%
Idaho	4,000	6,600	1,300	11,800	1.0%
South Carolina	2,300	8,200	1,200	11,700	0.4%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
Nebraska	4,500	6,300	800	11,500	0.8%
Nevada	2,600	6,600	900	10,200	0.5%
Alaska	3,100	4,500	1,200	8,800	1.9%
North Dakota	3,200	4,900	400	8,600	1.4%
Montana	2,300	4,500	900	7,700	1.0%
New Mexico	2,000	4,100	700	6,900	0.6%
New Hampshire	2,000	4,300	300	6,600	0.7%
Hawaii	1,500	3,400	300	5,100	0.6%
Maine	1,500	3,200	400	5,100	0.6%
South Dakota	1,600	3,000	400	5,000	0.8%
West Virginia	1,200	2,900	200	4,300	0.5%
Vermont	1,100	2,100	200	3,400	0.8%
Wyoming	600	1,400	300	2,300	0.5%
Delaware	400	1,500	200	2,100	0.3%
District of Columbia	400	1,400	200	2,000	0.2%
Rhode Island	300	1,400	100	1,800	0.3%
US Total	371,900	859,200	99,100	1,330,200	0.6%

Note: Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

Table 7c. – General aviation’s employment contribution by state, 2023

Sorted by total employment contribution as a percent of total state employment

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
Kansas	20,500	18,400	1,500	40,400	2.0%
Alaska	3,100	4,500	1,200	8,800	1.9%
North Dakota	3,200	4,900	400	8,600	1.4%
Arkansas	8,900	10,700	1,400	20,900	1.2%
Connecticut	10,800	15,600	600	27,100	1.1%
Arizona	14,100	31,700	3,000	48,800	1.1%
Montana	2,300	4,500	900	7,700	1.0%
Iowa	6,700	13,500	1,200	21,500	1.0%
Idaho	4,000	6,600	1,300	11,800	1.0%
Alabama	8,200	14,600	3,200	26,000	0.9%
Oregon	6,400	14,700	2,000	23,100	0.9%
Minnesota	10,600	20,600	2,100	33,300	0.9%
Nebraska	4,500	6,300	800	11,500	0.8%
Florida	31,200	79,800	10,100	121,100	0.8%
Mississippi	4,200	8,200	1,300	13,700	0.8%
Georgia	18,600	34,900	3,300	56,800	0.8%
Oklahoma	5,700	11,500	1,600	18,800	0.8%
Vermont	1,100	2,100	200	3,400	0.8%
South Dakota	1,600	3,000	400	5,000	0.8%
Colorado	8,700	20,400	2,300	31,400	0.7%
New Hampshire	2,000	4,300	300	6,600	0.7%
Wisconsin	7,700	16,700	2,400	26,700	0.7%
Utah	4,400	9,900	1,100	15,400	0.6%
Washington	7,900	18,700	4,300	30,900	0.6%
Indiana	8,700	16,000	1,500	26,200	0.6%
Ohio	9,600	31,800	2,900	44,300	0.6%
Louisiana	4,300	11,000	1,400	16,700	0.6%
New Mexico	2,000	4,100	700	6,900	0.6%
California	36,800	97,200	12,600	146,600	0.6%
Maine	1,500	3,200	400	5,100	0.6%
Illinois	11,900	31,800	2,700	46,400	0.6%
Michigan	9,200	21,900	2,200	33,200	0.6%
Hawaii	1,500	3,400	300	5,100	0.6%
Wyoming	600	1,400	300	2,300	0.5%
Texas	27,600	70,700	7,800	106,000	0.5%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state employment
Tennessee	6,000	16,100	2,000	24,100	0.5%
Missouri	4,800	13,100	1,600	19,600	0.5%
North Carolina	8,400	22,000	2,700	33,100	0.5%
Nevada	2,600	6,600	900	10,200	0.5%
Kentucky	3,000	8,700	1,200	12,900	0.5%
West Virginia	1,200	2,900	200	4,300	0.5%
Pennsylvania	8,000	24,000	2,200	34,200	0.4%
New Jersey	5,700	18,800	400	24,900	0.4%
South Carolina	2,300	8,200	1,200	11,700	0.4%
Virginia	4,200	14,800	1,500	20,500	0.4%
Massachusetts	3,700	11,600	1,800	17,000	0.3%
Delaware	400	1,500	200	2,100	0.3%
New York	8,000	31,100	2,500	41,600	0.3%
Maryland	2,700	8,800	800	12,300	0.3%
Rhode Island	300	1,400	100	1,800	0.3%
District of Columbia	400	1,400	200	2,000	0.2%
US Total	371,900	859,200	99,100	1,330,200	0.6%

Note: Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

Table 8a. – General aviation’s labor income contribution by state, 2023
[Dollar amounts in millions]
Sorted alphabetically

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
Alabama	\$753	\$838	\$129	\$1,719	1.0%
Alaska	\$299	\$295	\$56	\$650	1.7%
Arizona	\$1,600	\$2,077	\$159	\$3,836	1.3%
Arkansas	\$434	\$577	\$56	\$1,067	1.0%
California	\$4,555	\$8,387	\$849	\$13,790	0.6%
Colorado	\$1,055	\$1,611	\$132	\$2,798	0.8%
Connecticut	\$1,005	\$1,489	\$45	\$2,539	1.2%
Delaware	\$50	\$109	\$9	\$168	0.4%
District of Columbia	\$40	\$190	\$16	\$246	0.2%
Florida	\$3,303	\$4,896	\$522	\$8,722	1.0%
Georgia	\$2,259	\$2,284	\$179	\$4,722	1.0%
Hawaii	\$145	\$217	\$17	\$379	0.6%
Idaho	\$298	\$371	\$52	\$721	1.0%
Illinois	\$1,562	\$2,558	\$181	\$4,301	0.7%
Indiana	\$1,011	\$1,053	\$75	\$2,140	0.7%
Iowa	\$792	\$862	\$54	\$1,709	1.2%
Kansas	\$1,651	\$1,166	\$65	\$2,881	2.1%
Kentucky	\$338	\$538	\$56	\$933	0.6%
Louisiana	\$413	\$675	\$63	\$1,151	0.7%
Maine	\$111	\$191	\$22	\$324	0.6%
Maryland	\$259	\$617	\$49	\$925	0.3%
Massachusetts	\$364	\$1,084	\$129	\$1,578	0.3%
Michigan	\$972	\$1,473	\$112	\$2,557	0.6%
Minnesota	\$1,153	\$1,523	\$116	\$2,792	1.0%
Mississippi	\$321	\$399	\$50	\$770	0.9%
Missouri	\$425	\$839	\$81	\$1,345	0.5%
Montana	\$190	\$250	\$39	\$479	1.1%
Nebraska	\$349	\$387	\$36	\$772	0.8%
Nevada	\$242	\$423	\$54	\$720	0.5%
New Hampshire	\$278	\$347	\$18	\$643	0.9%
New Jersey	\$823	\$1,669	\$39	\$2,532	0.5%
New Mexico	\$173	\$233	\$32	\$438	0.6%
New York	\$1,025	\$3,209	\$223	\$4,457	0.4%
North Carolina	\$740	\$1,468	\$144	\$2,352	0.5%
North Dakota	\$318	\$309	\$19	\$647	1.5%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
Ohio	\$1,429	\$2,128	\$145	\$3,702	0.7%
Oklahoma	\$537	\$772	\$67	\$1,376	0.8%
Oregon	\$703	\$1,070	\$106	\$1,879	0.9%
Pennsylvania	\$862	\$1,867	\$140	\$2,869	0.5%
Rhode Island	\$27	\$98	\$8	\$133	0.3%
South Carolina	\$198	\$481	\$57	\$737	0.4%
South Dakota	\$126	\$179	\$16	\$321	0.7%
Tennessee	\$583	\$1,125	\$110	\$1,818	0.6%
Texas	\$2,441	\$5,475	\$416	\$8,332	0.6%
Utah	\$531	\$625	\$51	\$1,207	0.8%
Vermont	\$108	\$134	\$10	\$252	0.9%
Virginia	\$550	\$1,078	\$85	\$1,713	0.4%
Washington	\$1,097	\$1,637	\$238	\$2,972	0.7%
West Virginia	\$139	\$177	\$8	\$325	0.6%
Wisconsin	\$707	\$1,067	\$118	\$1,892	0.7%
Wyoming	\$66	\$97	\$14	\$177	0.7%
US Total	\$39,413	\$62,624	\$5,468	\$107,504	0.7%

Note: Labor income is defined as wages and salaries and benefits as well as proprietors' income.

Table 8b. – General aviation’s labor income contribution by state, 2023
[Dollar amounts in millions]
Sorted by total labor income contribution

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
California	\$4,555	\$8,387	\$849	\$13,790	0.6%
Florida	\$3,303	\$4,896	\$522	\$8,722	1.0%
Texas	\$2,441	\$5,475	\$416	\$8,332	0.6%
Georgia	\$2,259	\$2,284	\$179	\$4,722	1.0%
New York	\$1,025	\$3,209	\$223	\$4,457	0.4%
Illinois	\$1,562	\$2,558	\$181	\$4,301	0.7%
Arizona	\$1,600	\$2,077	\$159	\$3,836	1.3%
Ohio	\$1,429	\$2,128	\$145	\$3,702	0.7%
Washington	\$1,097	\$1,637	\$238	\$2,972	0.7%
Kansas	\$1,651	\$1,166	\$65	\$2,881	2.1%
Pennsylvania	\$862	\$1,867	\$140	\$2,869	0.5%
Colorado	\$1,055	\$1,611	\$132	\$2,798	0.8%
Minnesota	\$1,153	\$1,523	\$116	\$2,792	1.0%
Michigan	\$972	\$1,473	\$112	\$2,557	0.6%
Connecticut	\$1,005	\$1,489	\$45	\$2,539	1.2%
New Jersey	\$823	\$1,669	\$39	\$2,532	0.5%
North Carolina	\$740	\$1,468	\$144	\$2,352	0.5%
Indiana	\$1,011	\$1,053	\$75	\$2,140	0.7%
Wisconsin	\$707	\$1,067	\$118	\$1,892	0.7%
Oregon	\$703	\$1,070	\$106	\$1,879	0.9%
Tennessee	\$583	\$1,125	\$110	\$1,818	0.6%
Alabama	\$753	\$838	\$129	\$1,719	1.0%
Virginia	\$550	\$1,078	\$85	\$1,713	0.4%
Iowa	\$792	\$862	\$54	\$1,709	1.2%
Massachusetts	\$364	\$1,084	\$129	\$1,578	0.3%
Oklahoma	\$537	\$772	\$67	\$1,376	0.8%
Missouri	\$425	\$839	\$81	\$1,345	0.5%
Utah	\$531	\$625	\$51	\$1,207	0.8%
Louisiana	\$413	\$675	\$63	\$1,151	0.7%
Arkansas	\$434	\$577	\$56	\$1,067	1.0%
Kentucky	\$338	\$538	\$56	\$933	0.6%
Maryland	\$259	\$617	\$49	\$925	0.3%
Nebraska	\$349	\$387	\$36	\$772	0.8%
Mississippi	\$321	\$399	\$50	\$770	0.9%
South Carolina	\$198	\$481	\$57	\$737	0.4%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
Idaho	\$298	\$371	\$52	\$721	1.0%
Nevada	\$242	\$423	\$54	\$720	0.5%
Alaska	\$299	\$295	\$56	\$650	1.7%
North Dakota	\$318	\$309	\$19	\$647	1.5%
New Hampshire	\$278	\$347	\$18	\$643	0.9%
Montana	\$190	\$250	\$39	\$479	1.1%
New Mexico	\$173	\$233	\$32	\$438	0.6%
Hawaii	\$145	\$217	\$17	\$379	0.6%
West Virginia	\$139	\$177	\$8	\$325	0.6%
Maine	\$111	\$191	\$22	\$324	0.6%
South Dakota	\$126	\$179	\$16	\$321	0.7%
Vermont	\$108	\$134	\$10	\$252	0.9%
District of Columbia	\$40	\$190	\$16	\$246	0.2%
Wyoming	\$66	\$97	\$14	\$177	0.7%
Delaware	\$50	\$109	\$9	\$168	0.4%
Rhode Island	\$27	\$98	\$8	\$133	0.3%
US Total	\$39,413	\$62,624	\$5,468	\$107,504	0.7%

Note: Labor income is defined as wages and salaries and benefits as well as proprietors' income.

Table 8c. – General aviation’s labor income contribution by state, 2023
[Dollar amounts in millions]
Sorted by Total labor income contribution as a percent of state total labor income

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
Kansas	\$1,651	\$1,166	\$65	\$2,881	2.1%
Alaska	\$299	\$295	\$56	\$650	1.7%
North Dakota	\$318	\$309	\$19	\$647	1.5%
Arizona	\$1,600	\$2,077	\$159	\$3,836	1.3%
Connecticut	\$1,005	\$1,489	\$45	\$2,539	1.2%
Iowa	\$792	\$862	\$54	\$1,709	1.2%
Montana	\$190	\$250	\$39	\$479	1.1%
Arkansas	\$434	\$577	\$56	\$1,067	1.0%
Georgia	\$2,259	\$2,284	\$179	\$4,722	1.0%
Idaho	\$298	\$371	\$52	\$721	1.0%
Alabama	\$753	\$838	\$129	\$1,719	1.0%
Florida	\$3,303	\$4,896	\$522	\$8,722	1.0%
Minnesota	\$1,153	\$1,523	\$116	\$2,792	1.0%
Oregon	\$703	\$1,070	\$106	\$1,879	0.9%
Vermont	\$108	\$134	\$10	\$252	0.9%
Mississippi	\$321	\$399	\$50	\$770	0.9%
New Hampshire	\$278	\$347	\$18	\$643	0.9%
Colorado	\$1,055	\$1,611	\$132	\$2,798	0.8%
Oklahoma	\$537	\$772	\$67	\$1,376	0.8%
Nebraska	\$349	\$387	\$36	\$772	0.8%
Utah	\$531	\$625	\$51	\$1,207	0.8%
Ohio	\$1,429	\$2,128	\$145	\$3,702	0.7%
Indiana	\$1,011	\$1,053	\$75	\$2,140	0.7%
Wisconsin	\$707	\$1,067	\$118	\$1,892	0.7%
South Dakota	\$126	\$179	\$16	\$321	0.7%
Louisiana	\$413	\$675	\$63	\$1,151	0.7%
Illinois	\$1,562	\$2,558	\$181	\$4,301	0.7%
Washington	\$1,097	\$1,637	\$238	\$2,972	0.7%
Wyoming	\$66	\$97	\$14	\$177	0.7%
Michigan	\$972	\$1,473	\$112	\$2,557	0.6%
California	\$4,555	\$8,387	\$849	\$13,790	0.6%
West Virginia	\$139	\$177	\$8	\$325	0.6%
New Mexico	\$173	\$233	\$32	\$438	0.6%
Hawaii	\$145	\$217	\$17	\$379	0.6%
Texas	\$2,441	\$5,475	\$416	\$8,332	0.6%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state labor income
Maine	\$111	\$191	\$22	\$324	0.6%
Tennessee	\$583	\$1,125	\$110	\$1,818	0.6%
Kentucky	\$338	\$538	\$56	\$933	0.6%
New Jersey	\$823	\$1,669	\$39	\$2,532	0.5%
Nevada	\$242	\$423	\$54	\$720	0.5%
Missouri	\$425	\$839	\$81	\$1,345	0.5%
North Carolina	\$740	\$1,468	\$144	\$2,352	0.5%
Pennsylvania	\$862	\$1,867	\$140	\$2,869	0.5%
Virginia	\$550	\$1,078	\$85	\$1,713	0.4%
South Carolina	\$198	\$481	\$57	\$737	0.4%
New York	\$1,025	\$3,209	\$223	\$4,457	0.4%
Delaware	\$50	\$109	\$9	\$168	0.4%
Massachusetts	\$364	\$1,084	\$129	\$1,578	0.3%
Maryland	\$259	\$617	\$49	\$925	0.3%
Rhode Island	\$27	\$98	\$8	\$133	0.3%
District of Columbia	\$40	\$190	\$16	\$246	0.2%
US Total	\$39,413	\$62,624	\$5,468	\$107,504	0.7%

Note: Labor income is defined as wages and salaries and benefits as well as proprietors' income.



Table 9a. – General aviation’s output contribution by state, 2023
[Dollar amounts in millions]
Sorted alphabetically

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
Alabama	\$2,437	\$3,384	\$423	\$6,244	1.0%
Alaska	\$646	\$1,217	\$159	\$2,022	1.9%
Arizona	\$5,182	\$6,683	\$464	\$12,329	1.4%
Arkansas	\$1,298	\$2,312	\$191	\$3,800	1.1%
California	\$12,082	\$25,465	\$2,240	\$39,787	0.7%
Colorado	\$2,821	\$4,858	\$381	\$8,060	0.9%
Connecticut	\$3,531	\$3,736	\$112	\$7,379	1.4%
Delaware	\$125	\$458	\$30	\$613	0.4%
District of Columbia	\$86	\$410	\$34	\$529	0.2%
Florida	\$9,614	\$16,214	\$1,581	\$27,409	1.1%
Georgia	\$7,974	\$7,754	\$527	\$16,255	1.2%
Hawaii	\$367	\$763	\$49	\$1,179	0.7%
Idaho	\$855	\$1,362	\$171	\$2,389	1.1%
Illinois	\$3,855	\$7,947	\$522	\$12,323	0.7%
Indiana	\$3,721	\$3,766	\$249	\$7,736	0.8%
Iowa	\$2,596	\$3,113	\$187	\$5,896	1.2%
Kansas	\$6,485	\$4,203	\$210	\$10,898	2.4%
Kentucky	\$742	\$2,320	\$182	\$3,245	0.6%
Louisiana	\$1,156	\$3,383	\$215	\$4,753	0.7%
Maine	\$348	\$585	\$67	\$1,000	0.6%
Maryland	\$611	\$1,945	\$138	\$2,694	0.3%
Massachusetts	\$874	\$2,824	\$313	\$4,011	0.4%
Michigan	\$2,705	\$5,269	\$360	\$8,334	0.7%
Minnesota	\$4,114	\$4,992	\$339	\$9,445	1.1%
Mississippi	\$935	\$1,889	\$177	\$3,002	0.9%
Missouri	\$1,171	\$2,878	\$249	\$4,297	0.5%
Montana	\$529	\$1,031	\$117	\$1,678	1.2%
Nebraska	\$1,150	\$1,377	\$123	\$2,650	0.8%
Nevada	\$683	\$1,445	\$156	\$2,284	0.6%
New Hampshire	\$699	\$926	\$49	\$1,674	0.9%
New Jersey	\$2,432	\$4,478	\$111	\$7,021	0.6%
New Mexico	\$459	\$1,071	\$98	\$1,629	0.7%
New York	\$2,472	\$8,556	\$563	\$11,591	0.4%
North Carolina	\$2,147	\$5,157	\$426	\$7,729	0.6%
North Dakota	\$1,155	\$1,253	\$66	\$2,475	1.7%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
Ohio	\$3,182	\$8,008	\$455	\$11,645	0.7%
Oklahoma	\$1,721	\$3,074	\$215	\$5,010	1.0%
Oregon	\$2,135	\$3,169	\$296	\$5,600	1.0%
Pennsylvania	\$2,314	\$5,984	\$376	\$8,674	0.5%
Rhode Island	\$84	\$296	\$22	\$402	0.3%
South Carolina	\$598	\$2,056	\$192	\$2,846	0.5%
South Dakota	\$427	\$573	\$55	\$1,056	0.8%
Tennessee	\$1,462	\$4,115	\$333	\$5,910	0.6%
Texas	\$6,055	\$19,687	\$1,311	\$27,053	0.6%
Utah	\$1,501	\$2,288	\$162	\$3,951	0.8%
Vermont	\$384	\$406	\$31	\$821	1.0%
Virginia	\$1,378	\$3,427	\$252	\$5,057	0.5%
Washington	\$2,768	\$5,084	\$706	\$8,558	0.7%
West Virginia	\$334	\$711	\$30	\$1,076	0.6%
Wisconsin	\$2,228	\$3,930	\$352	\$6,511	0.8%
Wyoming	\$134	\$445	\$45	\$625	0.6%
US Total	\$114,763	\$208,279	\$16,113	\$339,155	0.7%

Table 9b. – General aviation’s output contribution by state, 2023
[Dollar amounts in millions]
Sorted by total output contribution

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
California	\$12,082	\$25,465	\$2,240	\$39,787	0.7%
Florida	\$9,614	\$16,214	\$1,581	\$27,409	1.1%
Texas	\$6,055	\$19,687	\$1,311	\$27,053	0.6%
Georgia	\$7,974	\$7,754	\$527	\$16,255	1.2%
Arizona	\$5,182	\$6,683	\$464	\$12,329	1.4%
Illinois	\$3,855	\$7,947	\$522	\$12,323	0.7%
Ohio	\$3,182	\$8,008	\$455	\$11,645	0.7%
New York	\$2,472	\$8,556	\$563	\$11,591	0.4%
Kansas	\$6,485	\$4,203	\$210	\$10,898	2.4%
Minnesota	\$4,114	\$4,992	\$339	\$9,445	1.1%
Pennsylvania	\$2,314	\$5,984	\$376	\$8,674	0.5%
Washington	\$2,768	\$5,084	\$706	\$8,558	0.7%
Michigan	\$2,705	\$5,269	\$360	\$8,334	0.7%
Colorado	\$2,821	\$4,858	\$381	\$8,060	0.9%
Indiana	\$3,721	\$3,766	\$249	\$7,736	0.8%
North Carolina	\$2,147	\$5,157	\$426	\$7,729	0.6%
Connecticut	\$3,531	\$3,736	\$112	\$7,379	1.4%
New Jersey	\$2,432	\$4,478	\$111	\$7,021	0.6%
Wisconsin	\$2,228	\$3,930	\$352	\$6,511	0.8%
Alabama	\$2,437	\$3,384	\$423	\$6,244	1.0%
Tennessee	\$1,462	\$4,115	\$333	\$5,910	0.6%
Iowa	\$2,596	\$3,113	\$187	\$5,896	1.2%
Oregon	\$2,135	\$3,169	\$296	\$5,600	1.0%
Virginia	\$1,378	\$3,427	\$252	\$5,057	0.5%
Oklahoma	\$1,721	\$3,074	\$215	\$5,010	1.0%
Louisiana	\$1,156	\$3,383	\$215	\$4,753	0.7%
Missouri	\$1,171	\$2,878	\$249	\$4,297	0.5%
Massachusetts	\$874	\$2,824	\$313	\$4,011	0.4%
Utah	\$1,501	\$2,288	\$162	\$3,951	0.8%
Arkansas	\$1,298	\$2,312	\$191	\$3,800	1.1%
Kentucky	\$742	\$2,320	\$182	\$3,245	0.6%
Mississippi	\$935	\$1,889	\$177	\$3,002	0.9%
South Carolina	\$598	\$2,056	\$192	\$2,846	0.5%
Maryland	\$611	\$1,945	\$138	\$2,694	0.3%
Nebraska	\$1,150	\$1,377	\$123	\$2,650	0.8%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
North Dakota	\$1,155	\$1,253	\$66	\$2,475	1.7%
Idaho	\$855	\$1,362	\$171	\$2,389	1.1%
Nevada	\$683	\$1,445	\$156	\$2,284	0.6%
Alaska	\$646	\$1,217	\$159	\$2,022	1.9%
Montana	\$529	\$1,031	\$117	\$1,678	1.2%
New Hampshire	\$699	\$926	\$49	\$1,674	0.9%
New Mexico	\$459	\$1,071	\$98	\$1,629	0.7%
Hawaii	\$367	\$763	\$49	\$1,179	0.7%
West Virginia	\$334	\$711	\$30	\$1,076	0.6%
South Dakota	\$427	\$573	\$55	\$1,056	0.8%
Maine	\$348	\$585	\$67	\$1,000	0.6%
Vermont	\$384	\$406	\$31	\$821	1.0%
Wyoming	\$134	\$445	\$45	\$625	0.6%
Delaware	\$125	\$458	\$30	\$613	0.4%
District of Columbia	\$86	\$410	\$34	\$529	0.2%
Rhode Island	\$84	\$296	\$22	\$402	0.3%
US Total	\$114,763	\$208,279	\$16,113	\$339,155	0.7%

Table 9c. – General aviation’s output contribution by state, 2023**[Dollar amounts in millions]**

Sorted by total output contribution as a percent of total state output

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
Kansas	\$6,485	\$4,203	\$210	\$10,898	2.4%
Alaska	\$646	\$1,217	\$159	\$2,022	1.9%
North Dakota	\$1,155	\$1,253	\$66	\$2,475	1.7%
Arizona	\$5,182	\$6,683	\$464	\$12,329	1.4%
Connecticut	\$3,531	\$3,736	\$112	\$7,379	1.4%
Georgia	\$7,974	\$7,754	\$527	\$16,255	1.2%
Iowa	\$2,596	\$3,113	\$187	\$5,896	1.2%
Montana	\$529	\$1,031	\$117	\$1,678	1.2%
Minnesota	\$4,114	\$4,992	\$339	\$9,445	1.1%
Florida	\$9,614	\$16,214	\$1,581	\$27,409	1.1%
Arkansas	\$1,298	\$2,312	\$191	\$3,800	1.1%
Idaho	\$855	\$1,362	\$171	\$2,389	1.1%
Oregon	\$2,135	\$3,169	\$296	\$5,600	1.0%
Vermont	\$384	\$406	\$31	\$821	1.0%
Alabama	\$2,437	\$3,384	\$423	\$6,244	1.0%
Oklahoma	\$1,721	\$3,074	\$215	\$5,010	1.0%
Colorado	\$2,821	\$4,858	\$381	\$8,060	0.9%
Mississippi	\$935	\$1,889	\$177	\$3,002	0.9%
New Hampshire	\$699	\$926	\$49	\$1,674	0.9%
Utah	\$1,501	\$2,288	\$162	\$3,951	0.8%
Nebraska	\$1,150	\$1,377	\$123	\$2,650	0.8%
Wisconsin	\$2,228	\$3,930	\$352	\$6,511	0.8%
Indiana	\$3,721	\$3,766	\$249	\$7,736	0.8%
South Dakota	\$427	\$573	\$55	\$1,056	0.8%
Ohio	\$3,182	\$8,008	\$455	\$11,645	0.7%
Washington	\$2,768	\$5,084	\$706	\$8,558	0.7%
Hawaii	\$367	\$763	\$49	\$1,179	0.7%
Louisiana	\$1,156	\$3,383	\$215	\$4,753	0.7%
New Mexico	\$459	\$1,071	\$98	\$1,629	0.7%
California	\$12,082	\$25,465	\$2,240	\$39,787	0.7%
Illinois	\$3,855	\$7,947	\$522	\$12,323	0.7%
Michigan	\$2,705	\$5,269	\$360	\$8,334	0.7%
Maine	\$348	\$585	\$67	\$1,000	0.6%
Wyoming	\$134	\$445	\$45	\$625	0.6%
Tennessee	\$1,462	\$4,115	\$333	\$5,910	0.6%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state output
Nevada	\$683	\$1,445	\$156	\$2,284	0.6%
Texas	\$6,055	\$19,687	\$1,311	\$27,053	0.6%
North Carolina	\$2,147	\$5,157	\$426	\$7,729	0.6%
Kentucky	\$742	\$2,320	\$182	\$3,245	0.6%
West Virginia	\$334	\$711	\$30	\$1,076	0.6%
New Jersey	\$2,432	\$4,478	\$111	\$7,021	0.6%
Missouri	\$1,171	\$2,878	\$249	\$4,297	0.5%
Pennsylvania	\$2,314	\$5,984	\$376	\$8,674	0.5%
South Carolina	\$598	\$2,056	\$192	\$2,846	0.5%
Virginia	\$1,378	\$3,427	\$252	\$5,057	0.5%
Delaware	\$125	\$458	\$30	\$613	0.4%
New York	\$2,472	\$8,556	\$563	\$11,591	0.4%
Massachusetts	\$874	\$2,824	\$313	\$4,011	0.4%
Maryland	\$611	\$1,945	\$138	\$2,694	0.3%
Rhode Island	\$84	\$296	\$22	\$402	0.3%
District of Columbia	\$86	\$410	\$34	\$529	0.2%
US Total	\$114,763	\$208,279	\$16,113	\$339,155	0.7%



Table 10a. – General aviation’s GDP contribution by state, 2023
[Dollar amounts in millions]
Sorted alphabetically

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
Alabama	\$1,171	\$1,523	\$231	\$2,926	1.0%
Alaska	\$326	\$656	\$96	\$1,078	1.6%
Arizona	\$2,906	\$3,546	\$278	\$6,729	1.3%
Arkansas	\$633	\$1,032	\$100	\$1,765	1.0%
California	\$6,988	\$14,400	\$1,421	\$22,809	0.6%
Colorado	\$1,572	\$2,643	\$231	\$4,446	0.8%
Connecticut	\$1,673	\$2,241	\$72	\$3,986	1.2%
Delaware	\$79	\$235	\$18	\$331	0.3%
District of Columbia	\$47	\$260	\$24	\$331	0.2%
Florida	\$4,680	\$8,428	\$959	\$14,067	0.9%
Georgia	\$4,083	\$3,983	\$306	\$8,372	1.0%
Hawaii	\$209	\$396	\$31	\$637	0.6%
Idaho	\$364	\$627	\$95	\$1,086	0.9%
Illinois	\$2,050	\$4,211	\$318	\$6,580	0.6%
Indiana	\$2,063	\$1,902	\$135	\$4,100	0.8%
Iowa	\$1,093	\$1,478	\$97	\$2,667	1.0%
Kansas	\$2,872	\$2,040	\$111	\$5,023	2.2%
Kentucky	\$362	\$932	\$98	\$1,392	0.5%
Louisiana	\$661	\$1,421	\$114	\$2,196	0.7%
Maine	\$200	\$334	\$41	\$575	0.6%
Maryland	\$340	\$1,074	\$85	\$1,499	0.3%
Massachusetts	\$426	\$1,669	\$204	\$2,298	0.3%
Michigan	\$1,323	\$2,443	\$201	\$3,967	0.6%
Minnesota	\$2,081	\$2,520	\$193	\$4,794	1.0%
Mississippi	\$497	\$774	\$93	\$1,364	0.9%
Missouri	\$630	\$1,436	\$135	\$2,201	0.5%
Montana	\$290	\$433	\$64	\$787	1.1%
Nebraska	\$598	\$725	\$65	\$1,388	0.8%
Nevada	\$395	\$756	\$99	\$1,251	0.5%
New Hampshire	\$320	\$542	\$32	\$894	0.8%
New Jersey	\$1,277	\$2,635	\$64	\$3,976	0.5%
New Mexico	\$240	\$539	\$55	\$834	0.6%
New York	\$1,319	\$5,266	\$386	\$6,971	0.3%
North Carolina	\$1,153	\$2,477	\$240	\$3,870	0.5%
North Dakota	\$578	\$601	\$37	\$1,216	1.6%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
Ohio	\$1,575	\$3,973	\$251	\$5,799	0.7%
Oklahoma	\$973	\$1,418	\$114	\$2,504	1.0%
Oregon	\$1,123	\$1,725	\$177	\$3,025	0.9%
Pennsylvania	\$1,119	\$3,115	\$217	\$4,450	0.5%
Rhode Island	\$53	\$164	\$13	\$230	0.3%
South Carolina	\$346	\$877	\$108	\$1,331	0.4%
South Dakota	\$259	\$306	\$31	\$596	0.8%
Tennessee	\$803	\$1,878	\$196	\$2,877	0.6%
Texas	\$3,218	\$10,721	\$742	\$14,682	0.6%
Utah	\$764	\$1,195	\$90	\$2,049	0.7%
Vermont	\$168	\$220	\$18	\$407	0.9%
Virginia	\$787	\$1,842	\$149	\$2,778	0.4%
Washington	\$1,592	\$3,012	\$454	\$5,058	0.6%
West Virginia	\$146	\$373	\$15	\$534	0.5%
Wisconsin	\$1,059	\$1,808	\$190	\$3,057	0.7%
Wyoming	\$61	\$208	\$25	\$295	0.6%
US Total	\$59,544	\$109,012	\$9,522	\$178,078	0.6%

Table 10b. – General aviation’s GDP contribution by state, 2023
[Dollar amounts in millions]
Sorted by total GDP contribution

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
California	\$6,988	\$14,400	\$1,421	\$22,809	0.6%
Texas	\$3,218	\$10,721	\$742	\$14,682	0.6%
Florida	\$4,680	\$8,428	\$959	\$14,067	0.9%
Georgia	\$4,083	\$3,983	\$306	\$8,372	1.0%
New York	\$1,319	\$5,266	\$386	\$6,971	0.3%
Arizona	\$2,906	\$3,546	\$278	\$6,729	1.3%
Illinois	\$2,050	\$4,211	\$318	\$6,580	0.6%
Ohio	\$1,575	\$3,973	\$251	\$5,799	0.7%
Washington	\$1,592	\$3,012	\$454	\$5,058	0.6%
Kansas	\$2,872	\$2,040	\$111	\$5,023	2.2%
Minnesota	\$2,081	\$2,520	\$193	\$4,794	1.0%
Pennsylvania	\$1,119	\$3,115	\$217	\$4,450	0.5%
Colorado	\$1,572	\$2,643	\$231	\$4,446	0.8%
Indiana	\$2,063	\$1,902	\$135	\$4,100	0.8%
Connecticut	\$1,673	\$2,241	\$72	\$3,986	1.2%
New Jersey	\$1,277	\$2,635	\$64	\$3,976	0.5%
Michigan	\$1,323	\$2,443	\$201	\$3,967	0.6%
North Carolina	\$1,153	\$2,477	\$240	\$3,870	0.5%
Wisconsin	\$1,059	\$1,808	\$190	\$3,057	0.7%
Oregon	\$1,123	\$1,725	\$177	\$3,025	0.9%
Alabama	\$1,171	\$1,523	\$231	\$2,926	1.0%
Tennessee	\$803	\$1,878	\$196	\$2,877	0.6%
Virginia	\$787	\$1,842	\$149	\$2,778	0.4%
Iowa	\$1,093	\$1,478	\$97	\$2,667	1.0%
Oklahoma	\$973	\$1,418	\$114	\$2,504	1.0%
Massachusetts	\$426	\$1,669	\$204	\$2,298	0.3%
Missouri	\$630	\$1,436	\$135	\$2,201	0.5%
Louisiana	\$661	\$1,421	\$114	\$2,196	0.7%
Utah	\$764	\$1,195	\$90	\$2,049	0.7%
Arkansas	\$633	\$1,032	\$100	\$1,765	1.0%
Maryland	\$340	\$1,074	\$85	\$1,499	0.3%
Kentucky	\$362	\$932	\$98	\$1,392	0.5%
Nebraska	\$598	\$725	\$65	\$1,388	0.8%
Mississippi	\$497	\$774	\$93	\$1,364	0.9%
South Carolina	\$346	\$877	\$108	\$1,331	0.4%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
Nevada	\$395	\$756	\$99	\$1,251	0.5%
North Dakota	\$578	\$601	\$37	\$1,216	1.6%
Idaho	\$364	\$627	\$95	\$1,086	0.9%
Alaska	\$326	\$656	\$96	\$1,078	1.6%
New Hampshire	\$320	\$542	\$32	\$894	0.8%
New Mexico	\$240	\$539	\$55	\$834	0.6%
Montana	\$290	\$433	\$64	\$787	1.1%
Hawaii	\$209	\$396	\$31	\$637	0.6%
South Dakota	\$259	\$306	\$31	\$596	0.8%
Maine	\$200	\$334	\$41	\$575	0.6%
West Virginia	\$146	\$373	\$15	\$534	0.5%
Vermont	\$168	\$220	\$18	\$407	0.9%
Delaware	\$79	\$235	\$18	\$331	0.3%
District of Columbia	\$47	\$260	\$24	\$331	0.2%
Wyoming	\$61	\$208	\$25	\$295	0.6%
Rhode Island	\$53	\$164	\$13	\$230	0.3%
U.S. Total	\$59,544	\$109,012	\$9,522	\$178,078	0.6%

Table 10c. – General aviation’s GDP contribution by state, 2023
[Dollar amounts in millions]
Sorted by total GDP contribution as a percent of state total GDP

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
Kansas	\$2,872	\$2,040	\$111	\$5,023	2.2%
North Dakota	\$578	\$601	\$37	\$1,216	1.6%
Alaska	\$326	\$656	\$96	\$1,078	1.6%
Arizona	\$2,906	\$3,546	\$278	\$6,729	1.3%
Connecticut	\$1,673	\$2,241	\$72	\$3,986	1.2%
Montana	\$290	\$433	\$64	\$787	1.1%
Iowa	\$1,093	\$1,478	\$97	\$2,667	1.0%
Georgia	\$4,083	\$3,983	\$306	\$8,372	1.0%
Minnesota	\$2,081	\$2,520	\$193	\$4,794	1.0%
Arkansas	\$633	\$1,032	\$100	\$1,765	1.0%
Oklahoma	\$973	\$1,418	\$114	\$2,504	1.0%
Alabama	\$1,171	\$1,523	\$231	\$2,926	1.0%
Oregon	\$1,123	\$1,725	\$177	\$3,025	0.9%
Vermont	\$168	\$220	\$18	\$407	0.9%
Mississippi	\$497	\$774	\$93	\$1,364	0.9%
Idaho	\$364	\$627	\$95	\$1,086	0.9%
Florida	\$4,680	\$8,428	\$959	\$14,067	0.9%
Colorado	\$1,572	\$2,643	\$231	\$4,446	0.8%
Indiana	\$2,063	\$1,902	\$135	\$4,100	0.8%
South Dakota	\$259	\$306	\$31	\$596	0.8%
New Hampshire	\$320	\$542	\$32	\$894	0.8%
Nebraska	\$598	\$725	\$65	\$1,388	0.8%
Utah	\$764	\$1,195	\$90	\$2,049	0.7%
Wisconsin	\$1,059	\$1,808	\$190	\$3,057	0.7%
Louisiana	\$661	\$1,421	\$114	\$2,196	0.7%
Ohio	\$1,575	\$3,973	\$251	\$5,799	0.7%
Washington	\$1,592	\$3,012	\$454	\$5,058	0.6%
New Mexico	\$240	\$539	\$55	\$834	0.6%
Maine	\$200	\$334	\$41	\$575	0.6%
Illinois	\$2,050	\$4,211	\$318	\$6,580	0.6%
California	\$6,988	\$14,400	\$1,421	\$22,809	0.6%
Michigan	\$1,323	\$2,443	\$201	\$3,967	0.6%
Hawaii	\$209	\$396	\$31	\$637	0.6%
Texas	\$3,218	\$10,721	\$742	\$14,682	0.6%
Wyoming	\$61	\$208	\$25	\$295	0.6%

State	Direct	Indirect & induced	Enabled	Total contribution	Percent of state GDP
Tennessee	\$803	\$1,878	\$196	\$2,877	0.6%
West Virginia	\$146	\$373	\$15	\$534	0.5%
Missouri	\$630	\$1,436	\$135	\$2,201	0.5%
Nevada	\$395	\$756	\$99	\$1,251	0.5%
Kentucky	\$362	\$932	\$98	\$1,392	0.5%
New Jersey	\$1,277	\$2,635	\$64	\$3,976	0.5%
North Carolina	\$1,153	\$2,477	\$240	\$3,870	0.5%
Pennsylvania	\$1,119	\$3,115	\$217	\$4,450	0.5%
South Carolina	\$346	\$877	\$108	\$1,331	0.4%
Virginia	\$787	\$1,842	\$149	\$2,778	0.4%
Delaware	\$79	\$235	\$18	\$331	0.3%
New York	\$1,319	\$5,266	\$386	\$6,971	0.3%
Massachusetts	\$426	\$1,669	\$204	\$2,298	0.3%
Rhode Island	\$53	\$164	\$13	\$230	0.3%
Maryland	\$340	\$1,074	\$85	\$1,499	0.3%
District of Columbia	\$47	\$260	\$24	\$331	0.2%
US Total	\$59,544	\$109,012	\$9,522	\$178,078	0.6%

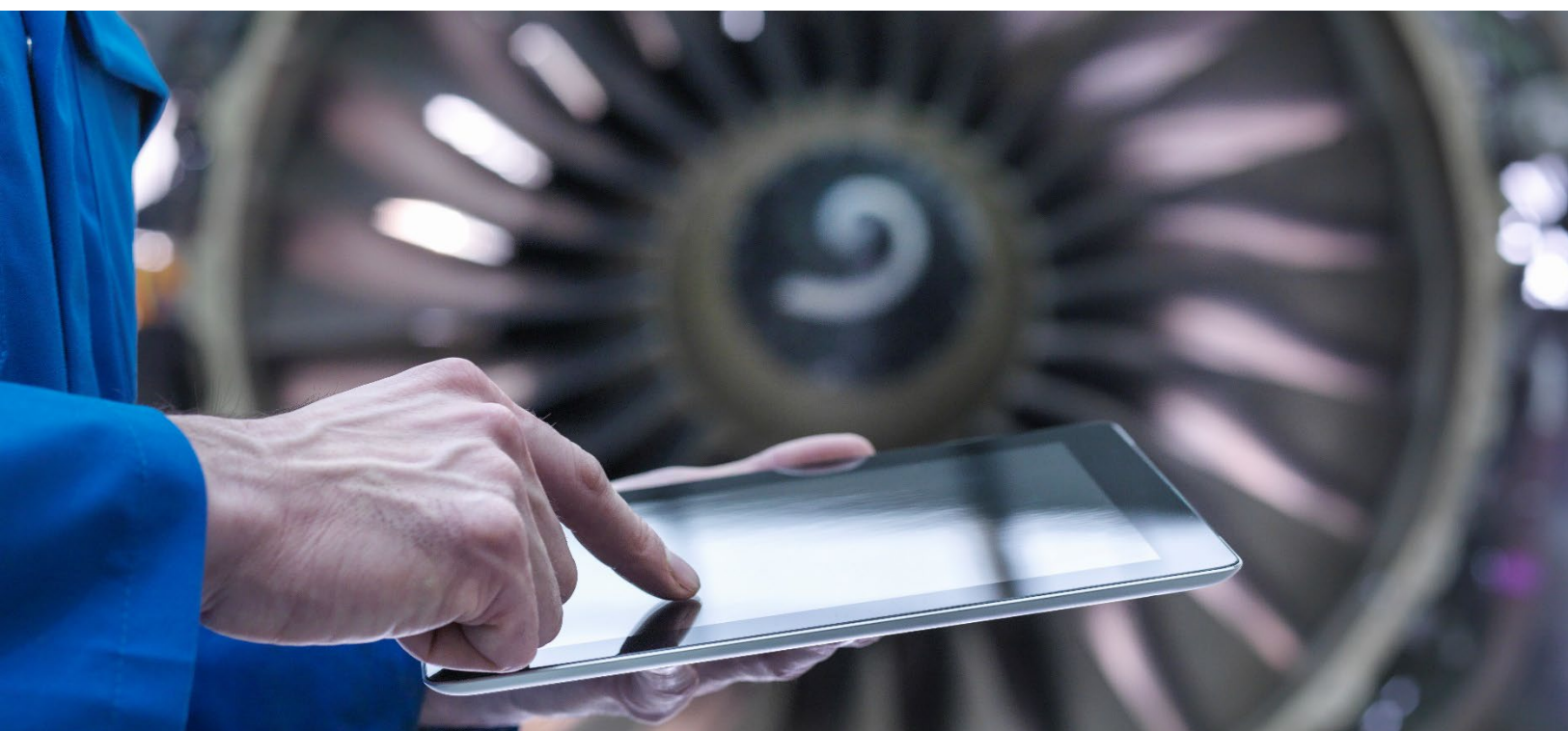


Table 11a. – General aviation’s per capita GDP contribution by state, 2023
Sorted alphabetically

State	Total contribution (\$ millions)	Per capita (\$)
Alabama	\$2,926	\$572
Alaska	\$1,078	\$1,464
Arizona	\$6,729	\$900
Arkansas	\$1,765	\$575
California	\$22,809	\$582
Colorado	\$4,446	\$753
Connecticut	\$3,986	\$1,094
Delaware	\$331	\$320
District of Columbia	\$331	\$481
Florida	\$14,067	\$614
Georgia	\$8,372	\$757
Hawaii	\$637	\$442
Idaho	\$1,086	\$551
Illinois	\$6,580	\$520
Indiana	\$4,100	\$596
Iowa	\$2,667	\$829
Kansas	\$5,023	\$1,702
Kentucky	\$1,392	\$306
Louisiana	\$2,196	\$479
Maine	\$575	\$410
Maryland	\$1,499	\$241
Massachusetts	\$2,298	\$325
Michigan	\$3,967	\$393
Minnesota	\$4,794	\$833
Mississippi	\$1,364	\$464
Missouri	\$2,201	\$354
Montana	\$787	\$695
Nebraska	\$1,388	\$698
Nevada	\$1,251	\$389
New Hampshire	\$894	\$637
New Jersey	\$3,976	\$424
New Mexico	\$834	\$393
New York	\$6,971	\$353
North Carolina	\$3,870	\$356
North Dakota	\$1,216	\$1,542
Ohio	\$5,799	\$490

State	Total contribution (\$ millions)	Per capita (\$)
Oklahoma	\$2,504	\$616
Oregon	\$3,025	\$711
Pennsylvania	\$4,450	\$342
Rhode Island	\$230	\$208
South Carolina	\$1,331	\$247
South Dakota	\$596	\$649
Tennessee	\$2,877	\$402
Texas	\$14,682	\$478
Utah	\$2,049	\$595
Vermont	\$407	\$627
Virginia	\$2,778	\$318
Washington	\$5,058	\$644
West Virginia	\$534	\$302
Wisconsin	\$3,057	\$516
Wyoming	\$295	\$504
US Total	\$178,078	\$529

Table 11b. – General aviation’s per capita GDP contribution by state, 2023
Sorted by per capita GDP contribution

State	Total contribution (\$ millions)	Per capita (\$)
Kansas	\$5,023	\$1,702
North Dakota	\$1,216	\$1,542
Alaska	\$1,078	\$1,464
Connecticut	\$3,986	\$1,094
Arizona	\$6,729	\$900
Minnesota	\$4,794	\$833
Iowa	\$2,667	\$829
Georgia	\$8,372	\$757
Colorado	\$4,446	\$753
Oregon	\$3,025	\$711
Nebraska	\$1,388	\$698
Montana	\$787	\$695
South Dakota	\$596	\$649
Washington	\$5,058	\$644
New Hampshire	\$894	\$637
Vermont	\$407	\$627
Oklahoma	\$2,504	\$616
Florida	\$14,067	\$614
Indiana	\$4,100	\$596
Utah	\$2,049	\$595
California	\$22,809	\$582
Arkansas	\$1,765	\$575
Alabama	\$2,926	\$572
Idaho	\$1,086	\$551
Illinois	\$6,580	\$520
Wisconsin	\$3,057	\$516
Wyoming	\$295	\$504
Ohio	\$5,799	\$490
District of Columbia	\$331	\$481
Louisiana	\$2,196	\$479
Texas	\$14,682	\$478
Mississippi	\$1,364	\$464
Hawaii	\$637	\$442
New Jersey	\$3,976	\$424
Maine	\$575	\$410
Tennessee	\$2,877	\$402

State	Total contribution (\$ millions)	Per capita (\$)
Michigan	\$3,967	\$393
New Mexico	\$834	\$393
Nevada	\$1,251	\$389
North Carolina	\$3,870	\$356
Missouri	\$2,201	\$354
New York	\$6,971	\$353
Pennsylvania	\$4,450	\$342
Massachusetts	\$2,298	\$325
Delaware	\$331	\$320
Virginia	\$2,778	\$318
Kentucky	\$1,392	\$306
West Virginia	\$534	\$302
South Carolina	\$1,331	\$247
Maryland	\$1,499	\$241
Rhode Island	\$230	\$208
US Total	\$178,078	\$529



Table 12a. – General aviation’s per capita output contribution by state, 2023
Sorted alphabetically

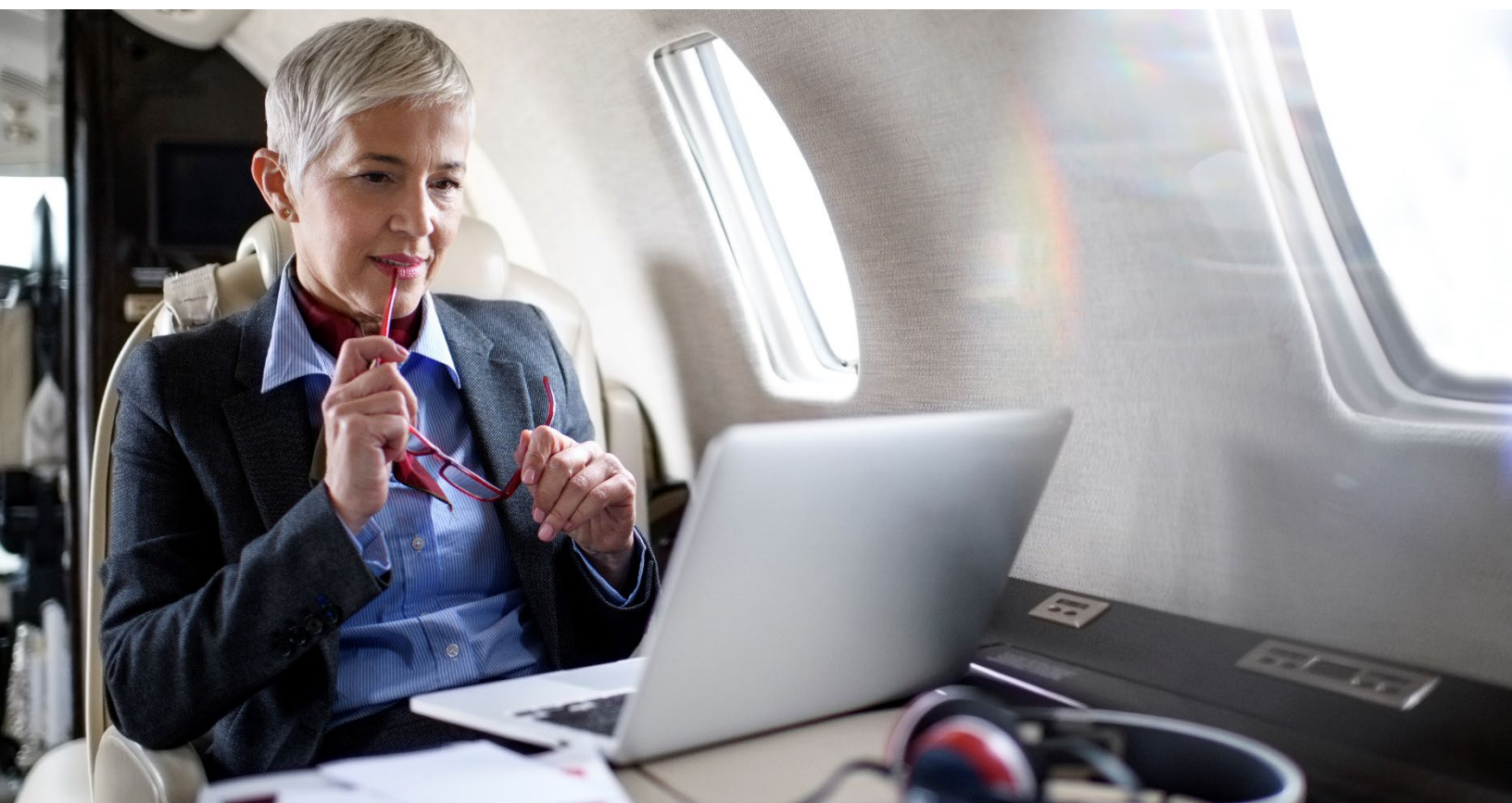
State	Total output contribution (\$ millions)	Per capita (\$)
Alabama	\$6,244	\$1,220
Alaska	\$2,022	\$2,745
Arizona	\$12,329	\$1,650
Arkansas	\$3,800	\$1,238
California	\$39,787	\$1,015
Colorado	\$8,060	\$1,366
Connecticut	\$7,379	\$2,025
Delaware	\$613	\$591
District of Columbia	\$529	\$770
Florida	\$27,409	\$1,197
Georgia	\$16,255	\$1,469
Hawaii	\$1,179	\$818
Idaho	\$2,389	\$1,212
Illinois	\$12,323	\$975
Indiana	\$7,736	\$1,124
Iowa	\$5,896	\$1,832
Kansas	\$10,898	\$3,692
Kentucky	\$3,245	\$713
Louisiana	\$4,753	\$1,036
Maine	\$1,000	\$715
Maryland	\$2,694	\$433
Massachusetts	\$4,011	\$568
Michigan	\$8,334	\$827
Minnesota	\$9,445	\$1,642
Mississippi	\$3,002	\$1,020
Missouri	\$4,297	\$692
Montana	\$1,678	\$1,483
Nebraska	\$2,650	\$1,333
Nevada	\$2,284	\$711
New Hampshire	\$1,674	\$1,194
New Jersey	\$7,021	\$749
New Mexico	\$1,629	\$768
New York	\$11,591	\$587
North Carolina	\$7,729	\$710
North Dakota	\$2,475	\$3,137
Ohio	\$11,645	\$985

State	Total output contribution (\$ millions)	Per capita (\$)
Oklahoma	\$5,010	\$1,233
Oregon	\$5,600	\$1,317
Pennsylvania	\$8,674	\$666
Rhode Island	\$402	\$364
South Carolina	\$2,846	\$528
South Dakota	\$1,056	\$1,150
Tennessee	\$5,910	\$827
Texas	\$27,053	\$880
Utah	\$3,951	\$1,148
Vermont	\$821	\$1,266
Virginia	\$5,057	\$579
Washington	\$8,558	\$1,089
West Virginia	\$1,076	\$608
Wisconsin	\$6,511	\$1,098
Wyoming	\$625	\$1,068
US Total	\$339,155	\$1,007

Table 12b. – General aviation’s per capita output contribution by state, 2023
Sorted by per capita output contribution

State	Total contribution (\$ millions)	Per capita (\$)
Kansas	\$10,898	\$3,692
North Dakota	\$2,475	\$3,137
Alaska	\$2,022	\$2,745
Connecticut	\$7,379	\$2,025
Iowa	\$5,896	\$1,832
Arizona	\$12,329	\$1,650
Minnesota	\$9,445	\$1,642
Montana	\$1,678	\$1,483
Georgia	\$16,255	\$1,469
Colorado	\$8,060	\$1,366
Nebraska	\$2,650	\$1,333
Oregon	\$5,600	\$1,317
Vermont	\$821	\$1,266
Arkansas	\$3,800	\$1,238
Oklahoma	\$5,010	\$1,233
Alabama	\$6,244	\$1,220
Idaho	\$2,389	\$1,212
Florida	\$27,409	\$1,197
New Hampshire	\$1,674	\$1,194
South Dakota	\$1,056	\$1,150
Utah	\$3,951	\$1,148
Indiana	\$7,736	\$1,124
Wisconsin	\$6,511	\$1,098
Washington	\$8,558	\$1,089
Wyoming	\$625	\$1,068
Louisiana	\$4,753	\$1,036
Mississippi	\$3,002	\$1,020
California	\$39,787	\$1,015
Ohio	\$11,645	\$985
Illinois	\$12,323	\$975
Texas	\$27,053	\$880
Tennessee	\$5,910	\$827
Michigan	\$8,334	\$827
Hawaii	\$1,179	\$818
District of Columbia	\$529	\$770
New Mexico	\$1,629	\$768

State	Total contribution (\$ millions)	Per capita (\$)
New Jersey	\$7,021	\$749
Maine	\$1,000	\$715
Kentucky	\$3,245	\$713
Nevada	\$2,284	\$711
North Carolina	\$7,729	\$710
Missouri	\$4,297	\$692
Pennsylvania	\$8,674	\$666
West Virginia	\$1,076	\$608
Delaware	\$613	\$591
New York	\$11,591	\$587
Virginia	\$5,057	\$579
Massachusetts	\$4,011	\$568
South Carolina	\$2,846	\$528
Maryland	\$2,694	\$433
Rhode Island	\$402	\$364
US Total	\$339,155	\$1,007



Appendix A: State-by-state summary

Table A-1. – General aviation’s contribution to Alabama’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,200	14,600	3,200	26,000	0.88%
Labor income ⁽²⁾	\$753	\$838	\$129	\$1,719	0.97%
Output	\$2,437	\$3,384	\$423	\$6,244	1.03%
Contribution to GDP	\$1,171	\$1,523	\$231	\$2,926	0.96%

Notes at the end of section.

Table A-2. – General aviation’s contribution to Alaska’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	3,100	4,500	1,200	8,800	1.88%
Labor income ⁽²⁾	\$299	\$295	\$56	\$650	1.74%
Output	\$646	\$1,217	\$159	\$2,022	1.88%
Contribution to GDP	\$326	\$656	\$96	\$1,078	1.58%

Notes at the end of section.

Table A-3. – General aviation’s contribution to Arizona’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	14,100	31,700	3,000	48,800	1.11%
Labor income ⁽²⁾	\$1,600	\$2,077	\$159	\$3,836	1.26%
Output	\$5,182	\$6,683	\$464	\$12,329	1.44%
Contribution to GDP	\$2,906	\$3,546	\$278	\$6,729	1.29%

Notes at the end of section.

Table A-4. – General aviation’s contribution to Arkansas’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,900	10,700	1,400	20,900	1.17%
Labor income ⁽²⁾	\$434	\$577	\$56	\$1,067	1.03%
Output	\$1,298	\$2,312	\$191	\$3,800	1.07%
Contribution to GDP	\$633	\$1,032	\$100	\$1,765	0.99%

Notes at the end of section.

Table A-5. – General aviation’s contribution to California’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	36,800	97,200	12,600	146,600	0.58%
Labor income ⁽²⁾	\$4,555	\$8,387	\$849	\$13,790	0.61%
Output	\$12,082	\$25,465	\$2,240	\$39,787	0.67%
Contribution to GDP	\$6,988	\$14,400	\$1,421	\$22,809	0.59%

Notes at the end of section.

Table A-6. – General aviation’s contribution to Colorado’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,700	20,400	2,300	31,400	0.74%
Labor income ⁽²⁾	\$1,055	\$1,611	\$132	\$2,798	0.84%
Output	\$2,821	\$4,858	\$381	\$8,060	0.93%
Contribution to GDP	\$1,572	\$2,643	\$231	\$4,446	0.84%

Notes at the end of section.

Table A-7. – General aviation’s contribution to Connecticut’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	10,800	15,600	600	27,100	1.12%
Labor income ⁽²⁾	\$1,005	\$1,489	\$45	\$2,539	1.24%
Output	\$3,531	\$3,736	\$112	\$7,379	1.39%
Contribution to GDP	\$1,673	\$2,241	\$72	\$3,986	1.15%

Notes at the end of section.

Table A-8. – General aviation’s contribution to Delaware’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	400	1,500	200	2,100	0.32%
Labor income ⁽²⁾	\$50	\$109	\$9	\$168	0.35%
Output	\$125	\$458	\$30	\$613	0.41%
Contribution to GDP	\$79	\$235	\$18	\$331	0.34%

Notes at the end of section.

Table A-9. – General aviation’s contribution to the District of Columbia’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	400	1,400	200	2,000	0.21%
Labor income ⁽²⁾	\$40	\$190	\$16	\$246	0.20%
Output	\$86	\$410	\$34	\$529	0.23%
Contribution to GDP	\$47	\$260	\$24	\$331	0.19%

Notes at the end of section.

Table A-10. – General aviation’s contribution to Florida’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	31,200	79,800	10,100	121,100	0.82%
Labor income ⁽²⁾	\$3,303	\$4,896	\$522	\$8,722	0.96%
Output	\$9,614	\$16,214	\$1,581	\$27,409	1.07%
Contribution to GDP	\$4,680	\$8,428	\$959	\$14,067	0.88%

Notes at the end of section.

Table A-11. – General aviation’s contribution to Georgia’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	18,600	34,900	3,300	56,800	0.80%
Labor income ⁽²⁾	\$2,259	\$2,284	\$179	\$4,722	1.01%
Output	\$7,974	\$7,754	\$527	\$16,255	1.18%
Contribution to GDP	\$4,083	\$3,983	\$306	\$8,372	1.01%

Notes at the end of section.

Table A-12. – General aviation’s contribution to Hawaii’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	1,500	3,400	300	5,100	0.55%
Labor income ⁽²⁾	\$145	\$217	\$17	\$379	0.57%
Output	\$367	\$763	\$49	\$1,179	0.71%
Contribution to GDP	\$209	\$396	\$31	\$637	0.58%

Notes at the end of section.

Table A-13. – General aviation’s contribution to Idaho’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,000	6,600	1,300	11,800	0.97%
Labor income ⁽²⁾	\$298	\$371	\$52	\$721	0.98%
Output	\$855	\$1,362	\$171	\$2,389	1.06%
Contribution to GDP	\$364	\$627	\$95	\$1,086	0.90%

Notes at the end of section.

Table A-14. – General aviation’s contribution to Illinois’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	11,900	31,800	2,700	46,400	0.57%
Labor income ⁽²⁾	\$1,562	\$2,558	\$181	\$4,301	0.67%
Output	\$3,855	\$7,947	\$522	\$12,323	0.67%
Contribution to GDP	\$2,050	\$4,211	\$318	\$6,580	0.60%

Notes at the end of section.

Table A-15. – General aviation’s contribution to Indiana’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,700	16,000	1,500	26,200	0.62%
Labor income ⁽²⁾	\$1,011	\$1,053	\$75	\$2,140	0.74%
Output	\$3,721	\$3,766	\$249	\$7,736	0.78%
Contribution to GDP	\$2,063	\$1,902	\$135	\$4,100	0.82%

Notes at the end of section.

Table A-16. – General aviation’s contribution to Iowa’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	6,700	13,500	1,200	21,500	1.01%
Labor income ⁽²⁾	\$792	\$862	\$54	\$1,709	1.22%
Output	\$2,596	\$3,113	\$187	\$5,896	1.17%
Contribution to GDP	\$1,093	\$1,478	\$97	\$2,667	1.05%

Notes at the end of section.

Table A-17. – General aviation’s contribution to Kansas’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	20,500	18,400	1,500	40,400	2.02%
Labor income ⁽²⁾	\$1,651	\$1,166	\$65	\$2,881	2.12%
Output	\$6,485	\$4,203	\$210	\$10,898	2.43%
Contribution to GDP	\$2,872	\$2,040	\$111	\$5,023	2.20%

Notes at the end of section.

Table A-18. – General aviation’s contribution to Kentucky’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	3,000	8,700	1,200	12,900	0.48%
Labor income ⁽²⁾	\$338	\$538	\$56	\$933	0.56%
Output	\$742	\$2,320	\$182	\$3,245	0.58%
Contribution to GDP	\$362	\$932	\$98	\$1,392	0.50%

Notes at the end of section.

Table A-19. – General aviation’s contribution to Louisiana’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,300	11,000	1,400	16,700	0.59%
Labor income ⁽²⁾	\$413	\$675	\$63	\$1,151	0.67%
Output	\$1,156	\$3,383	\$215	\$4,753	0.71%
Contribution to GDP	\$661	\$1,421	\$114	\$2,196	0.70%

Notes at the end of section.

Table A-20. – General aviation’s contribution to Maine’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	1,500	3,200	400	5,100	0.57%
Labor income ⁽²⁾	\$111	\$191	\$22	\$324	0.57%
Output	\$348	\$585	\$67	\$1,000	0.63%
Contribution to GDP	\$200	\$334	\$41	\$575	0.62%

Notes at the end of section.

Table A-21. – General aviation’s contribution to Maryland’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,700	8,800	800	12,300	0.31%
Labor income ⁽²⁾	\$259	\$617	\$49	\$925	0.30%
Output	\$611	\$1,945	\$138	\$2,694	0.34%
Contribution to GDP	\$340	\$1,074	\$85	\$1,499	0.29%

Notes at the end of section.

Table A-22. – General aviation’s contribution to Massachusetts’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	3,700	11,600	1,800	17,000	0.34%
Labor income ⁽²⁾	\$364	\$1,084	\$129	\$1,578	0.34%
Output	\$874	\$2,824	\$313	\$4,011	0.35%
Contribution to GDP	\$426	\$1,669	\$204	\$2,298	0.31%

Notes at the end of section.

Table A-23. – General aviation’s contribution to Michigan’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	9,200	21,900	2,200	33,200	0.56%
Labor income ⁽²⁾	\$972	\$1,473	\$112	\$2,557	0.62%
Output	\$2,705	\$5,269	\$360	\$8,334	0.65%
Contribution to GDP	\$1,323	\$2,443	\$201	\$3,967	0.59%

Notes at the end of section.

Table A-24. – General aviation’s contribution to Minnesota’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	10,600	20,600	2,100	33,300	0.85%
Labor income ⁽²⁾	\$1,153	\$1,523	\$116	\$2,792	0.96%
Output	\$4,114	\$4,992	\$339	\$9,445	1.11%
Contribution to GDP	\$2,081	\$2,520	\$193	\$4,794	0.99%

Notes at the end of section.

Table A-25. – General aviation’s contribution to Mississippi’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,200	8,200	1,300	13,700	0.80%
Labor income ⁽²⁾	\$321	\$399	\$50	\$770	0.88%
Output	\$935	\$1,889	\$177	\$3,002	0.92%
Contribution to GDP	\$497	\$774	\$93	\$1,364	0.90%

Notes at the end of section.

Table A-26. – General aviation’s contribution to Missouri’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,800	13,100	1,600	19,600	0.49%
Labor income ⁽²⁾	\$425	\$839	\$81	\$1,345	0.51%
Output	\$1,171	\$2,878	\$249	\$4,297	0.55%
Contribution to GDP	\$630	\$1,436	\$135	\$2,201	0.51%

Notes at the end of section.

Table A-27. – General aviation’s contribution to Montana’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,300	4,500	900	7,700	1.02%
Labor income ⁽²⁾	\$190	\$250	\$39	\$479	1.05%
Output	\$529	\$1,031	\$117	\$1,678	1.17%
Contribution to GDP	\$290	\$433	\$64	\$787	1.07%

Notes at the end of section.

Table A-28. – General aviation’s contribution to Nebraska’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,500	6,300	800	11,500	0.83%
Labor income ⁽²⁾	\$349	\$387	\$36	\$772	0.77%
Output	\$1,150	\$1,377	\$123	\$2,650	0.81%
Contribution to GDP	\$598	\$725	\$65	\$1,388	0.77%

Notes at the end of section.

Table A-29. – General aviation’s contribution to Nevada’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,600	6,600	900	10,200	0.48%
Labor income ⁽²⁾	\$242	\$423	\$54	\$720	0.51%
Output	\$683	\$1,445	\$156	\$2,284	0.61%
Contribution to GDP	\$395	\$756	\$99	\$1,251	0.51%

Notes at the end of section.

Table A-30. – General aviation’s contribution to New Hampshire’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,000	4,300	300	6,600	0.69%
Labor income ⁽²⁾	\$278	\$347	\$18	\$643	0.85%
Output	\$699	\$926	\$49	\$1,674	0.88%
Contribution to GDP	\$320	\$542	\$32	\$894	0.78%

Notes at the end of section.

Table A-31. – General aviation’s contribution to New Jersey’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	5,700	18,800	400	24,900	0.41%
Labor income ⁽²⁾	\$823	\$1,669	\$39	\$2,532	0.52%
Output	\$2,432	\$4,478	\$111	\$7,021	0.56%
Contribution to GDP	\$1,277	\$2,635	\$64	\$3,976	0.49%

Notes at the end of section.

Table A-32. – General aviation’s to New Mexico’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,000	4,100	700	6,900	0.59%
Labor income ⁽²⁾	\$173	\$233	\$32	\$438	0.59%
Output	\$459	\$1,071	\$98	\$1,629	0.67%
Contribution to GDP	\$240	\$539	\$55	\$834	0.62%

Notes at the end of section.

Table A-33. – General aviation’s contribution to New York’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,000	31,100	2,500	41,600	0.32%
Labor income ⁽²⁾	\$1,025	\$3,209	\$223	\$4,457	0.36%
Output	\$2,472	\$8,556	\$563	\$11,591	0.38%
Contribution to GDP	\$1,319	\$5,266	\$386	\$6,971	0.32%

Notes at the end of section.

Table A-34. – General aviation’s contribution to North Carolina’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,400	22,000	2,700	33,100	0.49%
Labor income ⁽²⁾	\$740	\$1,468	\$144	\$2,352	0.51%
Output	\$2,147	\$5,157	\$426	\$7,729	0.59%
Contribution to GDP	\$1,153	\$2,477	\$240	\$3,870	0.49%

Notes at the end of section.

Table A-35. – General aviation’s contribution to North Dakota’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	3,200	4,900	400	8,600	1.43%
Labor income ⁽²⁾	\$318	\$309	\$19	\$647	1.54%
Output	\$1,155	\$1,253	\$66	\$2,475	1.73%
Contribution to GDP	\$578	\$601	\$37	\$1,216	1.60%

Notes at the end of section.

Table A-36. – General aviation’s contribution to Ohio’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	9,600	31,800	2,900	44,300	0.60%
Labor income ⁽²⁾	\$1,429	\$2,128	\$145	\$3,702	0.75%
Output	\$3,182	\$8,008	\$455	\$11,645	0.72%
Contribution to GDP	\$1,575	\$3,973	\$251	\$5,799	0.66%

Notes at the end of section.

Table A-37. – General aviation’s contribution to Oklahoma’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	5,700	11,500	1,600	18,800	0.77%
Labor income ⁽²⁾	\$537	\$772	\$67	\$1,376	0.83%
Output	\$1,721	\$3,074	\$215	\$5,010	0.98%
Contribution to GDP	\$973	\$1,418	\$114	\$2,504	0.98%

Notes at the end of section.

Table A-38. – General aviation’s contribution to Oregon’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	6,400	14,700	2,000	23,100	0.86%
Labor income ⁽²⁾	\$703	\$1,070	\$106	\$1,879	0.94%
Output	\$2,135	\$3,169	\$296	\$5,600	1.04%
Contribution to GDP	\$1,123	\$1,725	\$177	\$3,025	0.95%

Notes at the end of section.

Table A-39. – General aviation’s contribution to Pennsylvania’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	8,000	24,000	2,200	34,200	0.42%
Labor income ⁽²⁾	\$862	\$1,867	\$140	\$2,869	0.48%
Output	\$2,314	\$5,984	\$376	\$8,674	0.52%
Contribution to GDP	\$1,119	\$3,115	\$217	\$4,450	0.46%

Notes at the end of section.

Table A-40. – General aviation’s contribution to Rhode Island’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	300	1,400	100	1,800	0.26%
Labor income ⁽²⁾	\$27	\$98	\$8	\$133	0.28%
Output	\$84	\$296	\$22	\$402	0.31%
Contribution to GDP	\$53	\$164	\$13	\$230	0.30%

Notes at the end of section.

Table A-41. – General aviation’s contribution to South Carolina’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	2,300	8,200	1,200	11,700	0.37%
Labor income ⁽²⁾	\$198	\$481	\$57	\$737	0.39%
Output	\$598	\$2,056	\$192	\$2,846	0.47%
Contribution to GDP	\$346	\$877	\$108	\$1,331	0.41%

Notes at the end of section.

Table A-42. – General aviation’s contribution to South Dakota’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	1,600	3,000	400	5,000	0.76%
Labor income ⁽²⁾	\$126	\$179	\$16	\$321	0.73%
Output	\$427	\$573	\$55	\$1,056	0.77%
Contribution to GDP	\$259	\$306	\$31	\$596	0.80%

Notes at the end of section.

Table A-43. – General aviation’s contribution to Tennessee’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	6,000	16,100	2,000	24,100	0.52%
Labor income ⁽²⁾	\$583	\$1,125	\$110	\$1,818	0.57%
Output	\$1,462	\$4,115	\$333	\$5,910	0.63%
Contribution to GDP	\$803	\$1,878	\$196	\$2,877	0.55%

Notes at the end of section.

Table A-44. – General aviation’s contribution to Texas’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	27,600	70,700	7,800	106,000	0.53%
Labor income ⁽²⁾	\$2,441	\$5,475	\$416	\$8,332	0.57%
Output	\$6,055	\$19,687	\$1,311	\$27,053	0.60%
Contribution to GDP	\$3,218	\$10,721	\$742	\$14,682	0.57%

Notes at the end of section.

Table A-45. – General aviation’s contribution to Utah’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,400	9,900	1,100	15,400	0.64%
Labor income ⁽²⁾	\$531	\$625	\$51	\$1,207	0.76%
Output	\$1,501	\$2,288	\$162	\$3,951	0.82%
Contribution to GDP	\$764	\$1,195	\$90	\$2,049	0.73%

Notes at the end of section.

Table A-46. – General aviation’s contribution to Vermont’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	1,100	2,100	200	3,400	0.76%
Labor income ⁽²⁾	\$108	\$134	\$10	\$252	0.90%
Output	\$384	\$406	\$31	\$821	1.03%
Contribution to GDP	\$168	\$220	\$18	\$407	0.93%

Notes at the end of section.

Table A-47. – General aviation’s contribution to Virginia’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	4,200	14,800	1,500	20,500	0.36%
Labor income ⁽²⁾	\$550	\$1,078	\$85	\$1,713	0.39%
Output	\$1,378	\$3,427	\$252	\$5,057	0.46%
Contribution to GDP	\$787	\$1,842	\$149	\$2,778	0.39%

Notes at the end of section.

Table A-48. – General aviation’s contribution to Washington’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	7,900	18,700	4,300	30,900	0.63%
Labor income ⁽²⁾	\$1,097	\$1,637	\$238	\$2,972	0.66%
Output	\$2,768	\$5,084	\$706	\$8,558	0.72%
Contribution to GDP	\$1,592	\$3,012	\$454	\$5,058	0.63%

Notes at the end of section.

Table A-49. – General aviation’s contribution to West Virginia’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	1,200	2,900	200	4,300	0.47%
Labor income ⁽²⁾	\$139	\$177	\$8	\$325	0.59%
Output	\$334	\$711	\$30	\$1,076	0.58%
Contribution to GDP	\$146	\$373	\$15	\$534	0.52%

Notes at the end of section.

Table A-50. – General aviation’s contribution to Wisconsin’s economy, 2023**[Dollar amounts in millions]**

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	7,700	16,700	2,400	26,700	0.69%
Labor income ⁽²⁾	\$707	\$1,067	\$118	\$1,892	0.73%
Output	\$2,228	\$3,930	\$352	\$6,511	0.80%
Contribution to GDP	\$1,059	\$1,808	\$190	\$3,057	0.71%

Notes at the end of section.

Table A-51. – General aviation’s contribution to Wyoming’s economy, 2023

[Dollar amounts in millions]

Item	Direct	Indirect & induced	Enabled	Total	Percent of state economy
Employment (jobs) ⁽¹⁾	600	1,400	300	2,300	0.53%
Labor income ⁽²⁾	\$66	\$97	\$14	\$177	0.66%
Output	\$134	\$445	\$45	\$625	0.63%
Contribution to GDP	\$61	\$208	\$25	\$295	0.57%

Notes at the end of section.

Source: PwC calculations using the IMPLAN modeling system.

(1) Employment is defined as the number of direct, indirect, and induced payroll and self-employed jobs, including part-time jobs.

(2) Labor income is defined as wages and salaries and benefits as well as proprietors’ income.

Appendix B: Data Sources and Methodology

This appendix describes the data sources and methodology used to derive the results for the study.

I. Industry data

A. Manufacturing of general aviation aircraft and components

General aviation aircraft manufacturing

PwC received data on sales of new general aviation aircraft manufactured in the United States from GAMA, along with employment data for general aviation aircraft manufacturers by location of the manufacturing facility. These data were collected by GAMA through a survey of its membership and exclude the manufacture and sale of commercial and military aircraft. These data were supplemented with information from Capital IQ and other publicly available data sources.

The GAMA data cover piston airplanes, turboprop airplanes, business jets, and helicopters, but excludes certain non-member companies, manufacturers of experimental airplanes and aircraft kits and certain light-sport aircraft manufacturers. PwC developed a list of experimental and light-sport aircraft manufacturers and their principal business locations using the Experimental Aircraft Association website, and other sources. GAMA also provided a list of major general aviation aircraft manufacturers and pre-revenue manufacturers not included in their member data. PwC then estimated sales and employment by location for each manufacturer using data from Capital IQ and other public sources.²¹

The estimates of employment and sales for experimental, light-sport, and certain non-GAMA aircraft manufacturers were combined with the GAMA data set to develop the state-level estimates of the employment and output in the aircraft manufacturing industry.

General aviation aircraft component manufacturing

As described above, GAMA collected data on employment by location from its member companies, including manufacturers of aircraft components and other suppliers to the general aviation industry.²² These data were mapped to North American Industrial Classification System (“NAICS”) industries based on the provided description of each facility and consultation with GAMA. Employment in major non-GAMA aircraft component manufacturers by industry and location was estimated using Capital IQ and other publicly available sources.

The manufacture of aircraft components by first-tier suppliers to the general aviation aircraft manufacturing industry generally was mapped to one of three main industries:²³

NAICS code	Industry name
336412	Aircraft engine and engine parts manufacturing
336413	Other aircraft parts and auxiliary equipment manufacturing
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing (This sector includes the manufacture of avionics)

²¹ For companies that manufacture aircraft for the military, PwC used publicly available data (such as revenue shares by segment from company annual reports) to adjust overall employment and sales to remove the portion attributable to military production.

²² The GAMA data also include employment at repairs and maintenance facilities as well as employment for certain service providers. Except for complete factory rebuilds, this employment is estimated in the economic contribution of general aviation aircraft operations and maintenance and is excluded from our estimates of the direct contribution from general aviation aircraft and component manufacturing.

²³ A small number of the facilities of first-tier suppliers were mapped to other manufacturing industries. For example, manufacture of rubber tires for general aviation aircraft is mapped to NAICS code 326211 (“tire manufacturing”) and the manufacture of certain electrical systems (such as interior and exterior aircraft lighting) is mapped to NAICS code 336320 (“motor vehicle electrical and electronic equipment manufacturing”).

In some cases, a first-tier supplier may be manufacturing multiple types of components at the same facility or location. In such cases, we have mapped facilities to industries based on the primary activity at the location.

As above, the employment data were adjusted to remove the portion of employment related to production of components for commercial and military aircraft programs.²⁴ The facility-level employment data were then rolled up to the national and state-levels.

B. Operation and maintenance of general aviation aircraft

In addition to aircraft and component manufacturing, general aviation generates economic contribution in the United States through the operation and maintenance of the general aviation fleet.

The starting point for estimating economic contribution of the operation and maintenance of the general aviation fleet is estimates of the fleet size and flight hours. The FAA conducts an annual survey on general aviation and on-demand Part 135 aircraft activity. As part of this survey, the FAA gathers information on the types of aircraft in service, flight hours, purpose of use, and the states in which the aircraft are primarily used.

The FAA reports active fleet and flight hour data for 11 types of general aviation aircraft:

1. Single-engine piston airplanes,
2. Twin-engine piston airplanes,
3. Single-engine turboprop airplanes,
4. Twin-engine turboprop airplanes,
5. Turbojet-powered airplanes,
6. Piston-powered rotorcraft,
7. Single-engine turbine-powered rotorcraft
8. Twin-engine turbine-powered rotorcraft
9. Experimental aircraft²⁵,
10. Special light-sport aircraft, and
11. Other aircraft.²⁶

The FAA also reports flight hours by reason for use. For general aviation, most of the flight hours (nearly 80 percent) fall into three use types: (1) personal; (2) business (with or without a paid crew); and (3) instructional.

Other uses of general aviation aircraft include agricultural and forestry applications, aerial observation and sight-seeing, non-Part 135 air medical services, and other work uses. On-demand Part 135 uses include air taxis, air tours, and air medical services.

From the FAA's *2023 General Aviation and Part 135 Activity Survey* we obtained data on (1) the active fleet by type of aircraft and primary reason for use; and (2) flight hours by type of aircraft and primary reason for use.

These data were combined with estimates of the average operating costs by type of aircraft and use to estimate total expenditures on operation and maintenance of general aviation aircraft in 2023.

The primary source of data on aircraft operating costs was the Conklin & de Decker Report (formerly known as the Aircraft Cost Evaluator) published by Conklin & de Decker. The Conklin & de Decker Report is a benchmarking tool used to compare the performance and operating costs of alternative aircraft models. The database includes information on the average variable cost per flight hour and the annual fixed costs for more than 500 aircraft models (see **Table B-1**, below).

²⁴ Member companies were asked to provide only employment for general aviation programs. However, in some cases the facility description indicated it was production for military. Employment at these facilities was excluded from our estimates.

²⁵ Including amateur-built, exhibition, experimental light-sport, and other experimental aircraft.

²⁶ Including gliders and lighter-than-air aircraft.

Table B-1. Variable and fixed costs in Conklin & de Decker

Variable costs per hour	Annual fixed costs
Fuel	Captain's salary (if any)
Fuel additives	Co-pilot's salary (if any)
Lubricants	Flight attendant's salary (if any)
Maintenance labor	Crew benefits (if any)
Parts	Typical hangar fees
Engine restoration	Hull insurance
Thrust reverser allowance (jets only)	Single limit liability insurance
Propeller allowance (turboprop and piston)	Recurrent training
Major periodic maintenance	Aircraft modernization
Auxiliary power unit allowance	Navigational chart service
Landing and parking fees	Refurbishing
Crew expenses (if any)	Computerized maintenance program
Supplies	Weather service

Note: Not all aircraft or aircraft use types will have all of these costs.

Conklin & de Decker does not provide cost data for experimental and special light-sport aircraft.

For experimental aircraft, the EAA provided a list of piston aircraft models that would have similar cost profiles to the majority of experimental aircraft types. These models were used as a proxy to determine the operating costs for experimental and special light-sport aircraft. Because detailed cost data were not available for gliders and lighter-than-air aircraft, they were excluded from our estimates. Such aircraft accounted for just 0.47 percent of all general aviation flight hours in 2023.

Using data on the number of active aircraft of each model from the FAA registry,²⁷ PwC developed weighted-average cost profiles for each type of aircraft. For each type of aircraft, PwC developed four cost profiles based on the primary use of the aircraft (as defined by the FAA reason for use categories). Broadly speaking these four cost profiles are as follows:

1. **Personal** – Operation of general aviation aircraft for personal/recreational reasons. It is assumed that personal flights do not have a paid crew, and that personal use aircraft do not incur hangar charges.²⁸
2. **Business without a paid professional crew** – Operation of general aviation aircraft for business transportation without a paid, professional flight crew.
3. **Business with a paid professional crew** – Operation of general aviation aircraft for business purposes with a paid, professional flight crew.
4. **Other** – Operation of general aviation aircraft for all other purposes with a paid professional pilot and no other crew.

Table B-2, below, provides a crosswalk between the FAA and Conklin & de Decker aircraft use categories.

²⁷ The number of active registrations for the sampled single- and twin-engine piston airplanes was obtained by searching the FAA registry by make and model. The FAA registry can be accessed online at: http://registry.faa.gov/aircraftinquiry/acftref_inquiry.aspx.

²⁸ The later assumption is conservative because we have omitted hangar costs and tie-down fees for personal use aircraft.

Table B-2. Weighted-average cost profiles by FAA use category

FAA use type	PwC cost profile	Definition
General aviation:		
Personal	Personal	Conklin & de Decker business-use costs, without pilot, paid crew, and hangar costs
Business without a paid professional crew	Business without a paid crew	Conklin & de Decker business-use costs
Business with a paid professional crew	Business with a paid crew	Conklin & de Decker corporate-use costs
Instructional	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew (pilot cost used as proxy for flight instructor)
Aerial application in agriculture	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Aerial observation	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Other aerial application	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
External load	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Other work use	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Sight-seeing	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Non-Part 135 air medical services	Business with a paid crew	Conklin & de Decker corporate-use costs
Other	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
On-demand part 135 use		
Air taxi	Business with a paid crew	Conklin & de Decker corporate-use costs
Air tours	Other	Conklin & de Decker corporate-use costs with pilot but no other paid crew
Air medical services	Business with a paid crew	Conklin & de Decker corporate-use costs

For each aircraft type and use category, weighted average variable costs were multiplied by the total number of flight hours from the FAA data. Similarly, annual fixed costs were multiplied by the FAA's estimate of the active fleet. For these calculations, it was assumed that all experimental and light-sport aircraft are for personal use.

The results were aggregated to derive estimates of total operating expenditures by detailed cost type at the national level. Operating expenditures were allocated across the states based on data on take-offs and landings for general aviation flights from the FAA's Terminal Area Forecast.

II. Quantifying general aviation's indirect and induced economic contributions

The initial round of output, income, and employment generated by general aviation leads to successive rounds of re-spending throughout its supply chain. The “multiplier” effect of general aviation activity is measured using input-output models developed by the IMPLAN Group, which are widely used by government, academics, and private-sector researchers. The IMPLAN model measures indirect contribution (attributable to an industry’s upstream supply chain) and induced contribution (attributable to expenditures from payrolls of employees in the industry and its supply chain).

Using the IMPLAN model, PwC separately quantified the indirect and induced contributions attributable to general aviation aircraft and component manufacturing and general aviation flight operations.

General aviation aircraft and component manufacturing

Based on general aviation aircraft manufacturing sales and employment data from GAMA, IMPLAN can estimate its indirect and induced contributions. The indirect effect falls on aircraft engines, parts, avionics, and non-component suppliers. We then estimated the indirect and induced effects of the first-tier component manufacturers based on general aviation component manufacturing data from GAMA. Finally, we combined the two sets of estimates. The final estimate of the total contribution of general aviation aircraft and component manufacturing consists of

1. Direct contribution from general aviation aircraft manufacturing;
2. Indirect and induced contributions from non-component suppliers to general aviation aircraft manufacturing; and
3. Direct, indirect, and induced contributions from first-tier general aviation component manufacturing.

General aviation operations and maintenance

For general aviation flight operations and maintenance, based on the cost profiles identified in **Table B-1**, we used the IMPLAN model to estimate the indirect contribution attributable to flight crews and fixed-base operators (“FBOs”). The indirect contribution estimate is calibrated to reflect the spending on first-tier suppliers (such as fuel costs and flight training). Income earned by flight crews and employees of FBOs and their supply chain was used in the IMPLAN model to estimate the induced contribution attributable to general aviation flight operations and maintenance.

For this study, PwC customized IMPLAN input-output models for the national economy and each state to calculate general aviation’s indirect and induced economic contribution in each study area in terms of employment, labor income, output, and GDP. The industry’s direct labor income and GDP contributions are also estimated using the IMPLAN, based on the average labor income and GDP for the closest sectors in the model that encompass the general aviation industry.

The state-level IMPLAN models do not capture indirect and induced effects that spill over state borders (“cross-state spillover effects”). Using the national-level IMPLAN model, we estimated the cross-state spillover effects and allocated them proportionally to each state.

III. General aviation-enabled destination visitor expenditures

Travelers on general aviation flights provide additional economic benefits for the locations they visit in the form of spending on local goods and services. For example, a business traveler on a business aircraft may incur expenses for a hotel room, local meals, and miscellaneous expenditures. These traveler expenditures undergo a multiplier process similar to the manufacturing and operational effects discussed above.

To estimate the economic contribution resulting from general aviation traveler expenditures, PwC collected data on the general aviation operations at airports around the country.²⁹ For each airport with general aviation traffic, we obtained data on the airport’s location (including city and state) and local and itinerant operations (defined as the sum of take-offs and landings). Local expenditures by visitors arriving on general aviation flights were estimated using a two-step process.

First, itinerant operations were divided by two to get the number of general aviation trips arriving at each airport. A September 2024 FAA study assumed that, in 2022, 40 percent of all itinerant general aviation flights carry overnight passengers and that the average number of passengers on such flights was approximately 2.84.³⁰

²⁹ Data on general aviation operations (defined to be the sum of take-offs and landings) was obtained from the FAA’s Terminal Area Forecast.

³⁰ Unpublished methodology by the FAA, “The Economic Impact of U.S. Civil Aviation.” September 2024. Assumptions provided to PwC by the FAA in January 2025.

Second, we obtained average government per diems for 2023 in each city or county with a general aviation airport in the US from the General Services Administration (GSA).³¹ Separate per diems were obtained for meals and lodging. PwC used these per diems to estimate the total expenditure on meals and lodging in each locality assuming that travelers on general aviation flights stay an average of two nights.

Based on these assumptions, we estimate that nationwide general aviation visitor expenditures totaled \$6.7 billion in 2023. This estimate is likely to be conservative for several reasons. First, some business travelers have expenditures in excess of the maximum per diems allowed for federal employees. Second, travelers may make expenditures in addition to meals and lodging. Third, this approach only estimates visitor spending for overnight passengers, although travelers who arrive and depart on the same day also may incur expenses for meals and other items.

Estimates of general aviation destination visitor expenditures and state-level IMPLAN models were used to calculate the indirect and induced effects associated with these expenditures.

³¹ The US General Services Administration publishes per diems for federal government travelers within the continental United States. The per diems can be found at <https://www.gsa.gov/travel/plan-book/per-diem-rates>.

Thank you

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