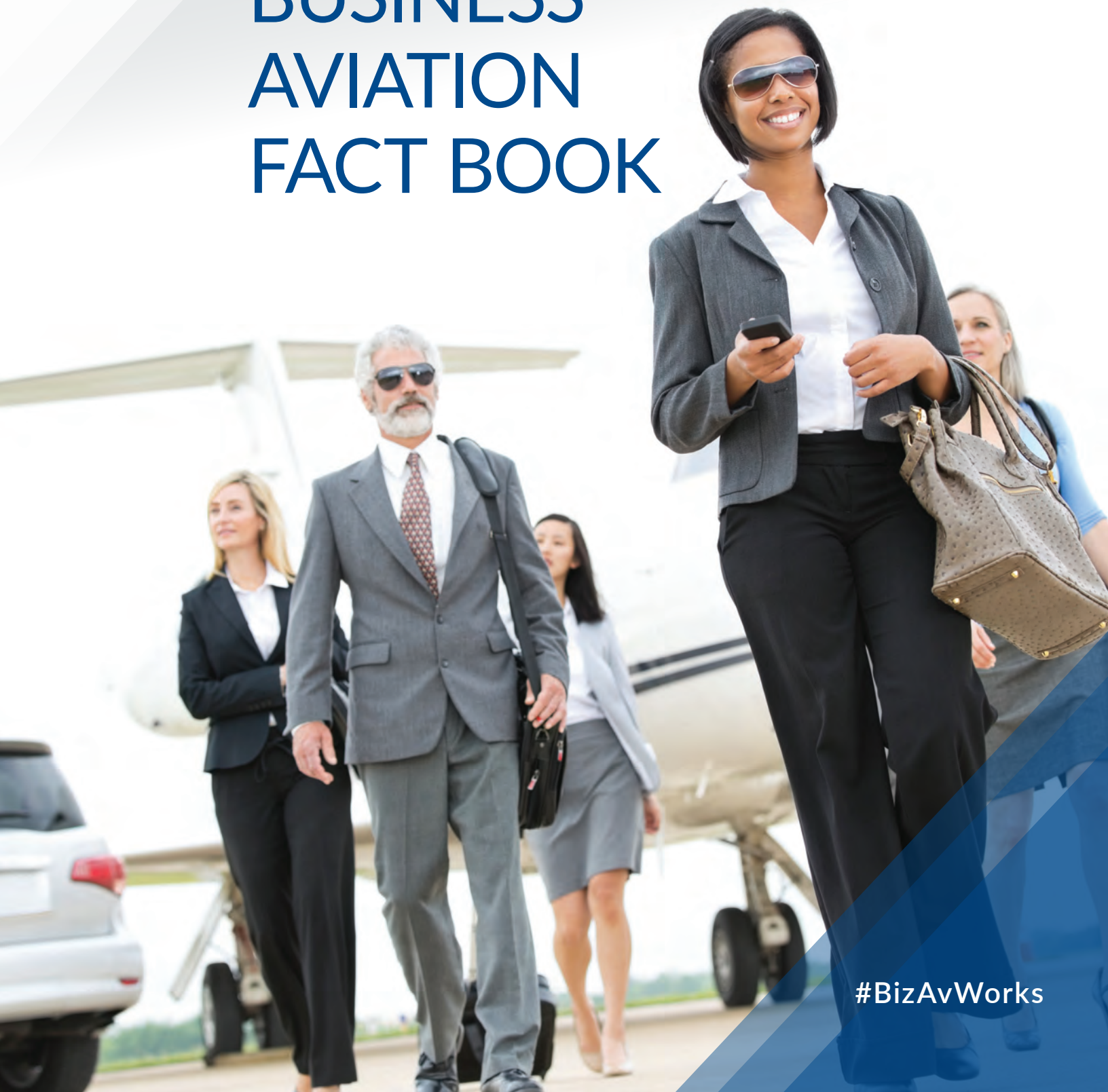


NO PLANE  **NO GAIN**

BUSINESS AVIATION FACT BOOK



#BizAvWorks

BUSINESS AVIATION FAST FACTS

80%



of business airplane flights are to airports in small towns and communities

General aviation contributed \$128.3 billion to U.S. GDP in 2018



Business aviation helps support more than **1 MILLION JOBS**

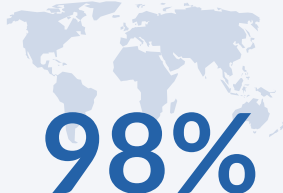
The U.S. aircraft industry is a net exporter, adding to the nation's trade balance. Exports of business aviation aircraft and parts amounted to about \$26 billion in 2018.

PRODUCTIVITY

86%

of flights

carry marketing and sales personnel, technical and engineering staff, middle managers and company customers—**not top executives.**



98%

OF FORTUNE MAGAZINE'S **Top 50 "World's Most Admired Companies"** USE BUSINESS AVIATION

Utilizing business aircraft:

- minimizes travel time
- allows for flexible schedules
- increases productivity
- ensures employee safety and security
- enables the delivery of sensitive equipment
- allows for multiple stops in a single day

15,000

the number of flights business aircraft make in a year for **humanitarian reasons**

Business aviation pilots undertake all kinds of humanitarian flights on a daily basis. For example, since 2006, Veterans Airlift Command has flown more than 17,900 wounded warriors.

Today, more than 500 American companies partner with Corporate Angel Network (CAN), making empty seats available on their business aircraft for cancer patients. The network has arranged more than 60,000 patient flights since its founding in 1981.

COMMUNITY LIFELINE

Business aviation provides an essential lifeline to more than 5,000 communities across the U.S. with little or no airline service.

Professionally flown business aircraft have an outstanding **safety** record, comparable to the commercial airlines.



SUSTAINABILITY

Globally, business aviation operations make up only 0.04 % of manmade carbon emissions.

The industry is committed to carbon-neutral growth from 2020 onward.



BUSINESS AVIATION FACT BOOK

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WHAT IS BUSINESS AVIATION?

Business aviation is the manufacture and use of mostly small aircraft for business transportation. The industry generates over a million jobs and helps businesses of all sizes to be more productive and efficient. Business aircraft are a lifeline to communities with little or no airline service, and provide emergency and humanitarian services to people in need.



Business aircraft include helicopters, propeller-driven airplanes and jets. Although the longest-range business jets can fly 20 or more passengers to offices and factories across the globe, the vast majority of business aircraft seat no more than six people and fly trips under 1,000 miles.

>80%

of the **17,000** registered business aircraft in the U.S.

have cabins about the size of a large SUV



45% of companies that use business aviation have **< 500 employees**



WHO USES BUSINESS AVIATION?

Business aviation is an essential tool to companies and organizations of all kinds and sizes, including universities, nonprofits, hospitals and farms. Firefighters, law enforcement and government agencies use these aircraft every day. Only 3% of U.S. business aircraft are flown by Fortune 500 companies. Studies have shown that top performing companies of all sizes utilize business aircraft.

Business aviation is essential to tens of thousands of companies competing in a marketplace that demands speed, flexibility and efficiency. Utilizing an aircraft enables businesses to grow and create jobs in their hometowns – no matter where they are – since business aviation serves more than 10 times the number of U.S. airports than the commercial airlines, and many businesses are located in areas without any scheduled airline service.

Many companies rely on business aircraft to bring employees to distant customers or far-flung offices, factories and job sites, with many trips calling for multiple stops in a short period of time.



75%

of companies that use business aircraft have only **one airplane**



WHY USE BUSINESS

Many factors go into a company's decision to utilize a business aircraft. These include the number of passengers to be transported; the requirement to move specialized or fragile equipment; and many other considerations.

Business aviation provides important benefits to its users, including:

- **Saving employee time**

Employees save a lot of on-the-job time by more efficient and direct travel schedules. On a trip that would require two days using the airlines, employees can return to home base at day's end.

- **Increasing employee productivity, safety and security**

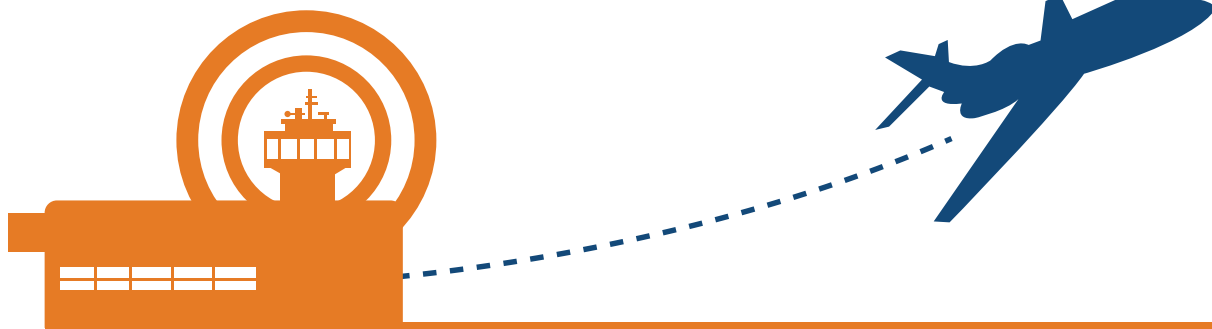
Business aircraft are a secure and quiet workplace safe from corporate espionage or physical threat. Business aviation operations are typically flown by a two-person professional crew and have a stellar safety record comparable to the major airlines.

- **Reaching multiple destinations quickly and efficiently**

Missions that require traveling to multiple destinations in one day are nearly impossible to accomplish using any other mode of transportation.

- **Accessing communities with little or no airline service**

Almost half of business aviation missions are to destinations with infrequent or no scheduled airline service. More than a third are to destinations that have *never* had commercial air service.



Business airplanes can reach about 5,000 airports; the airlines only reach 500

AVIATION?

- **Scheduling predictability and control**

The flight delays and cancellations that are common when flying on the airlines can jeopardize a big business deal. Business aircraft are flown based on the passengers' schedules, so meetings can be moved up or extended, giving companies greater flexibility and the ability to quickly adapt to changing demands and circumstances.

- **Supporting the travel needs of company employees**

Engineers, technicians, salespeople, middle managers and many other kinds of employees are typical business aircraft passengers. When top company officials travel on the aircraft, it is usually with other passengers.

- **Moving vital equipment**

When companies need to quickly ship critical, outsized or sensitive equipment, business aviation is often the best – if not only – solution.

- **Boosting profitability and entrepreneurship**

Companies that utilize business aviation overwhelmingly take top honors in revenue growth, innovation, employee satisfaction and market share. By eliminating many of the barriers to travel, business aircraft enable companies to quickly respond to business opportunities.

86%
of business aviation flights
carry marketing and
sales personnel, technical
and engineering staff,
middle managers and
company customers –
not top executives



Download a short PowerPoint
presentation on business
aviation in America

noplanenogain.org/america



OVER A MILLION JOBS

Business aviation means jobs – more than 1.1 million of them. Through aircraft manufacturing and airport-related jobs, and with the purchase of goods and

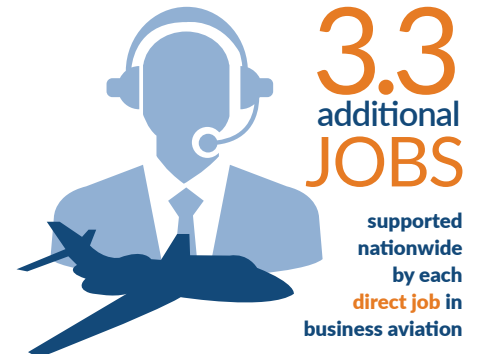


services involved in aircraft operations and maintenance, business aviation is a major economic driver throughout the United States.

BUSINESS AVIATION IS GOOD BUSINESS

Business aviation is a vital American industry that produces jobs and economic development in every state. From the Wright brothers to the current-day major manufacturing hubs in Kansas, Georgia and across the country, business aircraft are a home-grown American industry.

What's more, the U.S. civil aircraft industry continues to be a net exporter, adding to the nation's trade balance. Exports of business aviation aircraft and parts amounted to about \$26 billion in 2018.





Even aircraft not manufactured in the U.S. are often “completed” in America, where engines, avionics, electronics, paint, interiors and other U.S.-made components are installed. Many aircraft completion companies are small and mid-size businesses, including producers of aluminum, plastic and fabric, as well as engineering firms that design the aircraft’s electronic systems.

Across the country, thousands more jobs are provided by charter flight companies and many hundreds of flight schools. There are about 3,000 fixed-base operators providing services to the business aviation industry at airports nationwide.

Business aircraft operations employ workers in every state in the country, including schedulers, dispatchers, pilots, maintenance and repair technicians, training professionals, insurers and many other specialists.



Opportunity Across America

The vast majority of all business aircraft flown worldwide were built in the U.S., and the majority of them are serviced and maintained in the U.S. as well – providing thousands of good jobs all across the country.

Young people and those seeking a career change are discovering the exciting, well-paying and satisfying jobs in the business aviation industry – which is eager and ready to add new employees to its ranks. Aviation touches almost every aspect of a STEM education, as well as careers in sales, administration, scheduling and dispatching, airport management, and much more.

The business aviation industry provides many opportunities to learn and train through internships, mentoring, young professional group networks, scholarships for aviation degrees and certificates and much more.





BUSINESS AVIATION KEY TO GROWTH OF FLAGSHIP FOOD GROUP

In 2015, Flagship Food Group relocated its headquarters from Los Angeles to Denver in no small part for access to Centennial Airport. “We’ve actually doubled in size every couple of years, and aviation’s been really key to that,” said Flagship CEO Rob Holland.

As a maker of salsas, sauces and prepared meals, Flagship Food Group has a manufacturing plant in Albuquerque and sources green chiles from the Hatch Valley in New Mexico. The company also has marketing offices and warehouses in Boise, Indianapolis, Las Vegas and Minneapolis. Central to all those sites is Denver – a two-hour flight in Holland’s Eclipse 500 from any of Flagship’s U.S. locations.

Often, Holland and his CFO will fly from Centennial to New Mexico early in the morning, then straight to Boise later that afternoon, where they’ll have a working dinner with the marketing team, and spend the next morning at the Boise marketing office. Using the Eclipse, they’ll be back in Denver by 3 p.m.

“Now try doing that by flying commercial,” said Holland. “You can’t. You’re literally going to spend three days on probably five or six legs [if you fly the airlines]. Because of the efficiencies we achieve with general aviation, the ROI is enormous.”



Business aviation – via indirect and induced impacts – supports 421,000 jobs and \$25 billion of GDP in the service sector, 88,000 jobs and \$8 billion of GDP in the wholesale and retail trade sector, and nearly 85,000 jobs and \$17 billion of GDP in the finance and insurance sector.

General Aviation Airports = Jobs + Economic Impact + Tax Revenue

That mile or so of pavement outside thousands of small towns and communities – the local airport – may as well be a gold mine considering the jobs, investment and economic activity it brings to an area. The more than 5,000 non-commercial, public-use airports that connect towns of all sizes to the world provide a myriad of direct employment opportunities, at aircraft maintenance and repair shops, flight schools, fixed-base operators that provide fuel and aircraft parking and services, charter operators and more.

Every day, American companies fly thousands of professionals in and out of the nation’s general aviation airports, boosting revenue and employment at hotels, car rental companies, restaurants, taxi services, caterers, retail shops, meeting and convention venues and more.

Airports help keep employers in a community and attract new ones to a region because of the transportation and other competitive advantages they provide. Business developers and investors look for ready access to air transportation when they make decisions on where to locate new facilities.



CALIFORNIA'S VAN NUYS AIRPORT: AN ECONOMIC ENGINE

A recent economic impact analysis of Van Nuys Airport (VNY) – one of the busiest business aviation airports in the country – determined the airport is a major economic driver in Southern California. The Los Angeles World Airports analysis found the airport contributes:

- More than 10,000 jobs, of which 5,300 are on-site jobs
- \$674.6 million in labor income
- \$2 billion in output (business revenues)

Read a PwC study on the jobs and economic activity created by business aviation

noplanenogain.org/pwc



Business Aviation Brings Value

Governors and mayors from all 50 states have signed proclamations recognizing the value of business aviation in bringing jobs and economic benefits to their residents.



are related to general aviation, making up 2% of state employment

15,000 JOBS

are supported by New Jersey's **Teterboro Airport**, which drives more than **\$2 billion** in annual sales activity

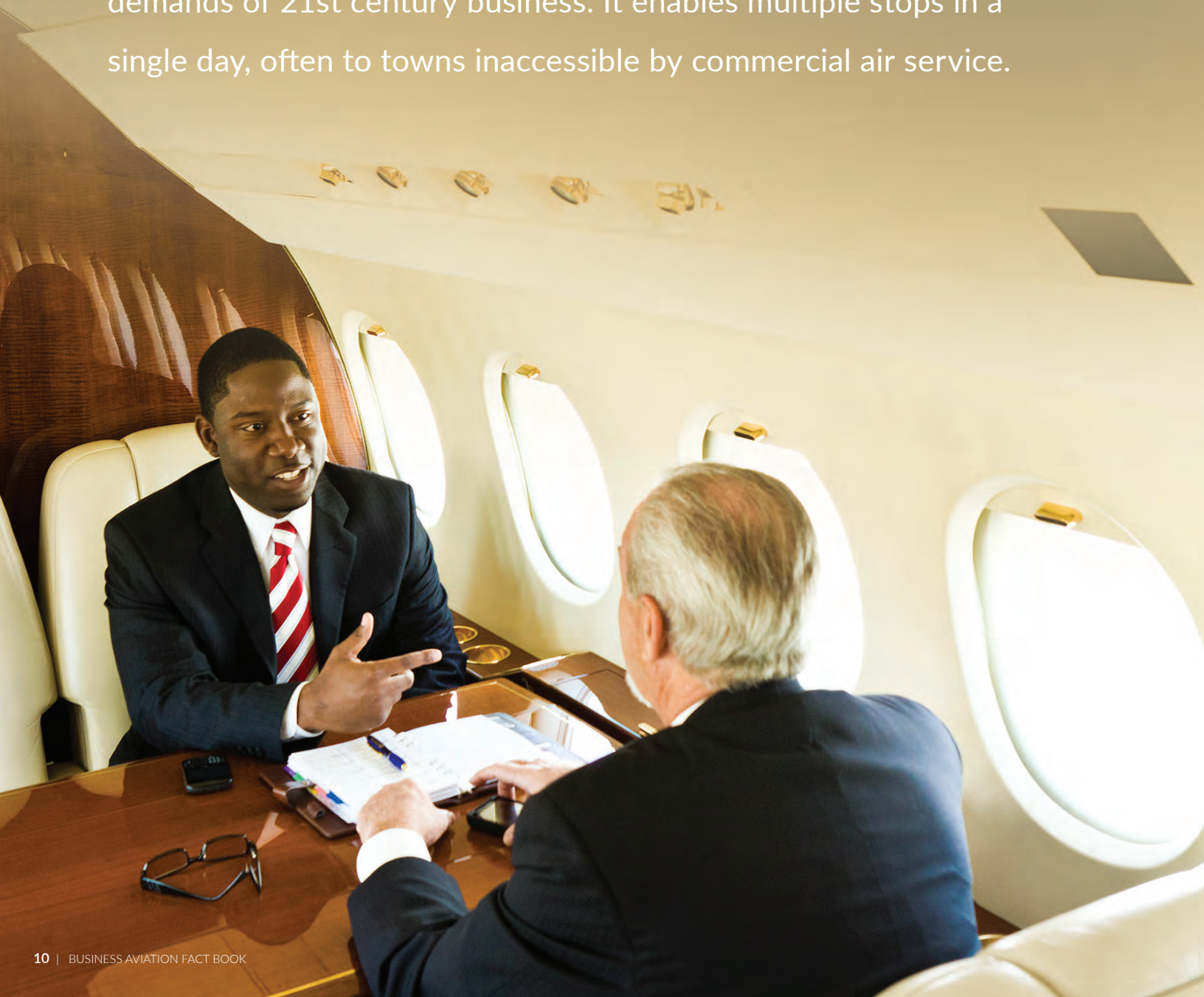


AVIATION EMPLOYMENT TAKES OFF IN LENOIR COUNTY, NC

Nearly 500 jobs are coming to Kinston in Lenoir County, North Carolina, where aircraft recycler Aircraft Solutions USA is expanding its business. The new hangar that the company is building is more than three football fields in length. The mayor of Kinston is excited about the new jobs, which he says will enable people to “come live in the county, stay, eat and have a great job and decent salary.” The average wage at Aircraft Solutions is expected to be \$47,000 a year, which is \$10,000 above the county average. Living standards in the area are expected to increase because of the influx of new aviation jobs.

ENHANCED PRODUCTIVITY

Business aviation enhances productivity and provides greater efficiency for thousands of companies and organizations. Traveling by business aircraft is faster, more flexible and responsive to the demands of 21st century business. It enables multiple stops in a single day, often to towns inaccessible by commercial air service.



BUSINESS AVIATION = EFFICIENCY

The utility of business aircraft is unsurpassed when it comes to rapid, point-to-point, on-demand transportation – saving time and getting to customers faster. Many users rely on business aircraft to visit multiple destinations in a single day.

Nearly half of all trips are flown to airports with infrequent or no scheduled airline service. Employees traveling on aircraft – mostly mid-level managers, sales teams, and professional and technical support people – are more nimble and efficient.

BUSINESS AVIATION = PRODUCTIVITY

Employees are also more productive when flying on business aircraft. On average, passengers spend two thirds of their time on business aircraft working, including 40% of the time meeting with colleagues or customers – safe from corporate espionage.

A business airplane has been called an “office in the sky.” Travelers can meet, plan and work en route, remaining productive throughout the entire trip and staying in touch with colleagues and clients on the ground using modern on-board communications equipment.

With the ability to alter course or plans on a moment's notice, business aviation makes it possible to do more work in less time. For many enterprises, it's the key to their success.

Not only that, but government entities that utilize aircraft have been shown to provide significant taxpayer value by transporting civil servants cost-effectively. Government aircraft are often the best tool for the job for workers involved in public safety, security, law enforcement, fire-fighting and other important missions.

“Our people in the home office seldom spend more than one day round-trip.”

Herb Kohler
Executive Chairman, Kohler Company

A 2015 Harris Poll survey found that **more than half** of the passengers on business aircraft flights indicated that **their schedules could not be met efficiently using the commercial airlines.**



Utilizing business aircraft:

- minimizes travel time
- enables flexible schedules
- increases productivity
- ensures employee safety and security
- enables the delivery of sensitive equipment
- facilitates multiple-stop itineraries in a single day, often to towns and locations that would be inaccessible by commercial air service

Airplanes Are Essential to Do Business – Jack Henry & Associates

As a leading provider of technology solutions for the financial industry, Monett, MO-based Jack Henry & Associates has more than 40 offices across the country, but the company's four Embraer Phenom 300s travel to many more destinations. "We fly everywhere there's a bank or a credit union, and that's basically every town across the United States," said Chief Pilot Michael Whannell. Chris Ridings, director of maintenance, added, "The planes are very valuable to this company. We treat them no different than a laptop or a stapler or a notepad. We've got to have them to do business."



Get a report on the competitive edge for companies using business aviation

noplanenogain.org/realworld



"At Enterprise Holdings, we know a lot about the importance of having the right travel option. And for us, business aviation is a transportation mode that helps us be more efficient, productive and successful."

Pamela Nicholson
Retired CEO, Enterprise Holdings



 **2/3**
OF PASSENGERS
flying business aviation say they are as or more productive on business aircraft flights than when they are in the office



BUSINESS AVIATION = SUCCESS

Companies that use business aircraft overwhelmingly take top honors in innovation, employee satisfaction, customer service and corporate responsibility, according to a NEXA Advisors report.

In that study, companies directly tie the use of business aviation to the success of their enterprises. Not surprisingly, the same study noted that users of business aviation stand out from their peers as measured independently by leading business authorities, including *Forbes*, *Fortune* and *Interbrand*.

Studies across the board consistently find that companies using business aviation routinely outperform similar companies that do not use it. They generate greater shareholder value, rebound stronger from recessions and have better access to customers.

Using business aircraft is a sign of a well-managed company – and that is true for companies of all types and all sizes, across the nation and around the world.

A Business Tool Like No Other



A manufacturer of heavy-duty engines and power-generation equipment, Cummins has customers operating its products in some hard-to-reach locations. It also has factories and offices at nearly a dozen sites across North America.

“We fly to a lot of places you can’t get to any other way,” says Director of Corporate Aviation Chris Raskob.

The company’s three Gulfstream G280s enable managers to service customers globally on short notice. Cummins’ Embraer ERJ-135 shuttle connects employees to 11 regular destinations from the company headquarters in Columbus, IN.

“Aviation is a service we’ve come to rely on,” said Shelley Stewart, executive director of global security. “It’s become an integral part of the way we do business. Cummins’ mission is to make sure customers succeed; the aviation department is here to facilitate that mission.”

Without business aviation, Cummins couldn’t run a global manufacturing and distribution business. Its Columbus headquarters – and the entire Southern Indiana region where it has a network of offices and factories – is an hour and a half drive from the nearest commercial airport.




LIFELINE FOR COMMUNITIES

Business aviation provides an essential lifeline to more than 5,000 communities across the U.S. with little or no airline service. Business aircraft transport passengers, mail and supplies to rural areas and small towns. For thousands of companies in these areas, business aviation is the only way to reach clients, manage distant facilities, bring customers to their headquarters and seize opportunities.





Almost all airline flights service only
70 major hubs



80%
of business airplane flights are to
airports in small towns and communities

LIFELINE FOR PEOPLE

America's vast and varied landscape has made fast and efficient transportation essential to our country's growth. According to the U.S. Census Bureau, rural areas cover 97% of the nation's land area, making business aviation the only way for millions of people to receive goods and services, from medical care to fresh produce to mail.

General aviation airports in these communities also support flights for vital services such as search and rescue, organ transplants, patient transport, law enforcement, fire-fighting, agricultural application, package delivery and a host of other missions.



The nation's small public airports were significantly impacted by the pandemic and subsequent economic downturn in 2020. Essential to the national transportation infrastructure, they rely on support at the federal, state and local level.

See state-by-state data on
business aviation's
economic impact

aviationacrossamerica.org/economic-impact



Aviation: Alaska's Lifeline

Eighty-two percent of Alaska's communities are not connected to a highway or road system – so business aviation is a way of life in the state, which is home to more than 400 public-use local airports. Aviation is the way some children travel to school.

Business aviation is essential to Alaska's economy, supporting resource exploration, pipeline patrol, tourism, hunting and fishing. **Aviation contributes \$3.8 billion to the state's economy and 35,000 jobs.** For Alaska residents, aviation is not a luxury or convenience, but a way of life.



LIFELINE FOR BUSINESSES

Of the more than 13,000 businesses in North America that utilize business aircraft, the majority have fewer than 500 employees, and seven in 10 have less than 1,000 employees. Many of these small and medium-sized companies are located far away from airports with frequent airline service.

As these businesses know, easy access to air transportation is a key competitive advantage, and many companies attribute their success – and even their choice of location – to their proximity to the local airport.

LIFELINE FOR LOCAL ECONOMIES

Business aircraft and the local airports they fly into are important to thousands of communities across America, not just for the goods and services they bring; they are engines for the local economies.

Today, the nation's 5,000 general aviation airports are becoming more essential, as more and more communities lose airline service entirely.

Companies that rely on business aviation are major employers in many communities in the U.S. – locations where they could not operate without an aircraft. And every day of the year, many thousands of businesspeople travel through them, completely bypassing the commercial airline “hub and spoke” system. They are marketing and salespeople, engineers, technical specialists, job training instructors, healthcare providers and many other professionals.



A SINGLE BUSINESS AIRCRAFT
CAN BRING AN AIRPORT & ITS COMMUNITY

\$2.5 MILLION
in economic benefit

Local general aviation airports also create jobs on and near the airport, at flight schools, aircraft repair shops, fixed-base operators, charter providers, flight departments and other aviation businesses. When the people who work at a community airport spend their incomes locally, the “multiplier effect” spurs even more indirect economic activity.



>42% 
of business airplane flights are into airports with infrequent or no scheduled airline service

120 million passengers travel on general aviation flights each year in the U.S., according to a study by PwC.

\$4.2 billion was spent on lodging, and \$1.9 billion was spent on meals, at destinations by overnight business aviation passengers in 2018, according to the same study.

BRINGING HEALTHCARE TO THE PATIENT, NO MATTER HOW FAR

Premier Bone & Joint Centers, Laramie, WY

In most towns, patients come to the doctors' office. In largely rural Wyoming, one orthopedic group utilizes business aviation to see patients where they live.

With just eight doctors, Premier Bone & Joint operates 11 orthopedic clinics across Wyoming, serving about 80% of the state. The physicians are based out of Premier's headquarters in Laramie, WY, but they regularly visit the satellite clinics, often visiting two per day. The doctors are flown across Wyoming using four King Air turboprop aircraft and four pilots who often fly three 30- to 80-minute legs a day.

"I don't see how we could operate 11 clinics without airplanes," said Dr. Lawrence Jenkins, a spinal surgeon. "If we didn't fly, we'd probably only have two or three doctors, and we couldn't bring sub-specialist care to these small towns. During winter in Wyoming, there are lots of days when the roads are so bad we couldn't get [drive] there."

"As much as we can, we do surgeries at the satellite sites," said Dr. Mark McKenna, who referenced a hand tendon operation he did at a clinic 100 miles from Premier's main surgery center. "Normally, a patient would have to go to Denver for that. We couldn't do this without the airplanes. They're vital to the business."



HUMANITARIAN SUPPORT

In times of crisis, business aviation provides critical assistance. Business aircraft are often the only link to communities devastated by natural disasters. After hurricanes or earthquakes, volunteer pilots transport food, water, medical equipment and essential supplies. Business aircraft fly humanitarian missions every day – not just in emergencies – bringing cancer patients to treatment and carrying wounded veterans.



DISASTER RESPONSE

Business aircraft are often first responders to natural disasters and other crises – and are uniquely suited for it. They can operate on very short notice into small airfields, sometimes without local staff or with unpaved runways. If airports have been damaged and are not accessible, many business aircraft can even land on a road or large field.

When other ways of bringing supplies and medical assistance into devastated areas are unavailable, business aircraft are lifesavers.

HELPING IN THE WAKE OF HURRICANE DORIAN

In September 2019, Hurricane Dorian devastated many islands in the Bahamas. Even as the storm still surged, business aircraft operators were readying their relief efforts. Well before commercial aircraft and ships could get there, volunteer pilots and aircraft owners were evacuating residents and flying in essential supplies.

“We were on the ground at Treasure Cay and Marsh Harbour airports almost as soon as the storm pulled away and it was safe to fly,” said Marianne Stevenson, founder and CEO of AERObridge, one of the several nonprofit relief organizations that responded to Dorian.

More than 325 volunteer AERObridge pilots made flights to the affected islands, relocating 175 people, bringing in doctors and other medical personnel, and carrying 520,000 pounds of supplies. “We can activate our pilots and supplies in advance, helping to save lives when minutes matter the most,” said Stevenson.

DURING THE PAST YEAR,
38% 
OF PILOTS SAY THEY HAVE FLOWN
HUMANITARIAN MISSIONS

Watch a brief video on
Bahamas relief flights after
Hurricane Dorian

nbaa.org/dorianvideo



Less than 48 hours after the hurricane struck, Florida business owner Brad Pierce was flying relief missions. Flying a small donated business jet, Pierce and a team of fellow volunteer pilots carried supplies to the Bahamas and brought back evacuees. “All I had to do was post what I needed, and within minutes I would hear back,” said Pierce.

When Pierce heard many hurricane victims needed shoes, family members practically bought out a shoe store in Central Florida and loaded up the airplane.



BUSINESS AVIATION HEROs

When disaster strikes, the business aviation community acts. Industry volunteers mobilize to coordinate relief flights.

To facilitate these relief efforts, NBAA maintains a Humanitarian Emergency Response Operator (HERO) database, where companies register their aircraft for short-notice deployment and volunteers sign up for relief missions. Many people from the business aviation community – pilots, flight attendants, technicians, schedulers, dispatchers, ground-support personnel and others – lend their time and expertise in emergencies.

Earthquake Relief

> **4,500 relief flights** by business aircraft operators were made to the island of Haiti in the first 30 days after it was struck by a devastating 7.0-magnitude earthquake in 2010. Business aircraft brought 3,800 relief workers and more than 1.4 million pounds of critical supplies to the island.



HURRICANE RELIEF FLIGHTS—TRUE LIFESAVERS

The monster hurricanes of 2017 – Harvey, Irma and Maria – were three of the five costliest in U.S. history with nearly \$300 billion in damages. The storms devastated Texas, Florida, Puerto Rico and the U.S. Virgin Islands.

In three days, Harvey dumped 52 inches of rain on much of Southeast Texas. Local pilots quickly formed Operation Airdrop in conjunction with PALS Sky Hope Disaster Relief, airlifting 200,000 pounds of supplies requested by the Salvation Army and other relief groups. More than 60 aircraft responded.

“The people of Orange and Jefferson counties are forever indebted to the PALS Sky Hope Disaster Relief Program and the hundreds of volunteers, pilots and coordinators who were heroic in their efforts to provide relief to our devastated community.”

Texas State Rep. Dade Phelan, District 21

Help on the Ground and in the Air During COVID-19

Many business aviation companies quickly pivoted their production lines to manufacture masks, other PPE and medical equipment to help during the COVID-19 pandemic. Many companies donated N95 masks and face shields to healthcare personnel. Business aviation aircraft were also used to transport medical professionals and materials. In Colorado, for example, pilots with Angel Flight West volunteered to deliver critical medical supplies to hospitals across the state.



During the COVID-19 pandemic, Cirrus Aircraft looked for ways to help. The company's supply team analyzed current stock and future supply chains of PPE, including gloves, hand sanitizer and lab gear. These items were delivered to local hospitals in Duluth, MN.


Cirrus Aircraft also teamed with a local manufacturer to produce over 31,000 disposable face shields, as well as powered air purifying respirators for healthcare workers.

Corporate Angel Network (CAN)

More than 500 American companies partner with Corporate Angel Network (CAN), making empty seats available on their business aircraft for cancer patients. CAN makes it possible for patients – especially those in small towns – to receive the best possible care by traveling to specialized treatment centers across the country.

CAN has matched thousands of cancer patients and their families with business aircraft operators, arranging more than 60,000 patient flights since its founding in 1981. CAN's staff and volunteers work with patients, physicians, flight departments and leading treatment centers to typically coordinate more than 250 patient flights a month.



 **15,000**
the number of flights business aircraft make in a year for humanitarian reasons

Humanitarian flights of all kinds are undertaken on a daily basis. An example is the Veterans Airlift Command (VAC), a national network of 2,700 volunteer aircraft owners and pilots that provides free flights for wounded service members and their families. Since 2006, VAC has flown more than 17,900 wounded warriors.

Companies also volunteer their aircraft, fuel and pilots for environmental support flights, transport for Special Olympians, youth education, animal rescue and toy drives.



AEROMEDICAL FLIGHTS

From air ambulances to emergency medical evacuations to companies that fly patients to specialty care for free, business aircraft fly mercy missions every day. Business airplanes and helicopters support a wide variety of humanitarian and philanthropic organizations, such as the Red Cross, Angel Flight, Corporate Angel Network and others.

These organizations use aircraft to save lives – transporting patients to distant hospitals, delivering organs for transplant, bringing medical professionals to remote locations and much more.

Every holiday season in Colorado since 2011, the Colorado Aviation Business Association has organized its annual toy drive. Volunteer pilots have flown more than 41,900 pounds of food and toys to veterans and their families.



SAFETY AND SECURITY

Safety and security are top priorities for business aviation. Beyond the procedures required by federal regulations, operators take many voluntary measures to ensure their passengers, pilots, aircraft and airports are safe and secure. As a result, professionally flown business aircraft have an outstanding safety record, comparable to the commercial airlines.



SAFETY FIRST

Business aircraft are among the most advanced airplanes flying. Many are equipped with collision avoidance and ground proximity warning systems, severe-weather detection and heads-up displays with enhanced or synthetic vision.

The people who fly business aircraft are committed to a strong safety culture. It is ingrained in the teams working in hangars and flight decks across the country. Professionalism, risk management, technical excellence, continuous improvement and fitness for duty – those are all parts of the business aviation mindset and foundations of industry training programs.

96% of all pilots and technicians in business aviation take formal aviation or simulator training at least once a year – or OEM-approved maintenance training for technicians. 60% of pilots and technicians get training twice or more per year.

Business aviation professionals are among the most highly trained personnel in the aviation industry. Pilots, maintenance technicians, dispatchers and aircraft manufacturers all operate in accordance with FAA regulations governing everything from the altitudes they can fly to the frequency that aircraft must be inspected and overhauled.



0.03 accidents per 100,000 FLIGHT HOURS:

the 2014 accident rate for business aircraft flown by a **two-person, professional crew**

In addition to complying with stringent government safety and security regulations, many business flight operations adopt voluntary programs to enhance safety:

- **Flight Operational Quality Assurance (FOQA)** is an internationally recognized program, also used by airlines, to monitor flight data and analyze trends that could improve air traffic control procedures, aircraft maintenance and airport layouts.
- **Safety Management Systems (SMS)** direct personnel in business flight operations to look out for and report potential safety hazards, then work together to address the risk.

Many flight operations voluntarily invite third-party experts to regularly audit and assess their safety programs.



73% of business aviation users – primarily dual-pilot operators – participate in voluntary third-party flight operation audit programs



AN INDUSTRY COMMITTED TO SAFETY

The business aviation industry sponsors dozens of safety committees, events and seminars around the country. Canadian business jet manufacturer Bombardier hosts the free Safety Standdown in Wichita, KS every year, and regional groups put together local safety standdowns in their communities – when pilots, technicians and dispatchers take time to share skills and focus on reducing risk in their flight operations.

All aircraft manufacturers have technical advisory committees, where maintenance technicians in the field report how the airplane is performing, and aerospace engineers share tips for fine-tuning its systems.

To underscore the importance of safety across the industry, NBAA presents its annual Flying Safety Awards – endorsed by the National Safety Council – to teams that exemplify the careful and conscientious way that business aviation operators fly and maintain their aircraft.



SECURITY ALWAYS PARAMOUNT

Business aviation has been at the forefront of travel security for decades. In the post-9/11 era, the industry has toughened its protections for aircraft, airports, flight crews and passengers.

The industry operates under a myriad of regulatory and voluntary safeguards against terrorism and other security risks:

- **The Airport Watch Program** encourages pilots at general aviation airports to report suspicious activity to a 24/7 toll-free TSA hotline.
- **Aircraft manufacturers and salespeople** have procedures to report suspicious financial transactions during an aircraft purchase.
- **Training centers** comply with strict government standards to screen non-U.S. citizens seeking flight training in the United States.
- **The FAA** issues tamper-proof licenses for pilots, flight instructors and maintenance technicians.
- **The nation's law enforcement agencies** cross-check the FAA's airman and aircraft registries against known terrorist and criminal databases.
- **Chartered large business aircraft** must comply with TSA security procedures similar to those for scheduled airlines.
- **TSA's Aviation Security Advisory Committee**, consisting of government and industry security experts, recommends practices to strengthen security at small airports.



Review all the security measures in place for business aviation flights

nbaa.org/security-best-practices



These steps have been highly effective in protecting the business aviation community and the public from security threats. In a 2009 report, the Department of Homeland Security's Office of Inspector General concluded, "general aviation presents only limited and mostly hypothetical threats to security."



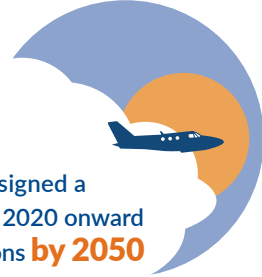
NBAA's Security Council brings together experts from all sides of business aviation, provides guidance on securing business aircraft, shares best practices for hotspots all over the world and hosts an annual Security Conference.

SUSTAINABILITY

As an industry, business aviation has long been committed to environmental responsibility. For decades, business aircraft manufacturers have been at the forefront of innovation to improve aircraft fuel efficiency and reduce emissions. The industry has always invested in ways to fly more efficiently, while operators and suppliers are continually working to reduce their carbon footprint.

Globally, business aviation operations make up only 0.04% of man-made carbon emissions. Still, the industry is dedicated to reducing this impact further. Since 2010, business aviation leaders around the world have been committed to carbon-neutral growth from 2020 onward.

The Business Aviation COMMITMENT ON CLIMATE CHANGE



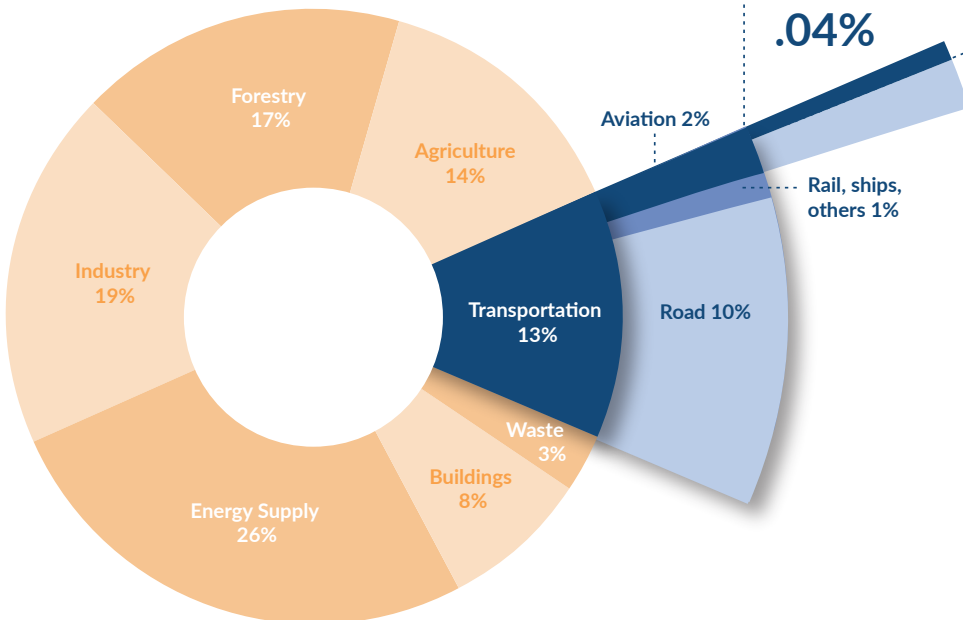
The business aviation community has signed a pledge for carbon-neutral growth from 2020 onward and a **50%** reduction in carbon emissions **by 2050**

The FAA's next-generation air transportation system (NextGen) will reduce flight emissions by enabling straight-line routing using satellite-based avionics instead of relying on ground-based navigation aids.

Many technologies that reduce emissions from aircraft – including winglets, fuel-sipping engines, advanced composites and sleek aerodynamics – were pioneered by business aviation. Over the past four decades, business aviation has achieved a 40% reduction in carbon emissions with these innovations. One of the most promising solutions for reducing emissions and meeting business aviation's climate goals is sustainable aviation fuel.



CONTRIBUTORS TO GLOBAL EMISSIONS



Most stakeholders acknowledge civil aviation's contribution of 2% of global CO₂ and 3% of greenhouse gas emissions, as per the Intergovernmental Panel on Climate Change report estimates. The business aviation contribution is estimated at 2% of aviation emissions or 0.04% of global emissions.

Sustainable Aviation Fuel (SAF)

is derived from renewable feedstocks (such as used cooking oil or biomass) and blended with current jet fuel. Safe, sustainable and available now, SAF is essentially Jet A with a non-fossil fuel element. Multiple paths are used to produce these biofuels, and business aircraft have made countless flights with the mixtures since they were introduced in 2009.

SAF production is growing exponentially every year, with 1 billion gallons expected by 2025. Blends up to 50% SAF are currently certified, making it a drop-in fuel for every turbine engine in use today.

SAF has been tested by manufacturers of engines and aircraft to ensure its reliability and safety. The effects on aircraft performance are only beneficial: a cleaner burn and reduction of carbon emissions over the lifecycle of the fuel manufacturing process – due to producing such fuels from renewable resources.

PROVEN AT THE PUMP

Sustainable aviation fuel is a viable, current reality. In 2019, industry coalitions started sponsoring SAF demonstration days to prove the fuel is safe and available today.



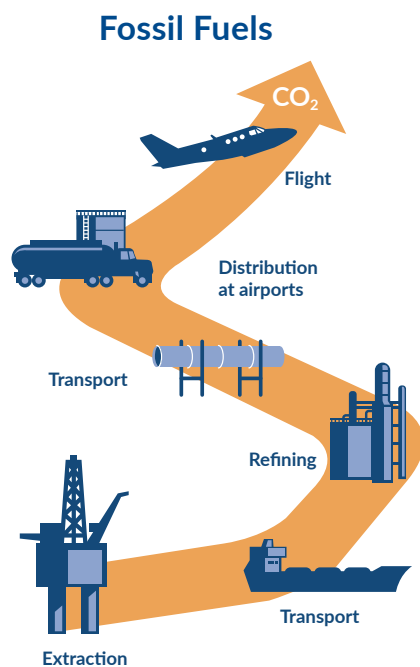
Learn more about lower-emission jet biofuels at futureofsustainablefuel.com

futureofsustainablefuel.com

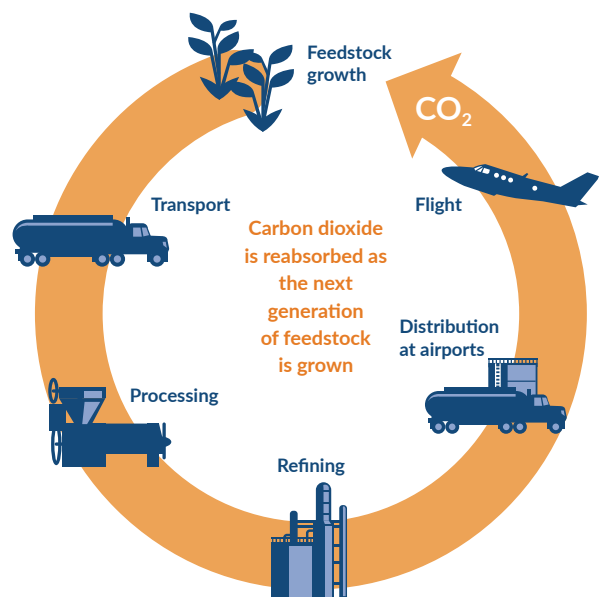


THE CARBON LIFECYCLE

Compared with fossil fuels, SAF provides significant reduction – typically 50 to 80% – in overall carbon life-cycle emissions.



Sustainable Aviation Fuel



- The first-ever SAF demonstration day was held at Southern California’s Van Nuys Airport in 2019, when four fixed-base operators fueled aircraft with SAF.
- Europe welcomed its first SAF event at Farnborough Airport in London, England on May 18, 2019.
- Later that year, 23 aircraft bound for a conference in Geneva, Switzerland fueled up on SAF at airports across Europe and the United States.
- By early 2020, SAF was made available in conjunction with the World Economic Forum in Davos, Switzerland.
- At a 2020 summit, business aviation leaders released a guide to spur greater production and use of SAF. They also committed to working with policymakers on legislative and market-based incentives, such as “book-and-claim.”

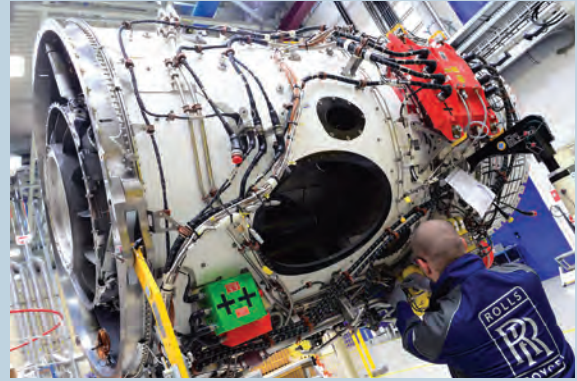


Photo: Rolls Royce plc

Rolls-Royce’s newest business aviation engine, the Pearl 700, has been tested using 100% SAF, to be used as a ‘drop-in’ option. The engine is being developed for the Gulfstream G700 aircraft.

Investing in Clean Flight

SAF will be a critical component in reducing business aviation’s global emissions, but it is just one of the industry’s ongoing sustainability efforts. Business aviation is investing in technologies that will further cut its reliance on fossil fuels – new power sources, including solar, hydrogen and hybrid gas-electric engines.

These technologies hold the promise that business flying will become even more efficient, safe and environmentally responsible. Industry leaders expect that one day business aircraft will move past fossil fuels entirely.



Photo: National Aeronautics and Space Administration

NASA in 2021 began testing the X-57 Maxwell all-electric aircraft, designed to cruise at 172 mph.

NEW AND EMERGING TECHNOLOGIES

Business aviation is at the forefront of innovation – just as it has been since the dawn of flight. More than ever, the industry is changing, bringing new modes of transport and new aerospace applications to market. At its heart, business aviation is about the future, and getting there faster.



The business aviation industry is leading the development of many exciting new technologies:

- **Advanced Air Mobility (AAM)** is expected to become an increasingly important part of the transportation system in the next several years with the introduction of electric vertical takeoff and landing (eVTOL) aircraft.

These new battery-powered rotorcraft promise to be quieter and safer than current helicopters. Companies that fly business aircraft are expected to be among the first eVTOL users, because these vehicles can move passengers the ‘last mile’ to city centers near existing heliports or new vertiports.

A 2019 NEXA Advisors report lays out the economic case for AAM for cities and local businesses.

- **NextGen** is the FAA’s ongoing modernization of the national airspace system, using technologies such as radar-based surveillance and satellite monitoring of aircraft. Business aircraft were among the first to equip with the advanced avionics used in NextGen. By enabling more straight-line routing, instead of flightpaths connecting ground-based navigation aids, NextGen will cut flight times, require less fuel and reduce noise and emissions.

- **Supersonic Transport Aircraft** are again in development, with new and exciting technologies helping address the noise concerns that plagued the Concorde. NASA is leading design efforts, and the FAA is streamlining testing procedures for models proposed by business aviation manufacturers.

- **Unmanned Aircraft Systems (UAS)**, often referred to as drones, offer great promise for a variety of applications in daily life and commerce. Public utilities, construction companies, farmers, photographers, insurance adjusters and many other businesses are putting ever-more-advanced UAS to work every day. Successfully integrating all these innovative, capable aircraft into the national airspace is crucial for the future growth of the aviation industry as a whole.

- **Autonomous flight, blockchain, cybersecurity, commercial space** and other cutting-edge innovations will have important applications to business aviation. Industry mainstays and dynamic startups are investing today in these advanced technologies.



By 2030, as many as 500 million flights a year for package delivery and 750 million flights a year for air metro services could make advanced air mobility a profitable, relevant enterprise, according to NASA-commissioned market studies.

ADVANCED AIR MOBILITY - GLOBAL MARKETS

Heliport Access

Rank	City	Actual Heliports
1	Seoul	545
2	Tokyo	401
3	São Paulo	336
4	Los Angeles	225
5	Bangkok	209
6	New York	167
7	Mexico City	128
8	Osaka-Kobe	128
9	Dallas-Fort Worth-Arlington	101
10	Nagoya	94
11	Houston	91
12	Philadelphia	88
13	Rio de Janeiro	88
14	Manila	82
15	Chicago	81
16	Washington, DC	72
17	Detroit	69
18	Atlanta	67
19	Dubai	66
20	Boston	55
20	Miami	55

Source: NEXA Advisors

Discover the potential Advanced Air Mobility holds for cities and business travelers around the world

nbaa.org/aam



FIND OUT MORE!

For the latest information and data about the business aviation industry, there are many resources to explore.

Below are just a few:

INDUSTRY RESOURCES

The National Business Aviation Association (NBAA) and the General Aviation Manufacturers Association (GAMA) provide many updated facts, guides, company profiles and other resources on their websites.

What is Business Aviation?

nbaa.org/business-aviation

General Aviation Manufacturers Association Facts & Statistics

gama.aero/facts-and-statistics

Business Aviation Facts

noplanenogain.org/business-aviation-facts

COMMUNITIES & AIRPORTS

General Aviation Airports in Focus

nbaa.org/aircraft-operations/airports

Noise Abatement Information

nbaa.org/quietflying

Get to Know FBOs

nata.aero/advocacy/get-to-know-fbos

SAFETY

Business Aviation Safety

nbaa.org/safety

FAA Safety Team

faasafety.gov

NASA Aviation Safety Reporting System

asrs.arc.nasa.gov

HUMANITARIAN SUPPORT

Humanitarian Emergency Response Operator (HERO) Database

nbaa.org/hero

JOBS & ECONOMY

Workforce Development

nbaa.org/workforce

Alliance for Aviation Across America

aviationacrossamerica.org

PUBLICATIONS & MATERIALS

NBAA Airports Handbook

nbaa.org/business-aviation/airports-handbook

Business Leaders on Business Aviation

noplanenogain.org/resources/advocacy-resources/business-leaders-on-business-aviation

The Case for Business Aviation

noplanenogain.org/wp-content/uploads/2019/06/NPNG2019_CaseforBizAv.pdf

INDUSTRY SURVEYS & RESEARCH

Unless otherwise noted, all of the following may be accessed and downloaded in PDF format from noplanenogain.org/resources

Contribution of General Aviation to the U.S. Economy in 2018

Study by PricewaterhouseCoopers (PwC)

Business Leaders on Business Aviation

Collects the voices for more than 30 CEOs from some of the country's most dynamic and widely known companies, affirming how business aviation works for their companies.

2018 Harris Poll

"The Real World of Business Aviation: A 2018 Survey of Companies Using General Aviation Aircraft"

2017 Nexa Advisors Study

"Business Aviation and Top Performing Companies"

2019 Nexa Advisors Study

"Business Aviation Embraces Electric Flight"

nbaa.org/wp-content/uploads/aircraft-operations/uas/NEXA-Study-2019-Business-Aviation-Embraces-Electric-Flight.pdf

Fueling the Future

2020 Sustainable Aviation Fuel Guide

futureofsustainablefuel.com/guide

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NBAA News and Publications

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youtube.com/NoPlaneNoGain



NO PLANE NO GAIN



No Plane No Gain, a joint undertaking of the National Business Aviation Association and General Aviation Manufacturers Association, is designed to educate the public on the importance of business aviation to our country and its communities, companies and citizens. Learn more at noplanenogain.org.