



Commercial Aviation Soars into Its Second Century

Aerial Views of a Rapidly Developing History—and Outlook

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On January 1, 1914, a two-seat Benoist XIV airplane took off on a 21-mile trip to Tampa, Florida, carrying pilot Tony Jannus and one passenger, who paid \$400—equivalent to more than \$9,000 today—to be the first passenger on the 23-minute flight. This was the start of commercial airline service in the United States.

The St. Petersburg–Tampa Airboat Line offered several round-trips daily for some time afterward. Speaking before the crowd of 6,000 who had assembled to watch the first flight, Percival Fansler, creator of the Airboat line, declared, “What was impossible yesterday is an accomplishment of today, while tomorrow heralds the unbelievable” (1).

The onlookers probably could not have envisioned today’s highly developed international airline industry. According to the Federal Aviation Admin-

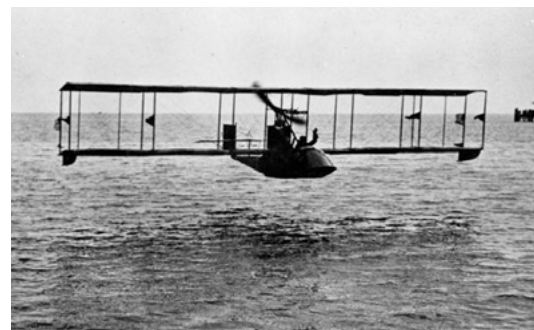


PHOTO: STATE ARCHIVES OF FLORIDA, FLORIDA MEMORY

Pilot Tony Jannus lands in Tampa, Florida, after a successful flight of his two-seater seaplane, January 1, 1914.

(Photo, top of page:) An Air France Airbus at Miami International Airport. Commercial aviation has grown from its beginnings in Florida a century ago into a highly developed international industry.

istration (FAA), U.S. airlines carried 739.3 million passengers in 2013 for 834.1 billion revenue passenger miles (RPMs)—that is, one paying passenger traveling 1 mile—and more than 1 trillion available seat miles (ASMs)—that is, one seat traveling 1 mile (2, p. 42). If the FAA's forecasts are accurate, these numbers will increase to 1.15 billion passengers, 1.47 trillion RPMs, and 1.75 trillion ASMs by 2034.

Dramatic Growth

From its first days, the airline industry grew by fits and starts through the 1920s as aircraft technology improved and the necessary infrastructure of airports, air traffic control, and the rules of the air were created, often without coordination. Airline service grew dramatically in the next decade, with the introduction in 1933 of new aircraft such as the Boeing 247 (see photograph, below). The arrival of the Douglas DC-3 slightly later in the decade, however, proved a watershed moment—the DC-3 was the first aircraft widely viewed as capable of producing a profit for its operators solely by carrying passengers.

Airline industry growth took a break during World War II but benefited from the technologies introduced during the war, as well as from the number of aircraft produced and the infrastructure created to support the military. Growth accelerated once again.

The introduction of jet aircraft, notably the Boeing 707, into commercial service in the 1950s began to shrink the world in a new way. In the preceding half-century, improvements in new aircraft of many types, improved infrastructure, dramatic technological advances, and new business practices resulting in part from economic deregulation made air travel cheaper and more available worldwide.



Boeing 247 next to a Boeing 767.



The Douglas DC-3—the first airplane capable of producing a profit as a commercial aircraft—prepares for takeoff in 1940.



IMAGE: JAMES VAUGHAN

Superhighways of the Sky

Flying between almost any two major cities in the world in one day is now possible. This would have been unimaginable from the perspective of January 1, 1914. As Microsoft founder Bill Gates observed in a 1999 *Time* magazine article, “The Wright Brothers created one of the greatest cultural forces since the development of writing, for their invention effectively became the first World Wide Web of that era, bringing people, languages, ideas, and values together. It also ushered in an age of globalization, as the world's flight paths became the superhighways of an emerging international economy. Those superhighways of the sky not only revolutionized international business, they also opened up isolated countries, carried the cause of democracy around the world, and broke down every kind of political barrier. And they set travelers on a path that would eventually lead beyond the earth's atmosphere” (3).

Eyewitness Observations

A more entertaining and perhaps more enlightening approach to the past 100 years is to move from a chronological history to insights directly from industry leaders and observers:

◆ “You cannot get one nickel for commercial flying,” claimed Inglis M. Uppercu, founder of Aero-marine West Indies Airways, the first American airline to last more than a few months, in 1923.

◆ A June 1929 issue of *Airports Magazine* published excerpts from a paper on the Architectural Treatment of the Modern Airport, presented by architect Francis Keally at the First Annual Airport Convention. “Aviation is the great transportation method of the future. We must look at it that way...to avoid

In the 1950s, the first-class lounge of a Boeing 707 was a fashionable way for the “jet set” to travel.



PHOTOS: ARTHUR S. SIEGEL, OFFICE OF WAR INFORMATION, FARM SECURITY ADMINISTRATION

Commercial aviation derived benefits from the war efforts in the 1940s. (Above and below:) Michigan Air National Guard operations at the airport in Wayne County, Michigan—now Detroit Metropolitan Wayne County Airport; parts of the original runway remain as taxiways.





Wilbur Wright runs alongside the airplane piloted by his brother Orville at the world's first flight in Kitty Hawk, North Carolina, in 1903, launching "one of the greatest cultural forces since the development of writing."

The control tower of Dulles International Airport under construction in 1962. Dulles was described in contemporary news articles as the "Gateway to the Jet Age."



PHOTO: WARREN K. LEFFLER, LIBRARY OF CONGRESS PRINTS AND PHOTOGRAPHS DIVISION

mistakes in the planning of airports," Keally advised. "It may well be that the activities of the airport will become so important that an entire community will develop around it."

◆ A 1930 advertisement by Curtiss-Wright Airports Corporation, with the headline, "The Airport....Key That Opens the Sky Lanes to Commerce," stated: "The pioneering has been done. Oceans have been crossed...continents have been spanned. The air mail is an accepted fact...transcontinental air-rail lines run on regular schedule....Air transportation has proved itself. All that remains is to amplify, to extend, to make readily available....But the ship that takes the sky must always be able to come down....in safety. Aviation can grow no faster than the airports the country provides."

◆ "Not looking far enough ahead is one of the errors we've been making through the history of commercial aviation," observed Federal Aviation Administrator Elwood (Pete) Quesada in an August 15, 1960, *Time* article on Dulles Airport, described as the "Gateway to the Jet Age."

◆ Commenting on the introduction of the jet aircraft, Pan American World Airways founder Juan Trippe enthused, "This is the most important aviation development since Lindbergh's flight. In one fell swoop, we have shrunken the earth."

◆ "Deregulation will be the greatest thing to happen to the airlines since the jet engine," opined Richard Ferris, CEO of United Airlines, in 1976.

◆ "I really don't know one plane from the other," admitted Alfred Kahn, Chairman of the Civil Aeronautics Board, in 1977. "To me, they are just marginal costs with wings."

◆ "The worst sort of business is one that grows rapidly, requires significant capital to engender the growth, and then earns little or no money," wrote Warren Buffett, in his annual letter to Berkshire Hathaway shareholders in 2008. He continued: "Think airlines. Here a durable competitive advantage has proven elusive ever since the days of the Wright Brothers. Indeed, if a farsighted capitalist had been present at Kitty Hawk, he would have done his successors a huge favor by shooting Orville down."

Future Visions

A *USA Today* article on commercial aviation's centennial asked several prominent industry leaders for their insights on the future (4). Following are two responses:

◆ "I have no doubt that during my lifetime we will be able to fly from London to Sydney in under 2 hours, with minimal environmental impact. The awe-inspiring views of our beautiful planet below and zero-gravity passenger fun will bring a whole new meaning to in-flight entertainment," said Sir Richard Branson, president of Virgin Atlantic Airways.

◆ Ben Baldanza, CEO of Spirit Airlines, observed: "Google's 'put me there' technology implemented into its maps software renders all airlines obsolete."

When TRB was formed out of its predecessor Highway Research Board in 1974, aviation research became part of the expanded mission. Aviation has grown into a vibrant component of TRB, with nine standing committees pursuing a range of research subjects, many closely tracking airline industry issues. TRB's aviation work has expanded substantially with the creation of the Airport Cooperative Research Program in 2005. Whatever the next 100 years may bring in aviation, TRB will have a part in it.

References

1. Passenger Demand Maintains Historic Growth Rates in 2013. Press release, International Air Transport Association, February 6, 2014. www.iata.org/pressroom/pt/Pages/2014-02-06-01.aspx.
2. *FAA Aerospace Forecast: Fiscal Years 2014–2034*. Federal Aviation Administration, Washington, D.C., March 2014. www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/aerospace_forecasts/2014-2034/media/FAA_Aerospace_Forecasts_FY2014-2034.pdf, p.42.
3. Aviators: The Wright Brothers: A Pair of Self-Taught Engineers Working in a Bicycle Shop, They Made the World a Forever Smaller Place." *Time*, March 9, 1999. <http://content.time.com/time/magazine/article/0,9171,990611,00.html>.
4. Mayerowitz, S. The Future of Aviation: Airline Leaders' Predictions. *USA Today*, January 1, 2014. <http://www.usatoday.com/story/travel/flights/2014/01/01/future-of-aviation-airline-ceos-predictions/4267643/>.