

- 1 Editorial
- 2 Outlook
- 3 Aircraft Management in the Decade Ahead
- 6 Business Conditions
- 7 JETNET iQ Market Sentiment
- 8 Increased Passenger Loads
- 9 U.S. Business Jet Utilization
- 10 Annual Flight Hours per Aircraft
- 11 About JETNET iQ
- 12 Appendix

Saw above me that endless skyway

To say that we are living in strange times seems to be the epitome of understatement. Never to be ignored nor underestimated, the shocks and aftershocks of the COVID-19 pandemic continue to wreak havoc on our economies, industries, and ways of life. Despite the challenges business aviation is facing today, it can be illuminating and encouraging to look back at how people have managed through difficult times, sometimes not even very long ago.

In 1940, American folk songwriter and performer Woody Guthrie penned *This Land is Your Land*. Its surprisingly complex messages have been interpreted and probably misinterpreted over the years and covered by scores of artists. Guthrie's notion of an "endless skyway" above is hopeful and enduring, reflecting for all of us some better and less obstructed days ahead. Aviation – and particularly business aviation – has a vital role to play in reopening our economies, rebuilding face-to-face communications, and rejuvenating our enthusiasm for air travel. Remember flying? With rebounds in U.S. business jet charter activity and pre-owned jet sales, there are some very encouraging indicators out there, but still fewer than any of us would like.

Overcoming fear is a key component to our socio-economic rebound, and vigilance is not fear. Whether asking the right questions,

understanding the science, and/or listening to the experts, the process of confidence-building helps us make prudent and informed decisions to get back on-board when the time is right.

For prospective new customers to business aviation, the right time could be now. As with most such decisions, one way to overcome indecisiveness is to have a plan. While key components of such a plan can be sketched out in advance, we have long espoused the importance of working with an experienced partner to get the details right – someone who knows how to navigate the complexities of business aviation, and has the experience and track record to prove it.

"For prospective new customers to business aviation, the right time could be now."

We are joined in this issue by Joe Barber, VP of Fleet Development with Clay Lacy Aviation. The storied Van Nuys, CA powerhouse offers a full suite of aviation capabilities, from charter to aircraft management, MRO, and FBO services. Joe's commentary on the art and science of aircraft management is a very timely contribution to the many conversations underway today to return our industry to the skies.

Rollie Vincent
JETNET iQ Creator/Director



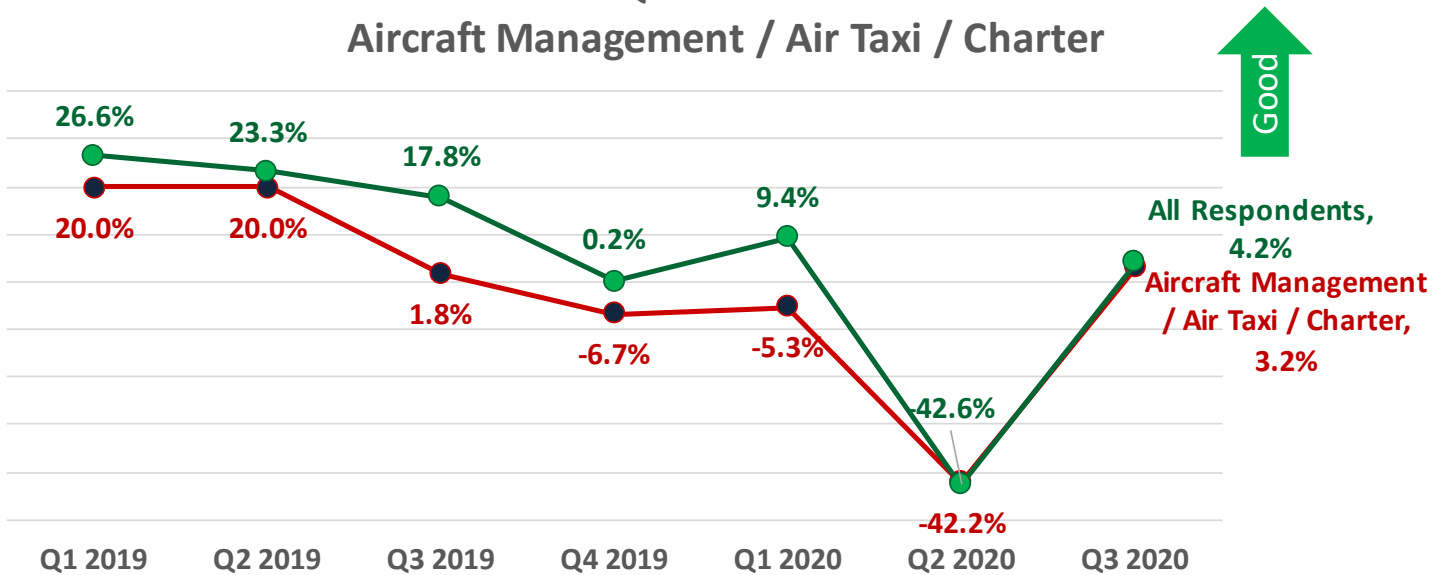
Outlook

The near-term outlook for business aviation through the end of 2020 and into Q1 2021 is perhaps more difficult to discern than at any other time in recent memory. Unknowable variables at play include a tumultuous U.S. federal election, an unfinished Brexit divorce, and stalled economies and COVID-masked societies from America to Zimbabwe, and just about everywhere else in between. Large-scale political events and geo-political conflicts are inherently destabilizing, tending to function like oversized pause buttons on the machinery of our economies.

Planning for 2021 is underway in all corners of the industry, with more questions than answers regarding demand, and with more downside than upside risk to the forecast. As always but especially at times like these, we believe that it is vitally important to listen to the voices of customers. Since 2012, we have been tracking the mood of the business aircraft owner / operator community to better understand their perspectives, preferences, and opinions. Recently, we recruited our

20,000th respondent to our quarterly JETNET iQ Global Business Aviation Surveys. Our JETNET iQ Market Sentiment metric is an indicator of current market conditions for business aviation. The JETNET iQ Market Sentiment is a measure of the difference between “optimists” and “pessimists” amongst the business aircraft owner / operator community (scale is +100% to -100%). After an unprecedented collapse in Q2 2020, the industry’s low point in the 10 years since JETNET iQ Surveys were initiated, JETNET iQ Market Sentiment rebounded strongly in Q3 2020. Optimism amongst respondents active in the aircraft management, air taxi, and charter sectors is higher than it has been since Q2 2019. In the field from late-July through mid-September, the Q3 2020 JETNET iQ Survey reflects the most recent mood of the market, a period when flight activity – particularly amongst U.S.-based Part 135 on-demand air taxi and charter operators – was accelerating back to pre-COVID-19 levels.

JETNET iQ Market Sentiment Aircraft Management / Air Taxi / Charter



Source: JETNET iQ

Aircraft Management in the Decade Ahead



Joe Barber
Vice President, Fleet Management
Clay Lacy Aviation



Personalization, data analytics, necessity of scale, and commitment to delivering value

I recently completed an analysis of the total U.S. aircraft management market which comprises 3,368 business jets, accounting for nearly 25% of the U.S. fleet of 13,518 aircraft. As highlighted by top-tier managers at meetings like the NATA Aircraft Management committee, there is a noticeable trend among corporations and high-net-worth individuals to choose professional management solutions over the alternatives. Why? It's a long story that I will consolidate over the next three minutes.

The five largest aircraft management companies in the U.S. today were all in business during the 2008 financial crisis and had their sights set far into the future. This enabled them to pivot, reinvest, and innovate. Facing a similar headwind today caused by the COVID-19 pandemic, their farsighted approach will allow them to thrive over the next decade while industry

consolidation accelerates. They will focus on a commitment to the long-term business cycle, internal range of domain expertise, use of analytic-based decision models for their customers, and expertly managing the dichotomy of scale and personalization.

Patience is a virtue

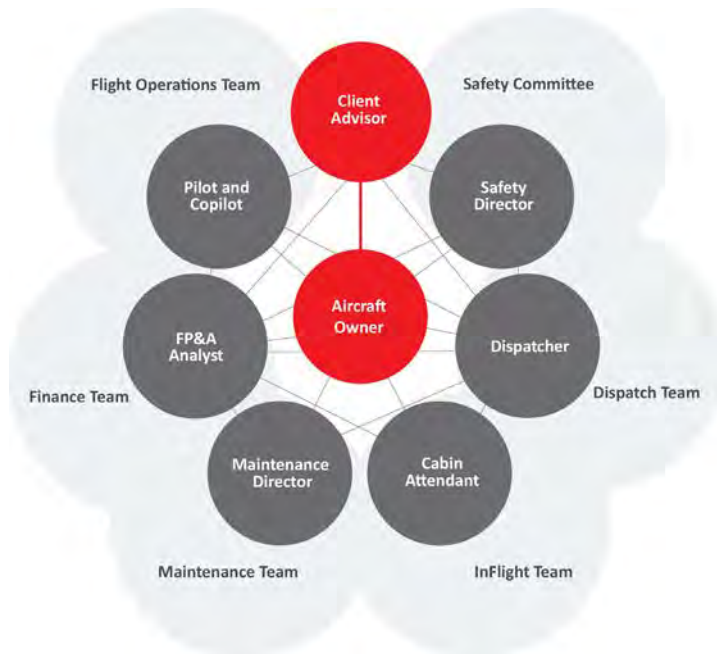
Quoted too often, I hear the comment, "aviation management is a narrow margin business." My colleagues and I prefer, "aviation management is a long-term business." The average management customer trades their aircraft every 4.25 years. Those are inflection points for an evaluation of their aviation service. Customer loyalty is greatest to those managers who provide consistent service and utility. In this context, consistent doesn't mean antiquated, rather that the customer is an important part of a continuous improvement process and has a voice in the evolution of the service, incorporating new technologies that provide greater transparency, understanding, and ever higher levels of personalized service.

Range

In a specialized industry, the generalist thrives. Much as Steve Jobs engineered Apple's user interface so that common actions were simple and intuitive, the complexity of aviation requires managers to streamline and simplify customer communications and guidance. The best arrangement is having a generalist as the primary point of contact for each customer. The generalist has a broad range of experience and knowledge in leadership, HR, operations, maintenance, finance, project management, and above all, how to provide attentive and timely service. When necessary to obtain more technical expertise, the generalist is supported by a company with a diverse and experienced team with access to a wealth of resources that are both deep and wide ranging. The manager will act as a fiduciary—without conflicts—to best advise a customer for far better results. For instance, an internal FBO leader who knows the nuances of hangar lease negotiations, or the MRO leader who knows how to optimize maintenance scheduling and deliver higher dispatch reliability.

"...the complexity of aviation requires managers to streamline and simplify customer communications and guidance..."

Aircraft Management in the Decade Ahead (cont.)



More science

Intuition is part of effective decision making, however data-backed decisions result in far more predictable outcomes. On a typical day, an average aircraft operation experiences 16 touchpoints. An invoice review, flown mission, training, scheduling, maintenance, personnel review, and so forth. There is a torrent of daily decisions that must be made to keep everything running smoothly. It is easiest to break these decisions into two distinct groups, tactical and strategic. Tactical decisions are often trained, like building a flight plan; while strategic decisions require analysis, like which airport is best to base your operation. Of the strategic decisions, there are criteria and even algorithms that should be used—such as cost/benefit, gap, workflow, return on investment, evaluating alternatives, and trend analysis. A scientific, analytical approach is required in today's ever more complex operating environment to ensure optimal outcomes and client satisfaction.

Scale and/or personalization

The ultimate challenge for every aviation manager is the balance of service and scale. However, with the rapid adoption of advanced technologies, aviation managers with scale are better able than ever before to deliver the enormous associated benefits in a highly personalized and individual way. Personalization of the flight operation embraces the aircraft owner's culture and expectations. That is only achieved by flattening the service into a matrix, where you dedicate and train an aircraft manager to serve as the single point of contact who can personalize the operation to the customer, while effectively using company resources to deliver deep experience and value. The call center is the antithesis of this format. Discerning owners prefer their aviation service team be on a first name basis, where they know Mark as their Director of Aviation, Marcie as Financial Planning Analyst, Sheryl as Scheduler, and Rick as Director of Maintenance.

The 2008 crisis proved a critical learning experience for the industry about the importance of resilience and the ability to innovate. The crisis of 2020, and the decade ahead, may prove even more instructive—and transformative.

"A scientific, analytical approach is required in today's ever more complex operating environment to ensure optimal outcomes and client satisfaction."





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Business Conditions

GDP



The Economist's **GDP forecasts** for the U.S. and Euro Area economies for 2020 are -5.3% and -8.4% respectively in 2020; U.K.'s 2020 growth rate is -9.5%; China is the only major business aviation economy expected to grow in 2020, but by only 1.7%



Business jet cycles (take-offs and landings) in September 2020 were down by -35% YOY for U.S. Part 91, down by -2% YOY for U.S. Part 135, and down -2% YOY for U.S. Part 91K



The **Dow Jones Index** (U.S.) was down 2.5% YTD from January 2 to October 5, 2020, and up 6.3% YOY; The **FTSE 100** (U.K.) was down 21.8% YTD from January 2 to October 5, 2020, and down by 17.4% YOY



U.S. Index of **Consumer Sentiment** was 78.9 in Sept. 2020, versus 74.1 in August and 93.2 in September 2019 YOY; Euro Area **Economic Sentiment Indicator** was 91.1 in Sept. 2020, up from 87.5 in August but down from 103.4 in February 2020 at the onset of COVID-19



U.S. initial **unemployment claims** were 62.8 million in the 28 weeks ending September 26, 2020; U.S. unemployment rate (SA) was 7.9% in September 2020 (representing ~11.8 million people)



U.S. **Purchasing Manager Index** (Manufacturing PMI) was 55.4% in Sept. 2020, up from 50.9% in January 2019; Euro Area **Business Climate Indicator** was -1.3 in Sept. 2020, up from -1.2 in August



Transactions of pre-owned business jets (retail sales & leases) in August 2020 were down 13% YOY to 187; days-on-market were down 10% YOY to 254 days; transactions in June/July/August 2020 were up 5% YOY to 622, according to JETNET



Business jet deliveries YTD as of Oct. 6 were 331 units (including Cirrus, Boeing, Airbus) and turboprop deliveries were 159 units, according to JETNET; we forecast 2020 jet shipments will be down ~22-25% YOY

JETNET iQ Market Sentiment

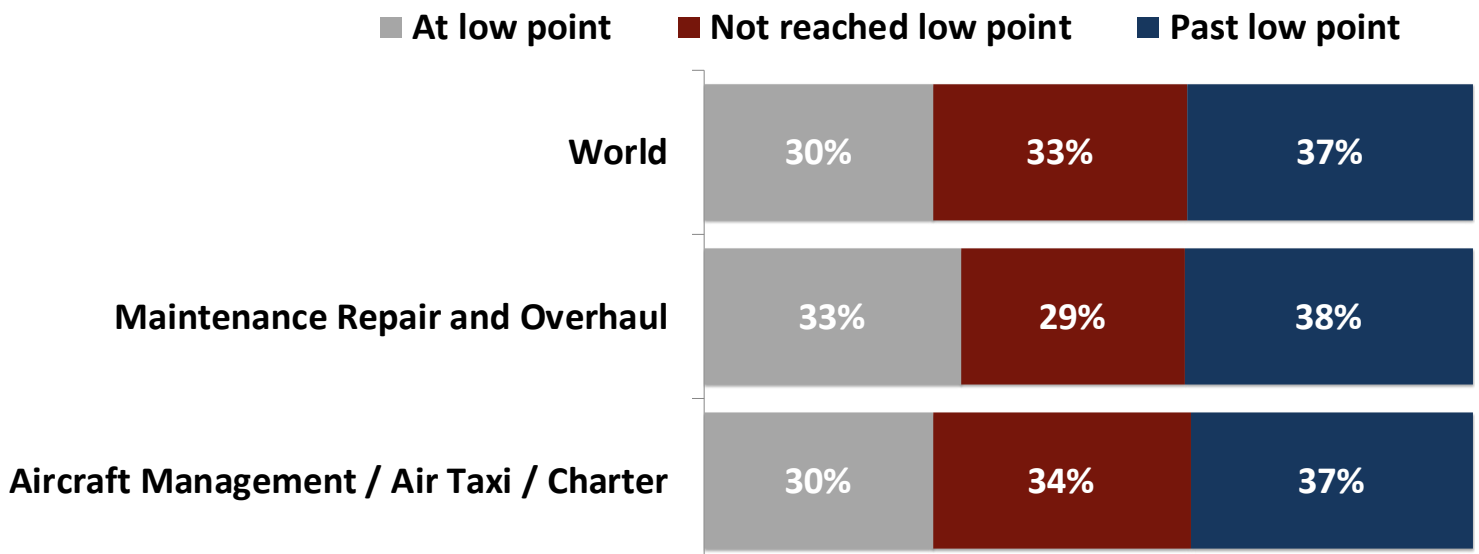
Q3 2020 JETNET iQ Survey – Aircraft Management / Air Taxi / Charter / MRO Service Providers

JETNET iQ's Q3 2020 Global Business & General Aviation Survey gathered responses from 515 business aircraft owners and operators from 60 countries. Approximately 150 of those respondents indicated that their organizations were operating in the aircraft management, air taxi, and/or aircraft charter sectors, while a further 73 were Maintenance, Repair & Overhaul (MRO) service providers.

While the market sentiment of the aircraft management, air taxi, and/or aircraft charter sectors closely reflects the overall industry, MRO providers appear to be somewhat more optimistic about current market conditions. Based on feedback from aircraft owners / operators, we believe that they are taking advantage of available MRO capacity to perform a variety of maintenance and upgrades, particularly to avionics, cabin, and WiFi systems.



How would you describe the current market conditions for business aviation?



Source: JETNET iQ; percentages may not add up to 100% due to rounding

Increased Passenger Loads

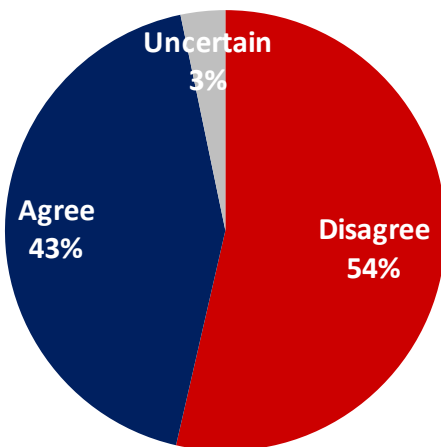
Q3 2020 JETNET iQ Survey – Aircraft Management / Air Taxi / Charter Service Providers

About 43% of the 153 aircraft management, air taxi, and charter organizations who responded to the Q3 2020 JETNET iQ Survey indicated that they were experiencing increased passenger loads since the onset of COVID-19. This is in line with our expectations for higher density flying on business and general aviation aircraft in a period when scheduled airline flights have been sharply curtailed. Excluding the aircraft management, air taxi, and charter organizations, 32% of remaining respondents

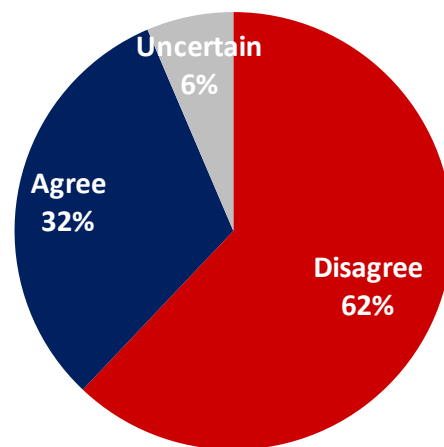
agree that they are experiencing higher passenger loads since the pandemic was announced. Sustaining these higher passenger loads in the post-pandemic period will be a challenge that the industry will gladly take on in the months and years ahead.

“I / we are experiencing increased passenger loads on our aircraft since the beginning of the pandemic”

**Aircraft Management /
Air Taxi / Charter**



**Total excluding Aircraft Management /
Air Taxi / Charter**



Source: JETNET iQ

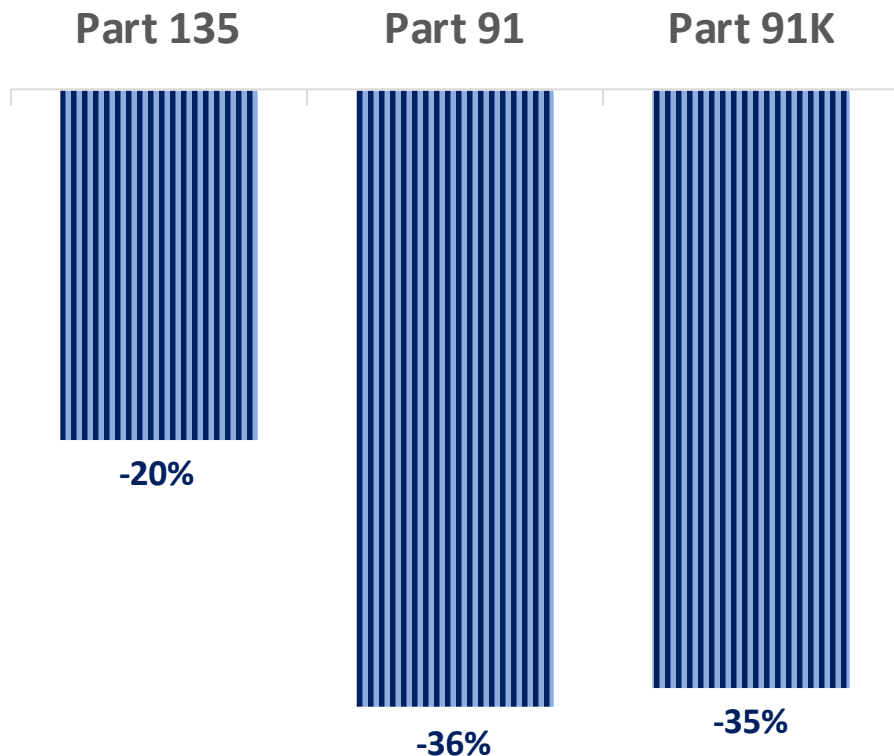
U.S. Business Jet Utilization

January 1 – October 5: 2020 vs. 2019

After a little more than 9 full months of the calendar year 2020, Part 135 charter cycles appear to be faring considerably better than both Part 91 (non-commercial) and Part 91K (fractional program) operations on a year-over-year basis. While it is difficult to call 2020 anything other than a very challenging year for business aviation, the U.S. on-demand segment is off by ~20% YOY through October 5, dragged down especially by

the who-can-ever-forget April 2020 results. With less than 85 days left in the calendar year, and the U.S. Thanksgiving and Christmas / New Year celebrations still ahead of us, Part 135 and Part 91K flight operations returned to 2019 levels in September 2020, some very good news indeed.

Flight Activity January 1 - October 5 % Change: 2020 versus 2019



Source: JETNET iQ; cycles are defined as 1 takeoff and landing

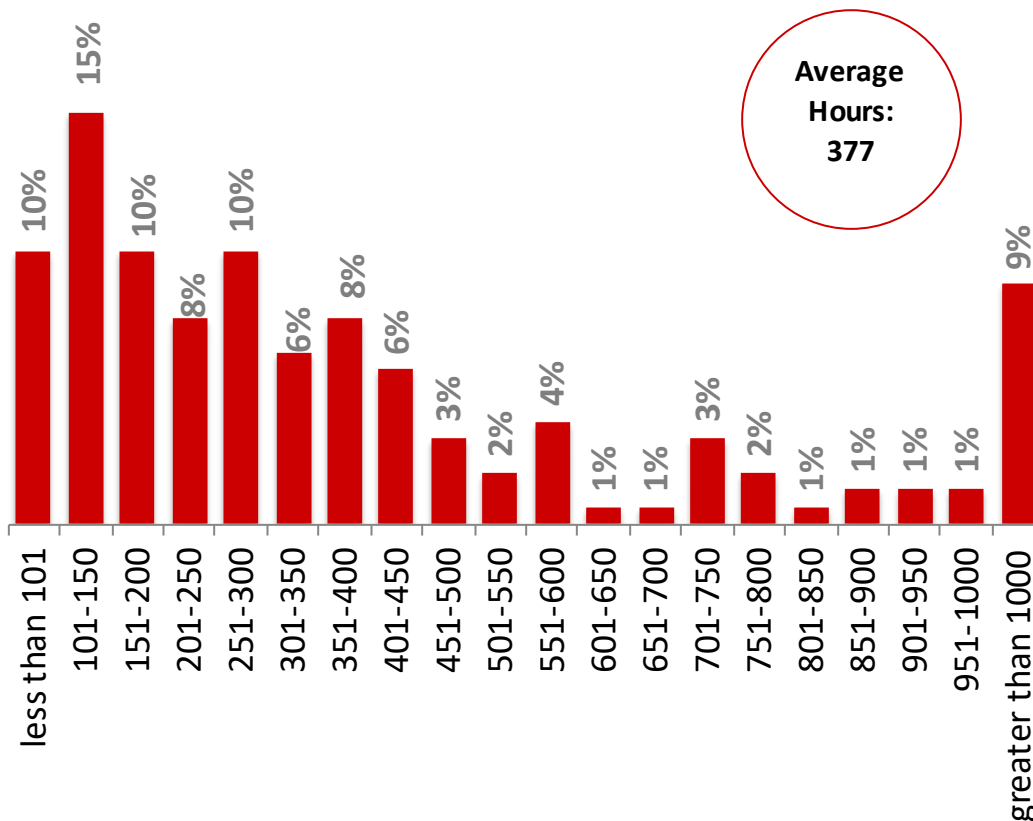
Annual Flight Hours per Aircraft

Aircraft Management / Air Taxi / Charter Service Providers

Aircraft utilization rates in business and general aviation are relatively low in comparison to commercial airlines. This reflects both the on-demand privileges of private ownership as well as untapped opportunities for higher utilization and “commercialization” to better leverage the capital costs of aircraft ownership. According to the more than 150 aircraft management, air taxi, and charter service providers who responded to the Q3 2020 JETNET iQ Survey, average turbine-powered fixed-wing business aircraft utilization rates over the prior

12 months were 377 hours per aircraft, 16% higher than the average for all respondents. These data include both business jet and business turboprop aircraft. About 9% of aircraft management, air taxi, and charter respondents to our Q3 2020 Survey indicated that they flew more than 1,000 flight hours per aircraft on average over the prior 12 months, more than twice that for all respondents.

Annual Flight Hours Per Aircraft Aircraft Management, Air Taxi and Charter



About JETNET iQ

JETNET iQ is a business aviation market research, analysis and forecasting service consisting of three main elements:

- **JETNET iQ Reports** are the definitive analytical reference for business aviation, incorporating quarterly state-of-the-industry analyses, owner / operator surveys, and detailed delivery and fleet forecasts;
- **JETNET iQ Summits** are annual industry conferences providing unique data, insights and networking opportunities; and
- **JETNET iQ Consulting** provides customized research and analysis for clients on a project-by-project basis.

JETNET iQ Reports are available in various formats on a subscription basis, and are published regularly by JETNET LLC, 101 First Street, Utica, NY 13501 - **currently offered at 8 different levels**. JETNET iQ is a partnership between JETNET LLC of Utica, New York and Rolland Vincent Associates, LLC, of Plano, Texas.

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Since late 2010, JETNET has conducted quarterly surveys of the worldwide community of business aircraft owners and operators in order to gauge customer sentiment, brand perceptions, aircraft purchase, selling, and utilization expectations, and other factors. JETNET iQ Global Business Aviation Surveys are password-protected and by invitation-only. Potential respondents are drawn randomly from the JETNET worldwide database of business jet and business turboprop owners and operators; they are initially contacted by telephone and/or e-mail by JETNET's team of multilingual researchers. Target respondents include chief pilots, directors of aviation, and senior management. Each survey includes at least 500 respondents in 50 or more countries each quarter, and respondents closely reflect the worldwide distribution of the business jet and turboprop community.

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Appendix

Data sources:

GDP growth forecasts, Unemployment Rate, \$U.S. Exchange Rate (2020): The Economist – October 3, 2020
<https://www.economist.com/economic-and-financial-indicators/2020/10/03/economic-data-commodities-and-markets>

Stock Markets:

Dow Jones Industrial Average: <http://ca.spindices.com/indices/equity/dow-jones-industrial-average>

London Stock Exchange (FTSE 100) : <https://www.londonstockexchange.com/indices/ftse-100>

Unemployment: Bureau of Labor Statistics (U.S.); <https://www.dol.gov/ui/data.pdf>; "SA" = seasonally adjusted

Consumer Confidence: University of Michigan Survey of Consumers (U.S.); <https://data.sca.isr.umich.edu/fetchdoc.php?docid=65386>;

European Commission (Euro Area) – Economic Sentiment Indicator; https://ec.europa.eu/info/sites/info/files/full_bcs_2020_08_en.pdf

Business Confidence: US ISM Manufacturing PMI (U.S.)

<https://www.instituteforsupplymanagement.org/about/MediaRoom/newsreleasedetail.cfm?ItemNumber=31182>

Eurostat (Euro Area); <https://ec.europa.eu/eurostat/databrowser/view/teibs010/default/table?lang=en>

https://ec.europa.eu/eurostat/databrowser/view/ei_bsci_m_r2/default/table?lang=en

Business aircraft fleet, deliveries, transactions, days-on-market (DOM), utilization: JETNET; DOM refers to aircraft that were sold / leased

Survey results: JETNET iQ Global Business Aviation Surveys (Quarterly)

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Definitions and Abbreviations:

For the purposes of these Reports, business aircraft may be classified into 4 primary categories, reflecting propulsion, price, performance, and weight class differences. These categories are: Turboprops (Single-Engine Turboprops - SETP and Multi-Engine Turboprops - METP), Small Jets (Personal Jets, Very Light Jets, Light Jets), Medium Jets (Super-Light Jet, Mid-Size Jet, Super Mid-Size Jet), and Large Jets (Large Jet, Large Long-Range Jet, Large Ultra Long-Range Jet, Airline Business Jet). The "Personal Jet" category includes single-engine turboprop-powered models, today represented by the Cirrus Vision Jet.

B&GA: Business and general aviation

QOQ: Quarter over Quarter

EIS: Entry in Service

QTD: Quarter to Date

FTSE: Financial Times Stock Exchange (London)

S&P: Standard & Poor's

GAMA: General Aviation Manufacturers Association

TTM: Trailing Twelve Months

GDP: Gross Domestic Product

YOY: Year over Year

MTOW: Maximum Takeoff Weight

YTD: Year to Date

NGO: Non-Governmental Organization

OEM: Original Equipment Manufacturer

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