

AircraftBluebook⁷

MARKETLINE

FALL 2017 / VOL. 30 / ISSUE 3



BOMBARDIER CHALLENGER 300

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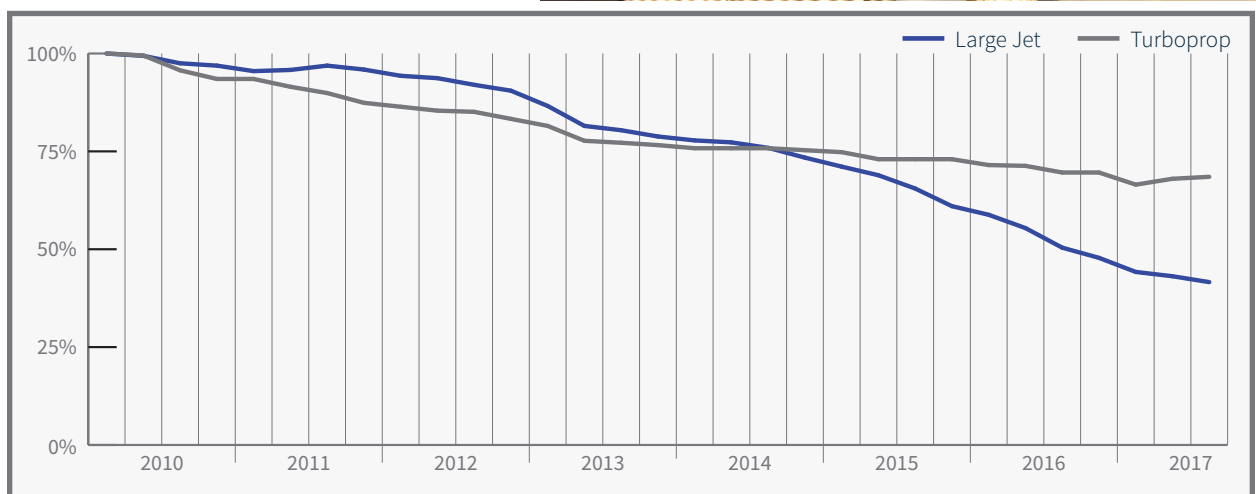
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Situational Awareness

Resale Business Jet Transactions Rise in Year's First Half

Molly McMillin reports in *The Weekly of Business Aviation*: Some encouraging signs are coming from the business aircraft resale market, said Amstat, which tracks the market information.

The number of business jet resale transactions rose 8.4 percent during the first six months of 2017, compared to the first half of 2016, with medium jet transactions up 16.7 percent over a year ago, according to data from Amstat.

Heavy jet transactions increased 3.8 percent, while light jet transactions rose 4.4 percent. Turbine helicopter sales rose 6.5 percent during the same period, while the sale of single-engine aircraft rose 9.9 percent, it said.

Transaction activity for turboprops during the first half of 2017 fell 0.5 percent compared to a year ago. And multi-engine helicopter transactions decreased 1.5 percent.

In the active business jet fleet, 10.7 percent of the fleet is for sale, the lowest percentage in this group since January 2008, Amstat said. Aircraft on the market include 9.3 percent of the heavy jet fleet, 10.6 percent of the medium jet fleet, 11.7 percent of the light jet fleet and 5.6 percent of the single-engine turbine helicopter fleet. Meanwhile, 8.3 percent of the turboprop inventory is for sale, a lower level than a year ago and the lowest since the beginning of 2015, while the percentage of the multi-engine helicopter fleet on the market is largely unchanged from a year ago.

Average asking prices in most market segments continue to see downward pressure, with all segments experiencing year-over-year declines in asking prices. Read more in *The Weekly of Business Aviation*.

BizJet Fleet on Market Lowest in Nine Years, JetNet Says

Molly McMillin reports in *The Weekly of Business Aviation*: Transactions of used business jets rose 5.6 percent during the first six months of 2017 compared to a year ago, although they are taking an average of 12 days more time to sell than last year, according to market information from JetNet.

For June, the percentage of the business jet fleet on the market, 10.8 percent, is the lowest it has been in the more than nine years since the start of the last recession, JetNet said.

Meanwhile, business turboprop transactions declined 11.1 percent, although they are taking six days less time to sell than they did a year ago, JetNet data said.

Turbine helicopter sales increased 0.3 percent this year, while the sale of piston helicopters declined 17.3 percent from a year ago.

Business jet inventories are down and transactions are up, which is good news, Rolland Vincent, an aviation consultant with Rolland Vincent Associates, based in Plano, Texas, said.

"However, a lot of this is being driven by really attractive pricing," he said. "That is the cloud on the silver lining. Younger aircraft are really being snapped up ... Try to buy a late-model G550. There is no availability. The market is working."

Still, Vincent said he would like to see prices start firming up. "We still have too much supply," he said. Even so, "it's encouraging."

OEM Updates from The Weekly of Business Aviation

- General aviation delivery results were mixed in the first half of 2017, with an increase in deliveries and a decline in billings, the **General Aviation Manufacturers Association** said. Bombardier's second-quarter business jet deliveries totaled 36, compared to 42 a year ago; while Embraer delivered 24 aircraft, compared to 26 a year ago; Gulfstream shipped 30 aircraft, compared to 34 a year ago; Piper delivered 32 aircraft, up from 22 a year ago; Tecnam Aircraft delivered 43 aircraft, down from 48 a year ago; and Textron Aviation delivered 25 Beechcraft products, down from 31 a year ago, and 117 Cessna Aircraft units, down from 103 a year ago.
- **Cirrus Aircraft** says demand for its new Vision Jet single-engine personal business jet has been strong. As of the beginning of August, Cirrus had taken deposits for more than 600 production positions for the low-wing, seven-seat jet. It has a five-year backlog. The company plans to deliver more than 30 Vision Jets in



Current Market Strength

2007/2008 Model	CMS	2007/2008 Model	CMS
Beech Premier 1A.....	B-	Gulfstream G-200.....	B
Bombardier Global XRS.....	B+	Gulfstream G150.....	B
Bombardier Challenger 604.....	B	Hawker 800XP.....	B
Bombardier Challenger 300.....	B+	Hawker 400XP.....	C
Bombardier LearJet 60XR.....	B-	Beech King Air 350.....	A
Bombardier Learjet.....	B+	Beech King Air B200.....	A
Cessna Citation X.....	B-	Beech King Air C90GT.....	A
Cessna Citation XLS.....	B	Cessna 208B Grand Caravan.....	A
Cessna Citation CJ3.....	A	Piaggio P180.....	B
Cessna Citation CJ2.....	A	Pilatus PC-12/47.....	B
Dassault Falcon 900.....	A-	Piper PA46-500TP Meridian.....	B+
Dassault Falcon 50EX.....	B-	Socata TBM850.....	B
Dassault Falcon 2000EX.....	B+	Beech 58 Baron.....	B
Embraer EMB-135 Legacy.....	A-	Beech A36 Bonanza.....	A-
Embraer Phenom 100.....	A	Cessna T206H Stationair.....	A-
Gulfstream G550.....	A-	Cessna 182T Skylane.....	A-
Gulfstream G450.....	A	Cessna 172S Skyhawk.....	A-
		Cirrus SR22-G2.....	A-
		Cirrus SR20-G2.....	B+
		Diamond DA40-180XLS Star.....	B
		Diamond DA20-C1 Eclipse.....	B-
		Mooney M20TN Acclaim.....	B-
		Mooney M20R Ovation.....	B-
		Piper PA46-350P Mirage.....	B
		Piper PA34-220T Seneca V.....	B
		Piper PA28R-201 Arrow.....	B
		Piper PA28-181 Archer III.....	B
		Evektor Sportstar (LSA).....	B-
		Flight Design CTLS (LSA).....	B-
		Agusta A109 Grand.....	B-
		Bell 206 L-4.....	B+
		Eurocopter AS350-B3.....	B-
		Robinson R44 Raven II.....	A
		Sikorsky S-76C++.....	B-

2017, and to more than double that in 2018, said Ben Kowalski, Cirrus vice president of marketing and communications.

- **Rockwell Collins** president and CEO Kelly Ortberg told analysts during a teleconference update of second-quarter 2017 financial results that business jet manufacturers will experience growth as soon as next year. Ortberg's comments echoed those of **Embraer** CEO Cesar de Souza e Silva, who said he thinks the business jet market has reached the bottom. "We are counting on improvements, step-by-step — not big improvements," Souza said. Embraer expects 2018 to be a better year than 2017, Silva said during a teleconference on the company's second-quarter results held the same day as Rockwell Collins' teleconference. No analyst on either call disputed the CEOs. Later, Rob Stallard of **Vertical Research Partners** echoed the sentiment in a teleconference for investor clients. "We don't want to get carried away here, but we could be

poised for bizjet finally getting better," he said. "Bizjet is only now starting to turn the corner."

- Addressing analyst concerns about weak demand for business aircraft, Phebe Novakovic, CEO of **Gulfstream Aerospace** parent company General Dynamics said Gulfstream is seeing "reasonable and steady demand, and on an entry-into-service basis will deliver the same number of aircraft as last year."
- **Bombardier** president and CEO Alain Bellemare said during a conference call on the company's financial results that net orders so far this year are "actually pretty good."
- **Honda Aircraft** plans to increase production of its HondaJet at its Greensboro, N.C., headquarters as it works to reach full production capacity of the aircraft. The company plans to increase production from the current three-four light jets per month to a full capacity of six-eight per month, or about 80 per year, a Honda Aircraft spokesperson said.

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Used Aircraft Report: Cessna Citation Mustang

Simple transition to a twin turbofan

By Fred George | Senior Editor/Chief Pilot | *Business & Commercial Aviation*



By the time Textron Aviation ended Citation Mustang production in May 2017, that model had become the most successful very light jet in history. More than 475 were built in the production run that began in 2006. The aircraft remains an ideal entry level twin turboprop aircraft because it is easy to fly, safe, reliable and well-supported by the manufacturer.

The Mustang's Pratt & Whitney PW615 engines are FADEC-equipped, resulting in carefree control. That's a welcome change from workload-intensive turboprop and piston engine aircraft. Notably, the aircraft's takeoff performance numbers as based upon one engine failing at the most critical point in the takeoff roll, thereby assuring pilots of safe stopping or takeoff in the event of engine failure. As a result its takeoff runway lengths are longer than those based upon all-engine takeoff figures for turboprops and pistons.

The Mustang also was the launch platform for Garmin's G1000 integrated avionics system. The flight deck package features left and right 10.4-in. PFDs and a 15-in. MFD in the center of the panel, full-function FMS, dual comm, nav, GPS and Mode S transponder, three-axis autopilot, XM satellite radio weather system and GWX68 weather radar, plus a Honeywell KN63 DME. Garmin hardware and software upgrades are available for ADS-B Out. A service bulletin also is available to improve GRS77 AHRS performance.

First and foremost, the Mustang is a genuine Citation, having speed brakes, digital anti-skid, vapor-cycle air conditioning with cockpit and cabin evaporators and full flight into known icing certification as standard features. Front and rear external baggage compartments provide 57 cu. ft. of storage.

The synthetic vision option is well worth the \$23,400 cost and most aircraft are so equipped. Passive and active traffic system, a radio altimeter, electronics charts and XM radio entertainment system, plus cockpit voice and data recorder, ADF and HF radios are options. But larding up the aircraft with extra equipment eats into the aircraft's 560-lb. tanks-full payload.

This is the only production Citation to have a tall oval-shaped, rather than circular fuselage that yields more a usable cabin cross-section. Maximum cabin headroom is 4.5 ft. and width is 4.6 ft. There is only one seating configuration: Two cockpit seats, a side-facing lav across from the entry door and four club chairs in the main cabin. A belted potty seat is not available. The six cabin windows are comparatively tiny, measuring 11 in. tall and 16 in. wide. Cabin altitude at FL 410, the aircraft's maximum cruising altitude, is 8,000 ft.

Strap into the left seat of a Mustang and it's immediately apparent that this is one of Cessna's most ergonomic cockpit designs, complete with glare-shield mounted flight guidance system control panel, industry-standard display color scheme and intuitive controls.

Standard day takeoff performance at MTOW is impressive. V1 and rotation are 89 KIAS, V2 is 97 KIAS and takeoff field length is 3,110 ft., assuming flaps 15 deg. Departing BCA's 5,000-ft. elevation, ISA+20C airport, V1 is 103, Vr is 104, V2 is 112 and TOFL is 6,510 ft., assuming flaps 0 deg.

Assuming ISA conditions, the aircraft can climb directly to FL 410 in 27 min. Warm days significantly reduce high-altitude performance. Most operators plan to level off at FL 360 to FL 370 where initial cruise speed is 326 to 329 KTAS. Maximum cruise speed at FL 350 and mid-weight is 340 KTAS. Operators plan on burning 800 lb. of fuel the first hour, 600 lb. the second hour and 550 lb. the third hour. Plan on 300-kt. block speeds.

Operators say the aircraft comfortably can be flown



1,000 nm in no-wind conditions. After 3 hr., plan on touching down with 600 lb. fuel reserves. Dry surface landing distance is as little as 2,200 ft. at sea-level runways.

Dispatch reliability is excellent, but operators say the original 28 amp/hour battery did not provide enough cranking power in cold weather. A Gill sealed lead-acid battery P/N S4324-1 now is available for greater power output. General control units have been quirky, but few missions have been scrubbed due to electrical problems. Nose-wheel shimmy can be troublesome.

Resale values range from \$1.0 million to \$1.2 million

grams. ProTech labor is available for \$153.00 per hour, based upon 200 to 349 annual flight hours.

The Mustang's main competitors are the Eclipse 500, which has a much smaller cabin, slightly higher cruise speed and better fuel efficiency, Citation CJ1/CJ1+/M2 that have a larger cabin, higher cruise speeds and greater fuel thirst, and Embraer Phenom 100, which also has a considerably larger cabin, higher cruise speeds and bigger windows. Mustangs built between 2010 and 2015 had held their value well in the resale market for the summer 2017 Bluebook. But, according the fall edition,

“ Strap into the left seat of a Mustang and it’s immediately apparent that this is one of Cessna’s most ergonomic cockpit designs ”

for 2006 models and up to \$3.35 million for a late 2017 model, according to the fall 2017 edition of Penton’s Aircraft Bluebook. Resale value is highly dependent upon the aircraft having no damage history, excellent paint and interior and, most importantly, current enrollment in Cessna’s \$169.38 per hour PowerAdvantage+ engine protection and \$154.82 per hour ProParts support pro-

average retail values for those model years have dropped in the ensuing quarter. As of the summer, about 9% of the fleet is up for sale, which is to say most owners are not rushing to unload them.

This used aircraft report appears in a similar form in the August 2017 issue of Business & Commercial Aviation magazine.



Bombardier Challenger 300

Total for sale steady in last year; prices, sales have slipped

By Chris Reynolds, ASA | Editor/Aircraft Appraiser | *Aircraft Bluebook*

Aircraft Bluebook has reviewed the current market status of the Bombardier Challenger 300 business jet. Research for this study was obtained in part from Aircraft Bluebook, Aircraft Bluebook's Historical Value Reference, the FAA's registry web site and various trade services.

Demand

The Challenger 300 fleet sits at approximately 450 active aircraft. At the time of this writing, approximately 25 Challenger 300s, representing approximately 5.5 percent of the active fleet, were reported for sale. Over the last year, approximately 25 sales appear to have occurred with days on market ranging anywhere from 250 to 300+ days. The number of aircraft for sale has remained somewhat consistent over the last year, but prices and the number of Challenger 300 sales have continued to slip.

Pricing

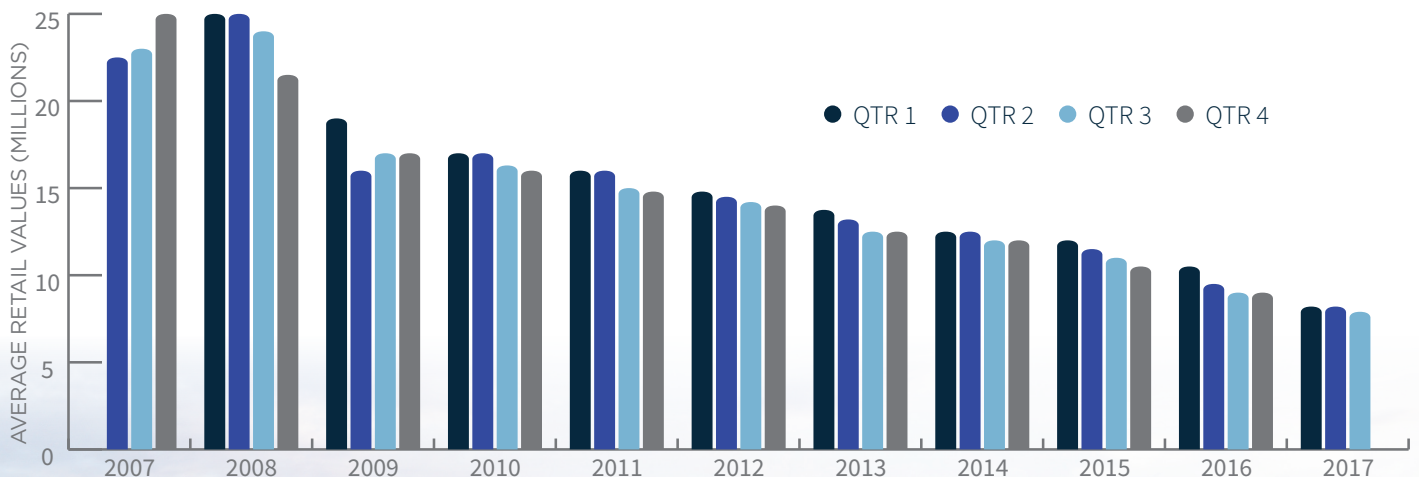
Current offerings in the Challenger 300 market range from \$5 million to mid-\$13 million. Airframe time varies from 1000 hours to greater than 8000 hours, depending

on the year-model. Equipment including upgrades, such as FANS, time/condition, heavy maintenance checks, and engine maintenance programs can significantly affect time on market and marketable value. (Aircraft Bluebook prices the Challenger 300 enrolled on Honeywell MSP.) Non-compliance with FAA 2020 mandates will further negatively affect the values of the Challenger 300. For the fall 2017 Aircraft Bluebook, a 2007 Bombardier Challenger 300 had a reported average retail value of \$7.9 million, which was a decrease of \$300,000 from the previous quarter's average retail value and represents slightly more than a 12 percent decrease in value from the fall 2016 Aircraft Bluebook.

Historical Values

A 2007 Bombardier Challenger 300, whose market values have been tracked since the second quarter of 2007 was reported new with an average equipped price of \$22.5 million. Aircraft Bluebook's Historical Value Reference demonstrates the Bombardier Challenger 300 market value performance by quarter in the graph for this 2007 model.

Other historical values can be obtained at Aircraft Bluebook's website, www.aircraftbluebook.com.





Research Rankings

THESE 25 AIRCRAFT TYPES RECEIVED THE MOST PAGE VIEWS ON AIRCRAFTBLUEBOOK.COM AND THE AIRCRAFT BLUEBOOK HISTORICAL VALUE REFERENCE DURING THE MOST RECENT THREE-MONTH AIRCRAFT BLUEBOOK REPORTING PERIOD.

Top Aircraft Types on AircraftBluebook.com

Rank	Aircraft Type	Previous Rank	Trend
1	GULFSTREAM G500/G550	2	↑
2	DASSAULT FALCON 2000/DX/EX/EASy/LX/S	1	↓
3	BOMBARDIER CHALLENGER 300	5	↑
4	GULFSTREAM G350/G450	16	↑
5	CESSNA 172 SKYHAWK	10	↑
6	DASSAULT FALCON 900	4	↓
7	CESSNA 182 SKYLANE	9	↑
8	BEECH KING AIR C90B/C90GT (1995 & up)	13	↑
9	DASSAULT FALCON 7X	3	↓
10	BEECH SUPER KING AIR 200	12	↑
11	BOMBARDIER GLOBAL EXPRESS	15	↑
12	AIRBUS AS 350	24	↑
13	EMBRAER LEGACY 600/650	23	↑
14	BEECH SUPER KING AIR (B300) 350	8	↓
15	CESSNA 182 SKYLANE (1997 - 2012)	37	↑
16	CIRRUS SR22	17	↑
17	HAWKER 800/XP/XPi/850	7	↓
18	CESSNA 172 SKYHAWK (1975 - 1986)	6	↓
19	EMBRAER PHENOM 300	14	↓
20	CESSNA CITATION XLS/+	26	↑
21	GULFSTREAM G-200 (Formerly Galaxy Business Jet)	18	↓
22	GULFSTREAM G650	47	↑
23	CESSNA 172 SKYHAWK (1997 & up)	32	↑
24	PILATUS PC-12/47E NG (2009 & up)	39	↑
25	BOMBARDIER LEARJET 45/45XR	19	↓

Top Aircraft Types in the Historical Value Reference

Rank	Aircraft Type	Previous Rank	Trend
1	GULFSTREAM G500/G550	1	—
2	DASSAULT FALCON 2000/DX/EX/EASy/LX/S	2	—
3	DASSAULT FALCON 7X	7	↑
4	BOMBARDIER GLOBAL 6000	15	↑
5	DASSAULT FALCON 900	3	↓
6	GULFSTREAM G650	19	↑
7	CESSNA 172 SKYHAWK	11	↑
8	CESSNA CITATION XLS/+	12	↑
9	GULFSTREAM G350/G450	9	—
10	BOMBARDIER CHALLENGER 300	4	↓
11	BOMBARDIER GLOBAL EXPRESS	6	↓
12	BEECH SUPER KING AIR (B300) 350	5	↓
13	BEECH KING AIR C90B/C90GT (1995 & up)	35	↑
14	CESSNA CITATION SOVEREIGN 680 (2004 - 2013)	23	↑
15	BOMBARDIER CHALLENGER 605	8	↓
16	AIRBUS AS 350	53	↑
17	EMBRAER LEGACY 600/650	16	↓
18	CESSNA CITATIONJET/CJ/CJ1/CJ1+ 525 (1993 - 2011)	46	↑
19	GULFSTREAM G-IV	14	↓
20	BOMBARDIER GLOBAL 5000 (2005 - 2011)	33	↑
21	BEECH SUPER KING AIR B200/GT (1995 - 2012)	43	↑
22	BOMBARDIER GLOBAL 5000 (2012 & up)	45	↑
23	HAWKER 800/XP/XPi/850	10	↓
24	CESSNA CITATION X (1996 - 2012)	24	—
25	CESSNA CITATION CJ2/CJ2+ 525A	32	↑



Positive Signs

Nevertheless, negative changes in business jet values persist

By Carl Janssens, ASA | Chief Appraiser | Aircraft Bluebook

Business aircraft sales reports in the most recent Aircraft Bluebook research period show positive signs. Frequency and numbers of transactions are improving; however, business jet values have yet to demonstrate stability.

Jet value changes were mixed between no changes in retail values and decreases. Values in this category have remained vulnerable to speedy depreciation in value. The reasons are wide and varied.

Review of other model years not represented in the Large Jet graph (page 15) also reveals continued erosion in retail values. The table on this page shows the variance in values for 2008 models from the fall 2012 edition of Aircraft Bluebook through the fall 2017.

Dennis Rousseau of AircraftPost examines this phenomenon more in his article on page 12.

In the turboprop category, values have continued to remain stable. The majority of aircraft exhibit no change in value compared to the previous quarter. For the most part, the turboprop market has done a better job of surviving the slides in value than business jets. Refer to the

Turboprop graph on page 16. Compare the depth of depreciation for large jets compared to turboprops on the next page. Early-model Beech King Air 350s have stronger values in the fall 2017 Aircraft Bluebook than the previous quarter. They are up \$100,000 in the retail value category.

The other aircraft categories tracked in the Aircraft Bluebook — multi-

piston, single-piston and helicopters — also show stability in pricing when compared to the summer Aircraft Bluebook. The majorities of models had no change in average retail value.

Make/Model	Variance
Bombardier Global Express XRS	-54%
Bombardier Challenger 605	-53%
Cessna Citation Sovereign	-40%
Dassault Falcon 900 EX EASY	-45%
Dassault Falcon 2000LX	-43%
Embraer Legacy 600	-57%
Gulfstream G550	-56%
Gulfstream G450	-54%
Hawker 900XP	-52%

SPECIFIC PRICE CHANGES CAN BE FOUND AT AIRCRAFTBLUEBOOK.COM

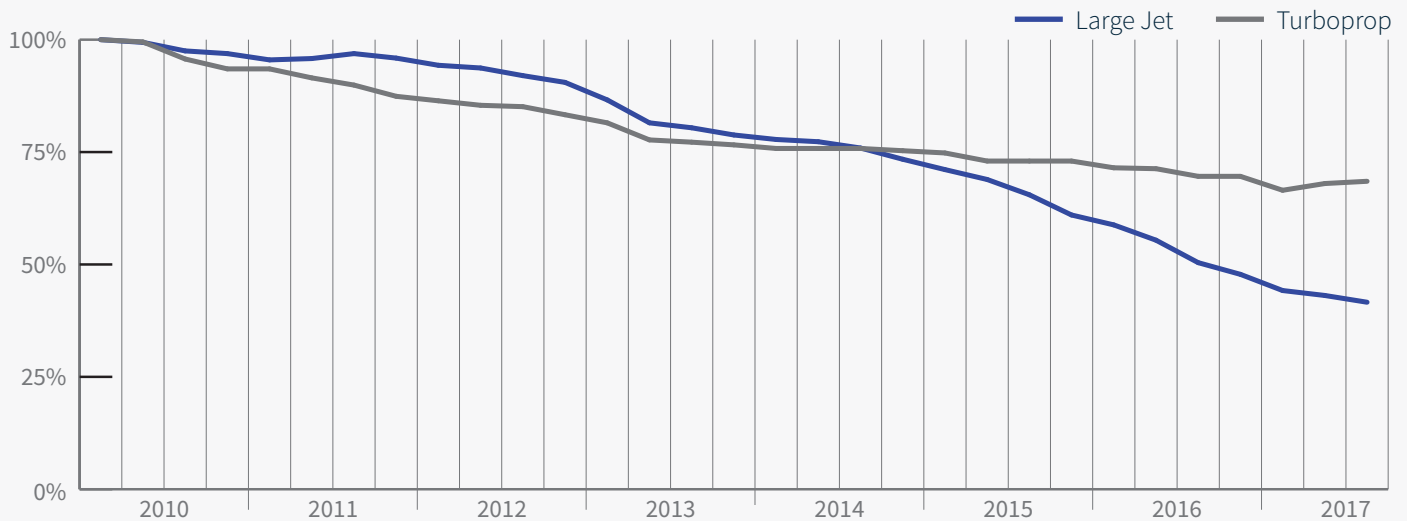
Average Retail Values of Individual Model-Years Compared to Previous Quarter

Jet	Turboprop	Multi	Single	Helicopter
Increased 6	Increased 17	Increased 45	Increased 34	Increased 0
Decreased 536	Decreased 44	Decreased 8	Decreased 76	Decreased 33
Stable 584	Stable 616	Stable 646	Stable 2652	Stable 1223

Rate of Change: Large Jet Values Compared to Turboprop Values

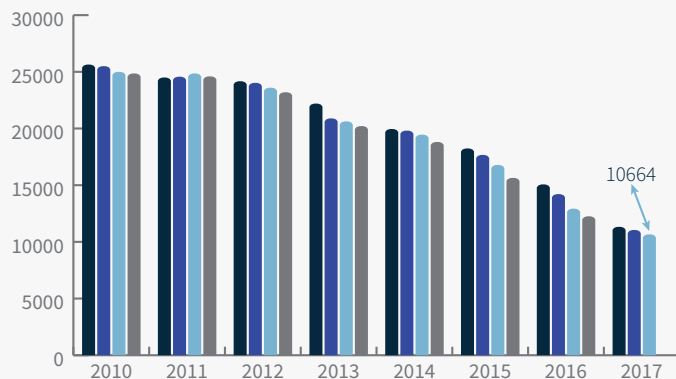
Average retail values have decreased more rapidly for the large jet segment compared to the turboprop segment. This graph uses the first quarter 2010 average retail values of each segment as a baseline. Note that the first quarter

2010 values are used for illustrative purposes only. They *do not* represent the 100 percent new delivered prices for the aircraft analyzed. Find segment values on the full Large Jet and Turboprop graphs on pages 15 and 16.



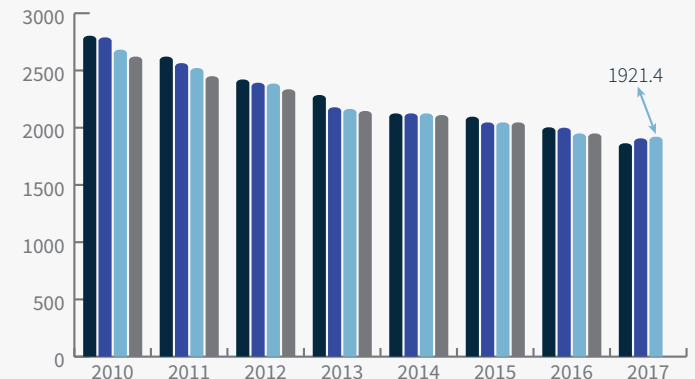
Large Jet

The Large Jet chart depicts the average price (in thousands) of the seven jets listed. Each model's year will precede the name of the aircraft.



Turboprop

The Turboprop chart depicts the average price (in thousands) of the seven turboprops listed. Each model's year will precede the name of the aircraft.



Acceleration of Depreciation

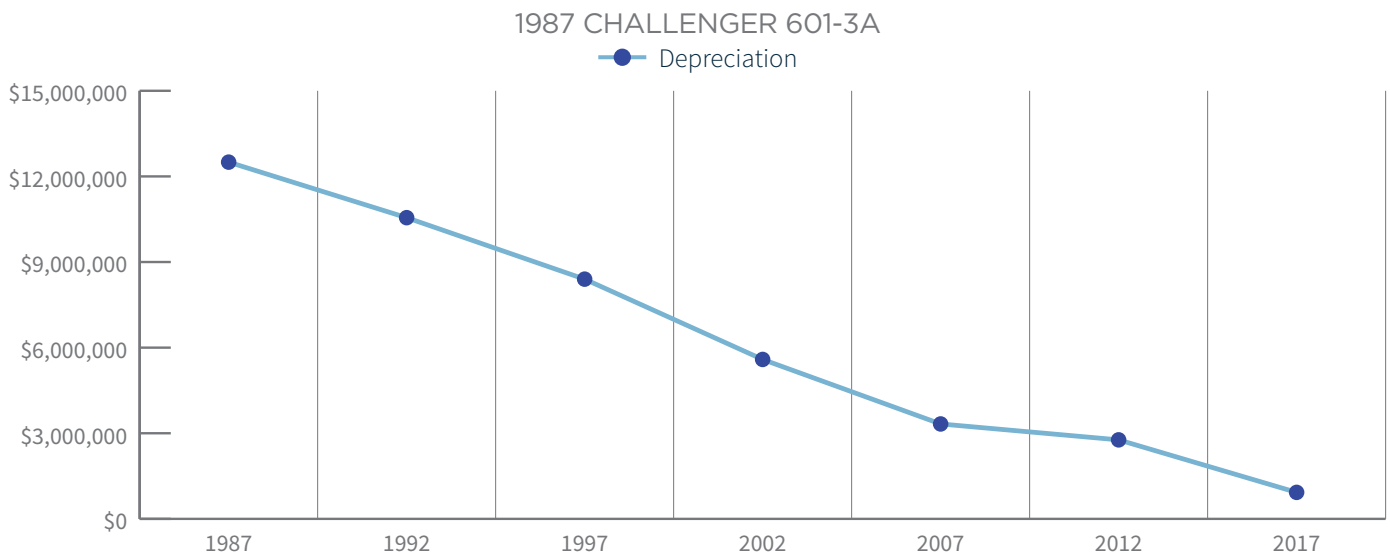
Twenty-two-year assets are the new 30-year assets

By Dennis Rousseau | President and Founder | AircraftPost

Economic obsolescence typically occurs when maintenance/operating costs exceed the value of the asset. Conversely, technological obsolescence occurs when a component part or system can no longer be repaired or effectively operate in the current environment.

Historically, business jets were depreciated over a 30-year life cycle and written down to salvage value, also known as “sum of the parts,” over a corresponding time

Since 2008, market depreciation has accelerated to a point where a 30-year asset now becomes a 22-year asset. And all aircraft are being equally affected. To better explain this without isolating one aircraft over the other, a 2007 Challenger 605 and Falcon 2000 EASy had similar price points new. Ten years into service, based on 2017 pre-owned selling prices and marking the assets to market, they have retained an average of 35 percent — or 29 percent and 40 percent, respectively — of their original



frame. Applying an approximately 3 percent annual rate of depreciation (straight line) from year one through year 30 (“normalized” value) would provide a reasonable end-of-life value.

To illustrate, a 1987 Challenger 601-3A had an original cost new of \$12.5 million. In 2017, this now end-of-life asset should have a normalized value of approximately \$1 million, a value retention of 8 percent based on its original cost new. Now, if we factor in the actual selling prices of 30-year-old 601-3As to date in 2017, we find they are selling for \$1.15 million (also known as “mark-to-market”), retaining 9 percent of their original cost new.

costs new. Should we run these aircraft values out another 10 years and apply the same rate of depreciation as experienced in the first 10, these aircraft will have retained only 12 percent of their original costs new in about 20 years!

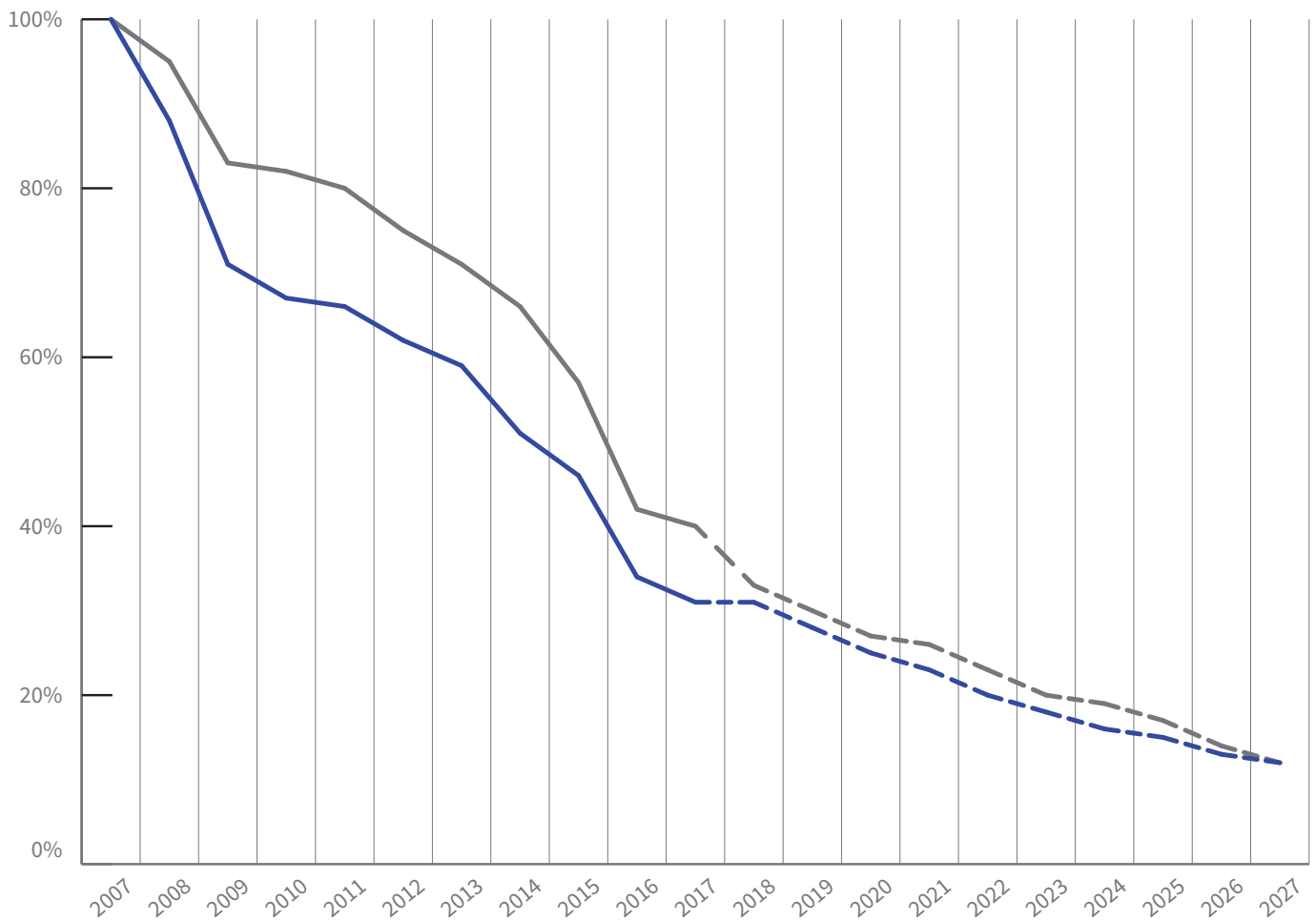
The impact on the finance side is critical. Amortization should follow suit with depreciation so there is equity at the end of the term and the operator doesn’t find itself under water, or “upside down.”

This state of accelerated depreciation has blindsided our industry, and, as a result, new deliveries are down. As the prices of new aircraft increase year over year, the values on new and newer aircraft are affected even more



VALUE RETENTION

— Challenger 605 % Retention — Falcon 2000 EASy % Retention



severely. When higher-value assets experience pricing pressure, they put a corresponding pressure on all related lower-value assets.

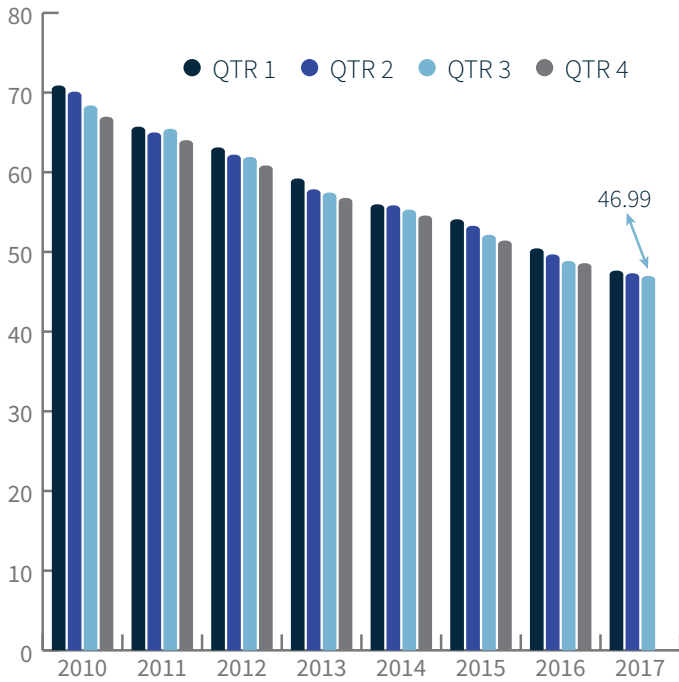
In this context, it becomes increasingly difficult to see a catalyst that will stabilize pre-owned values over the next two to three years. If the decline continues, the

corresponding impact on new sales could be devastating. On the flip side, history has shown the factors that support pre-owned values are transitory and that falling new sales can increase demand for pre-owned aircraft. Only time will tell ...



Business Aviation Trends

Used Aircraft Market

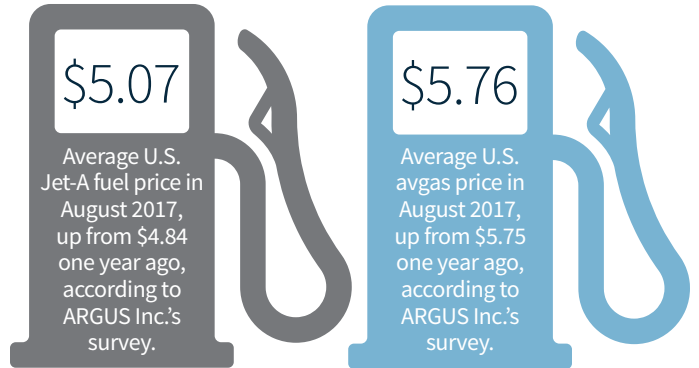


+10.1% Increase in AircraftBluebook.com traffic during the most recent three-month Aircraft Bluebook reporting period, compared to the same period in 2016.

+0.9% Increase in traffic on ACUKWIK.com during the most recent three-month Aircraft Bluebook reporting period, compared to the same period in 2016.

+14.1% Increase in AirCharterGuide.com traffic during the most recent three-month Aircraft Bluebook reporting period, compared to the same period in 2016.

All of the **listed aircraft** have a composite score that is presented in the Used Aircraft Market graph. Data points are represented in relationship to the respective new delivered historical price that is equal to 100%. The measure of change is reported in the actual percentage of value in relation to new. The delta between reporting periods can be concluded as the percentage of change.



ARGUS TRAQPak Flight Activity

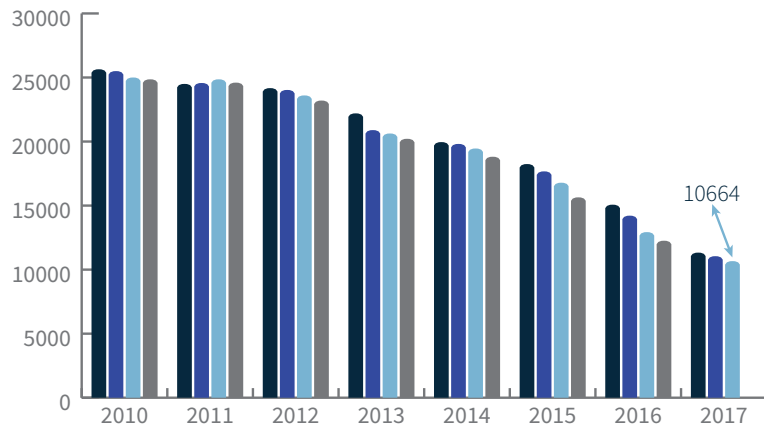
Period	All Flight Activity YOY	Part 91 Activity YOY	Part 135 Activity YOY	Fractional Activity YOY
August-16	3.0%	3.5%	3.7%	-0.9%
September-16	4.6%	2.6%	7.5%	5.5%
October-16	3.3%	1.5%	5.2%	5.7%
November-16	4.9%	4.1%	7.6%	1.2%
December-16	1.4%	-3.6%	9.5%	0.0%
January-17	2.0%	0.2%	4.0%	4.0%
February-17	1.3%	-1.2%	3.7%	5.0%
March-17	4.6%	2.8%	7.3%	4.7%
April-17	5.3%	0.5%	11.3%	8.5%
May-17	6.5%	2.1%	13.3%	6.9%
June-17	4.3%	1.2%	8.9%	4.9%
July-17	1.4%	-2.1%	6.7%	1.3%



Aircraft Values and Indicators

Large Jet

The Large Jet chart depicts the average price (in thousands) of the seven jets listed. Each model's year will precede the name of the aircraft.

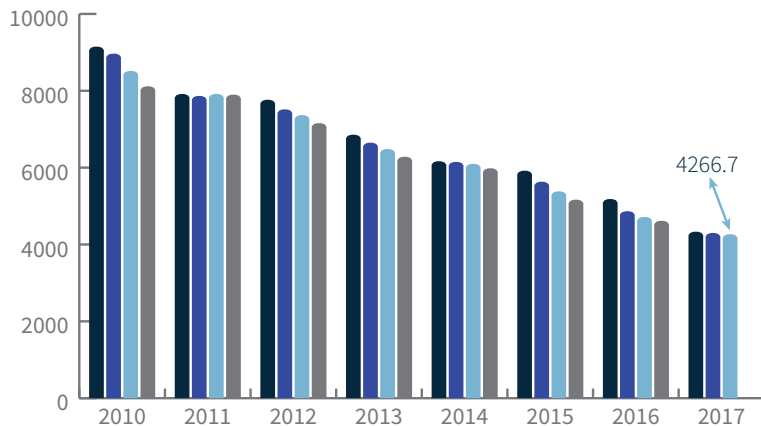


YEAR/MODEL	% CHANGE
2006 Bombardier Global Express	-2.8
2007 Bombardier Challenger 605	0.0
2005 Dassault Falcon 900 EX EASy	-3.9
2005 Dassault Falcon 2000EX EASy	-4.4
2005 Gulfstream G550	0.0
2005 Gulfstream G450	-2.4
2005 Embraer EMB135 Legacy	-18.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Medium Jet

The Medium Jet chart depicts the average price (in thousands) of the six jets listed. Each model's year will precede the name of the aircraft.

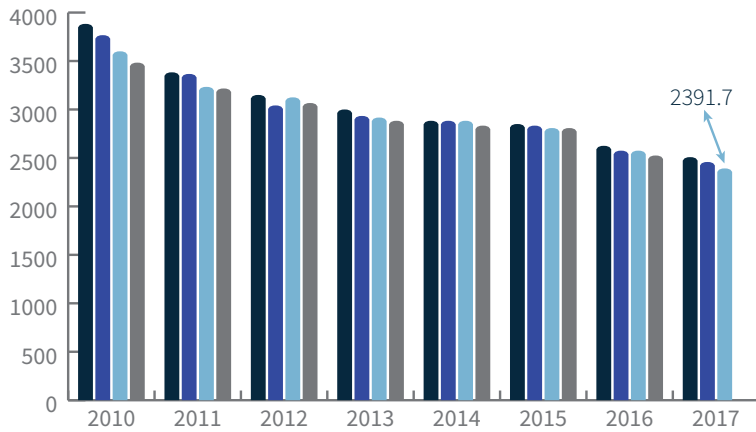


YEAR/MODEL	% CHANGE
2005 Bombardier Challenger 300	-2.8
2005 Bombardier Lear 45XR	0.0
2005 Cessna Citation Sovereign	0.0
2005 Cessna Citation XLS	-5.0
2006 Gulfstream G150	4.9
2005 Hawker 800XP	0.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Small Jet

The Small Jet chart depicts the average price (in thousands) of the six jets listed. Each model's year will precede the name of the aircraft.

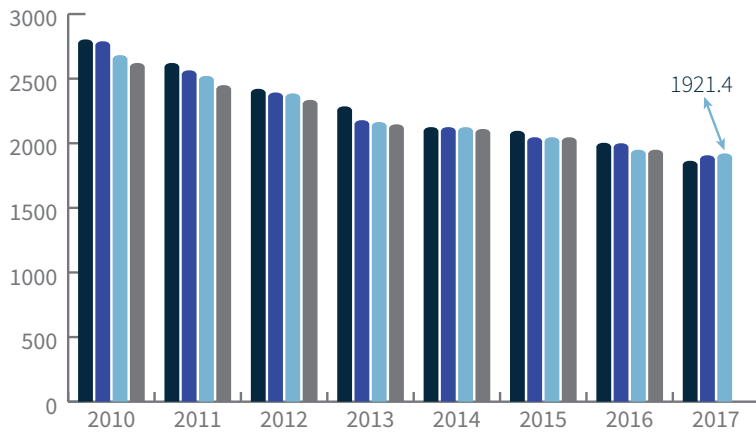


YEAR/MODEL	% CHANGE
2005 Beech Premier 1	0.0
2005 Cessna Citation CJ2+	0.0
2006 Cessna 510 Mustang	0.0
2008 Embraer Phenom 100	0.0
2009 Embraer Phenom 300	-5.2
2005 Hawker 400XP	-6.9

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Turboprop

The Turboprop chart depicts the average price (in thousands) of the seven turboprops listed. Each model's year will precede the name of the aircraft.

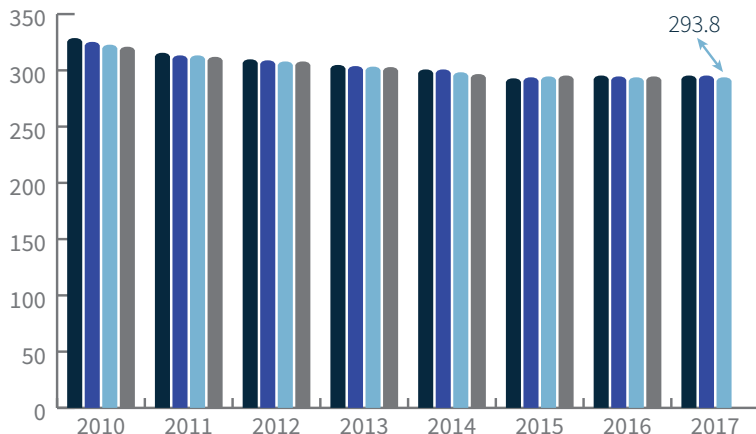


YEAR/MODEL	% CHANGE
2005 Beech King Air350	4.0
2005 Beech King AirB200	0.0
2005 Beech King AirC-90B	0.0
2005 Cessna 208 Grand Caravan	0.0
2005 Piaggio AvantiP180	0.0
2005 Pilatus PC12/45	0.0
2005 Socata TBM700C2	0.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Single/Multi Piston

The Single/Multi-Piston chart depicts the average price (in thousands) of the 12 aircraft listed. Each model's year will precede the name of the aircraft.



YEAR/MODEL	% CHANGE
2005 Beech 58 Baron	0.0
2005 Diamond DA42 Twin Star	0.0
2005 Piper PA34-220T Seneca V	1.2
2005 Beech A36 Bonanza	1.5
2005 Cessna/Columbia 400	0.0
2005 Cessna 182T Skylane	0.0
2005 Cessna T206H Turbo Stationair	0.0
2005 Cessna 172S Skyhawk SP	0.0
2005 Cirrus SR22-G2	0.0
2005 Diamond DA40-180 Star	0.0
2005 Piper PA46-350P Mirage	-5.2
2005 Piper PA28R-201 Arrow	0.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

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AC-U-KWIK

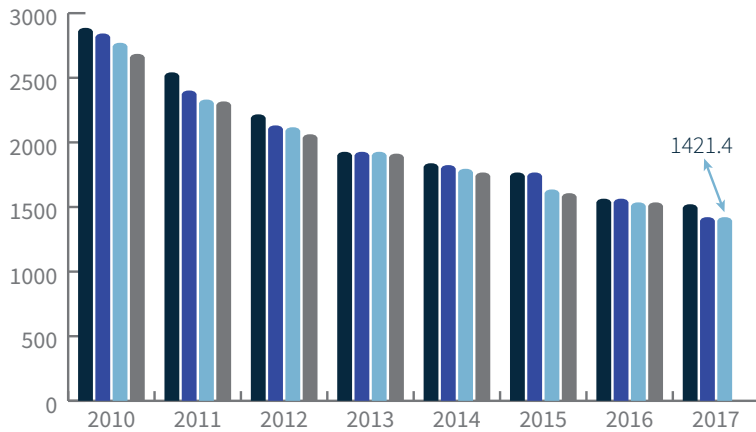
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Helicopter

The Helicopter chart depicts the average price (in thousands) of the seven helicopters listed. Each model's year will precede the name of the aircraft.

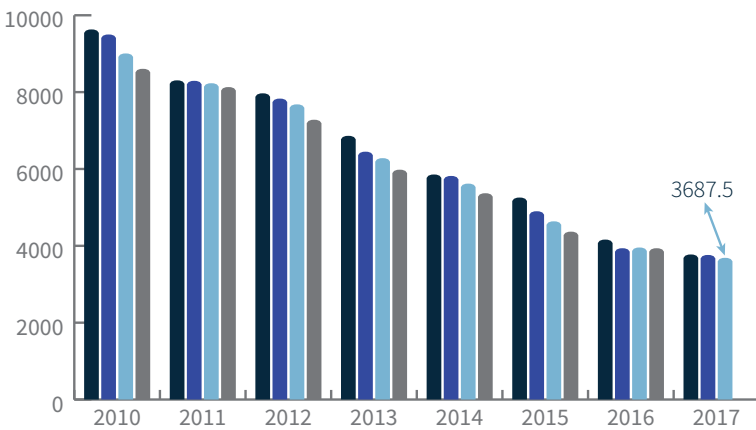


YEAR/MODEL	% CHANGE
2005 Agusta A109E Power	0.0
2005 Bell 430	0.0
2005 Eurocopter EC130B4	0.0
2005 Eurocopter AS350B-3 Ecureuil	0.0
2004 Enstrom 280FX	0.0
2005 Robinson R44 Raven	0.0
2005 Sikorsky S-76C+	0.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Legacy Jet

The Legacy Jet chart depicts the average price (in thousands) of the eight jets listed. Each model's year will precede the name of the aircraft. Legacy Aircraft are those produced prior to the year 2000.

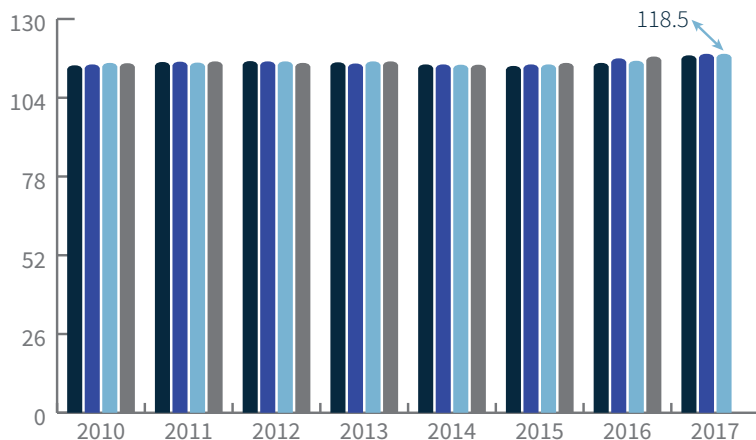


YEAR/MODEL	% CHANGE
1996 Bombardier Challenger 604	-4.8
1996 Bombardier Lear 31A	0.0
1996 Cessna Citation Ultra	-8.3
1996 Dassault Falcon 900B	-3.7
1997 Dassault Falcon 50EX	0.0
1996 Gulfstream GV	0.0
1996 Gulfstream GIVSP	-2.0
1996 Hawker800XP	0.0

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Legacy Piston

The Legacy Piston chart depicts the average price (in thousands) of the ten piston aircraft listed. Each model's year will precede the name of the aircraft. Legacy Aircraft are those produced prior to the year 2000.



YEAR/MODEL	% CHANGE
1990 Beech A36 Bonanza	0.0
1990 Beech F33 Bonanza	0.0
1986 Cessna 210 Centurion II	0.0
1986 Cessna 172P Skyhawk B	0.0
1985 Cessna 152 Commuter II	0.0
1990 Mooney 252 TSE	0.0
1990 Piper PA-28-236 Dakota	0.0
1990 Piper PA-28R-201 Arrow	0.0
1990 Piper PA-28-181 Archer II	0.0
1990 Piper PA-28-161 Warrior II	0.0

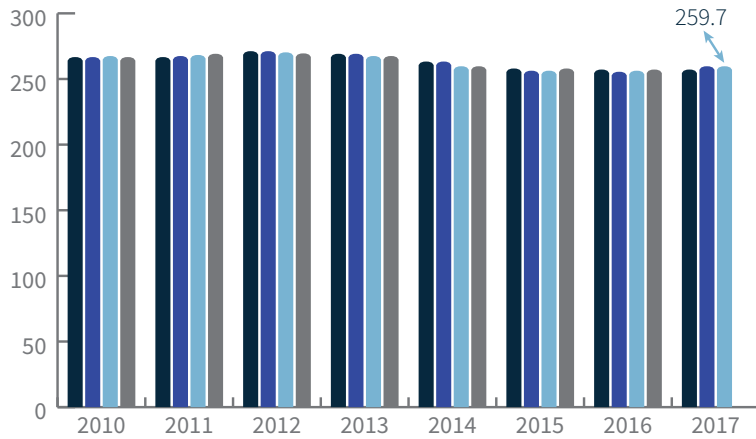
● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

Legacy Multi Engine Piston

The Legacy Multi Engine Piston chart depicts the average price (in thousands) of the six aircraft listed. Each model's year will precede the name of the aircraft. Legacy Aircraft are those produced prior to the year 2000.

YEAR/MODEL	% CHANGE
1986 Beech 58P Pressurized Baron	0.0
1990 Beech 58 Baron	0.0
1985 Cessna 421 Eagle III	0.0
1981 Cessna 310R II	0.0
1982 Piper PA-310C Navajo	0.0
1990 Piper PA-34-220T Seneca III	0.0

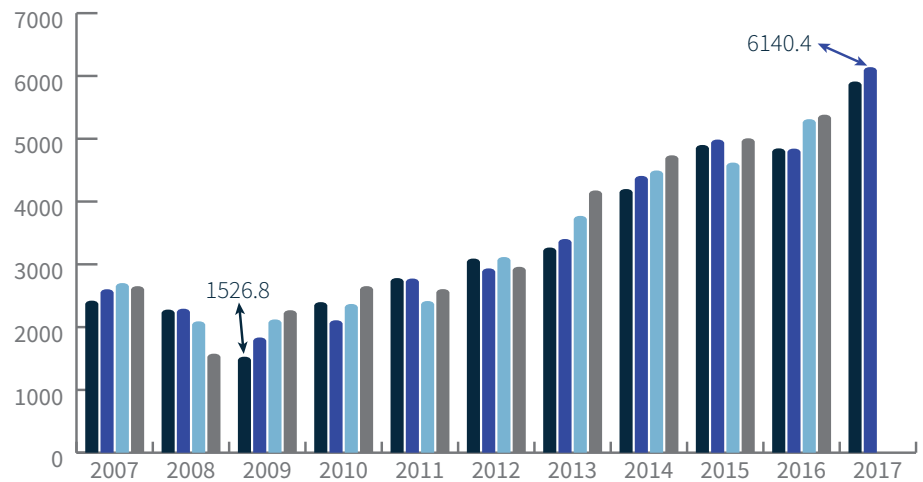
● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4



NASDAQ

Consider these graphs as crosschecks. The general aviation and business aircraft market does not operate in a vacuum but is a part of the bigger picture.

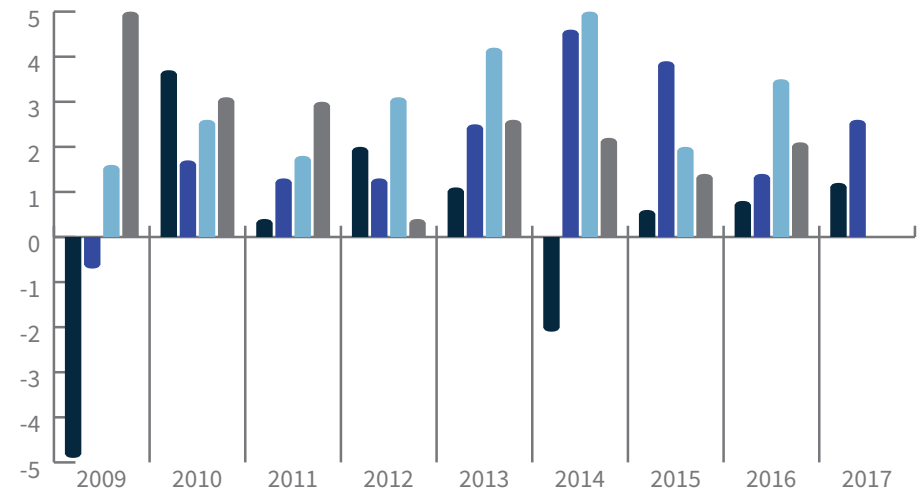
● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4



U.S. Real GDP

Each data point represents the BEA's final figure or latest estimate of the quarter-to-quarter seasonally adjusted annual rates of change in real GDP "based on chained 2005 dollars." The study begins with the first quarter in 2006.

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

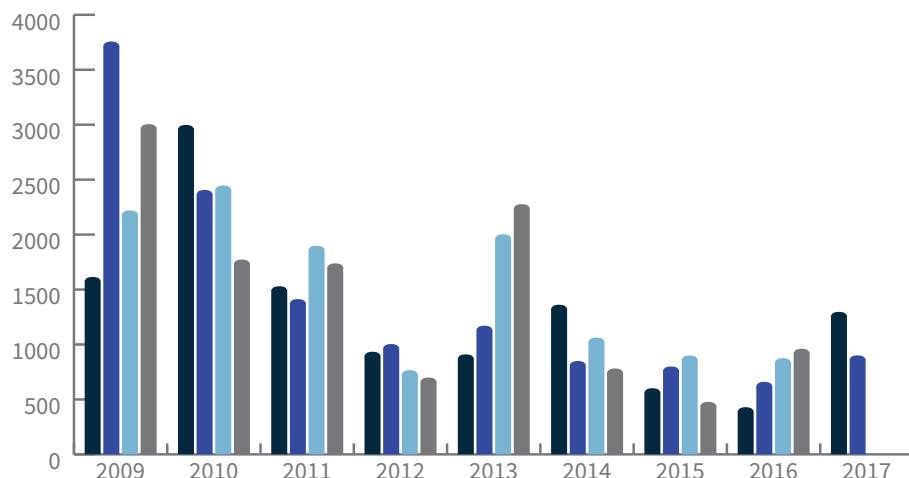


Baltic Dry Index

Index as of final day of quarter. The Baltic Dry Index is an indicator of the price of shipping major raw materials by sea.

Source: Lloyd's List

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

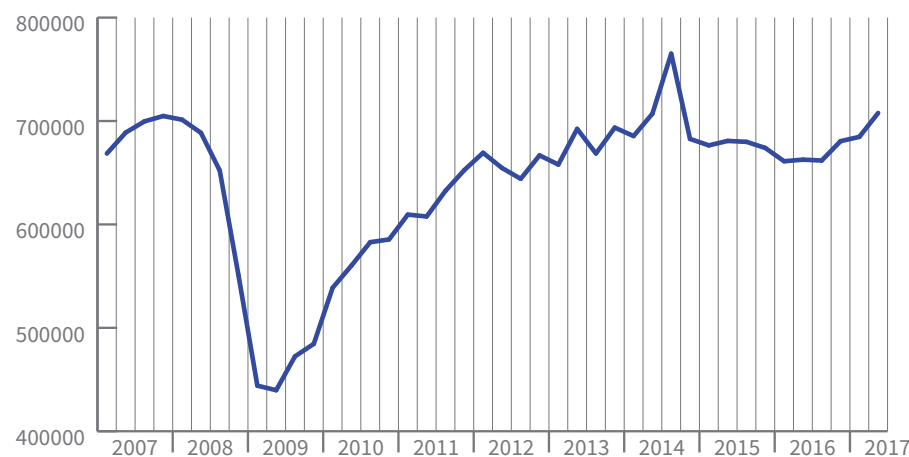


U.S. New Orders of Durable Goods

Millions of U.S. dollars. Seasonally adjusted.

Source: U.S. Census Bureau, Manufacturers' Shipments, Inventories and Orders. Data retrieved Aug. 23, 2017.

● QTR 1 ● QTR 2 ● QTR 3 ● QTR 4

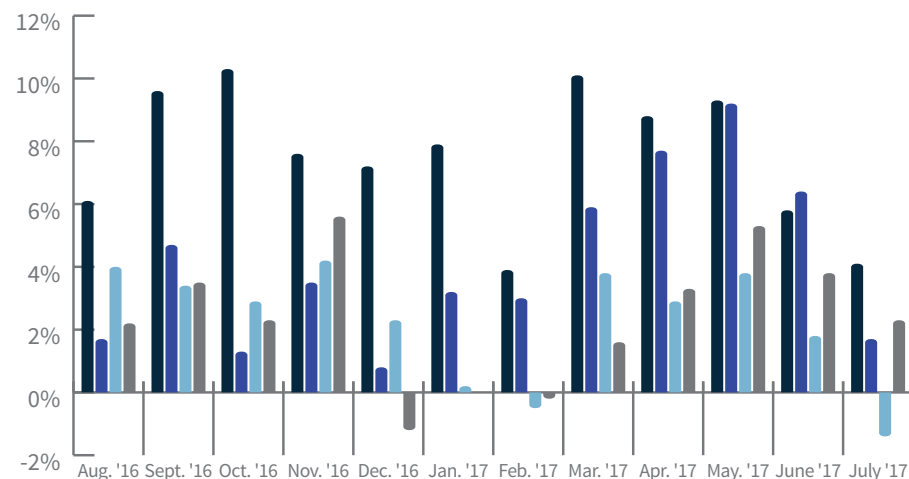


Flight Activity

TRAQPak data is aircraft flight number-specific arrival and departure information on all IFR flights in the United States, including Alaska, Hawaii, the Caribbean and Canada. For purposes of the TRAQPak Monthly Aircraft Activity Report, FAR Part 135 flight data represents all flight activity of aircraft on a Part 135 charter certificate regardless of individual flight mission (excluding cargo, scheduled Part 135, and fractional operators).

Source: ARGUS TRAQPak.

● Large Jet Activity YOY
 ● Mid-size Jet Activity YOY
 ● Light Jet Activity YOY
 ● Turboprop Activity YOY



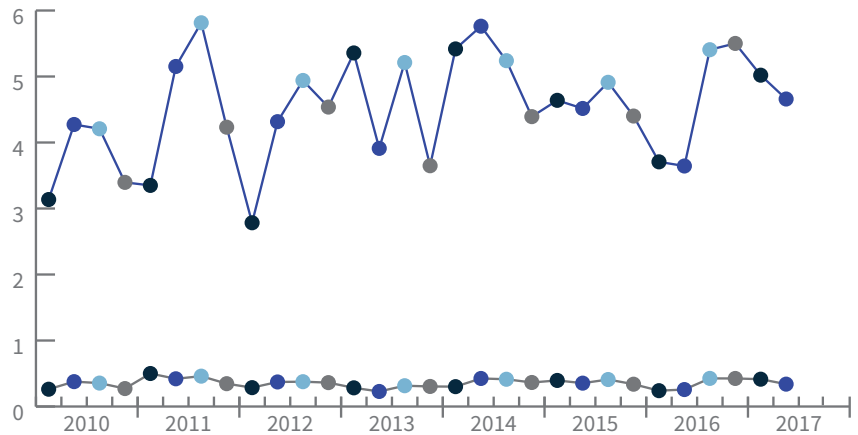


Change of Status

Single/ Multi

The black line in the chart depicts change-of-status data for singles. The light gray line represents multi.

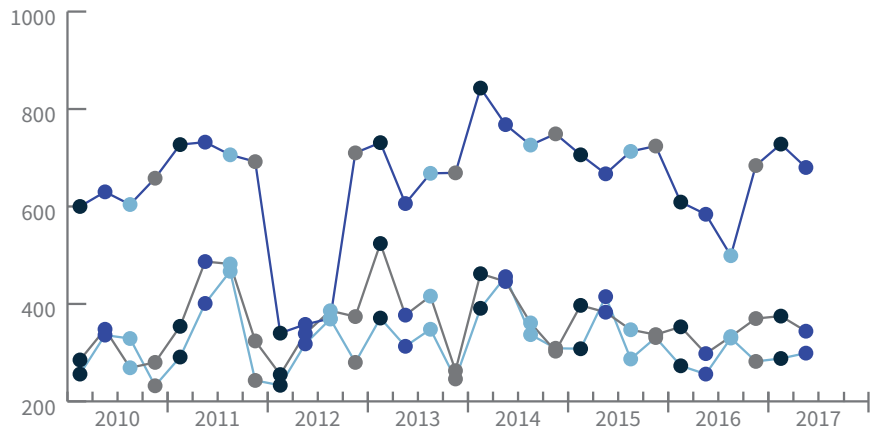
- Single: 4659
- Multi: 339
- QTR 1 ● QTR 2 ● QTR 3 ● QTR 4



Jet/ Turbo/ Heli

The black line in the chart represents change-of-status information for jets. The light gray line depicts turboprops, while the dark gray line represents helicopters.

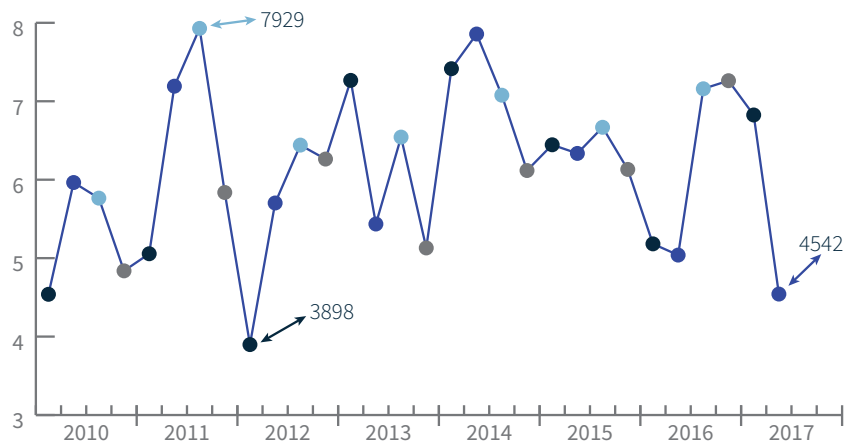
- Jet: 680
- Turboprop: 344
- Heli: 299
- QTR 1 ● QTR 2 ● QTR 3 ● QTR 4



Total Market

Depicts change-of-status data for all aircraft included in the Aircraft Bluebook. The numbers are from the FAA Registry. Gliders, homebuilts, airliners and other aircraft not found in the Bluebook are not included in this study.

- Total Market
- QTR 1 ● QTR 2 ● QTR 3 ● QTR 4





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