

**Before the Committee on Small Business  
United States House of Representatives**

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**FAA's 2020 NextGen Mandate:  
Benefits and Challenges for General Aviation**

**Statement of  
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**Representing the Aircraft Owners and Pilots Association**

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Chairman Graves and Members of the Committee:

I am Bob Hepp, Owner of Aviation Adventures.

Aviation Adventures is a highly regarded flight school with locations in Manassas, Warrenton, Stafford, and Leesburg, Virginia. Our staff of 41 employees provides flight instruction at all levels from initial training through the Airline Transport Pilot certificate. We also provide rental aircraft to certificated pilots.

I started Aviation Adventures in 1989 with one aircraft and myself as the only instructor. Today we have 39 aircraft and are known as the premier flight school in Virginia and the leader in providing training in Technologically Advanced Aircraft.

I am also representing the Aircraft Owners and Pilots Association (AOPA) of which I have been a member since 1981. AOPA is a not-for-profit individual membership organization representing more than 350,000 members nationwide. AOPA's mission is to effectively represent the interests of its members as aircraft owners and pilots concerning the economy, safety, utility, and popularity of flight in general aviation (GA) aircraft.

My testimony today will cover the following key points:

1. The General Aviation community has long supported the move from ground-based to satellite-based navigation. However, at this time, the benefits associated with the FAA mandate are inadequate and unclear for general aviation users.
2. The FAA's mandate to equip for ADS-B (Automatic Dependent Surveillance - Broadcast) Out by 2020 is costly and will be prohibitive for most small flight schools, businesses utilizing aircraft, and recreational aviators.
3. Providing low-cost guaranteed loans for GA equipment and leveraging existing cockpit technologies, such as handheld devices, can help move NextGen modernization forward without imposing unmanageable burdens on small aviation businesses.

### **General Aviation**

As pilots flying in the United States, we are fortunate to have access to the safest and most efficient air transportation system in the world. The aviation network of 5,200 public-use airports, complemented by the more than 13,000 privately owned landing facilities is a unique national resource. General aviation is a significant economic engine that contributes approximately \$150 billion to the annual gross domestic product and approximately 1.2 million jobs in communities nationwide. Each year, 170 million passengers fly using personal aviation, the equivalent of one of the nation's major airlines.

General aviation is of special importance to small businesses, and a significant amount of all general aviation flights are conducted for business and public services. Additionally, the Small Business Administration has estimated that approximately 94% of the firms that provide cargo and passenger air transportation services are considered small businesses, as are 90% of businesses involved in the development and manufacture of aircraft and parts.

In addition to these businesses, general aviation activity directly supports thousands of small businesses from flight schools to repair shops to line operations. Thousands more small businesses of every type use general aviation to transport personnel, move products, extend their geographical reach, meet clients, provide support services, and manage distant operations.

### **The ADS-B Mandate**

Effective January 1, 2020, any aircraft operating in busier airspace where a Mode C transponder is required today, will also be required to carry an ADS-B Out transmitter. The rule does not mandate ADS-B In equipage and does not impact the current transponder requirement – meaning aircraft will continue to be required to carry their transponders in addition to this requirement for ADS-B Out equipage after 2020.

Unlike most rulemaking activities which are safety based, the basis of the mandate is to support the FAA's Next Generation Air Transportation System (NextGen). The FAA has indicated that the mandate will not greatly increase or decrease safety, but is necessary to move forward with NextGen.

### **Lack of Benefits for General Aviation Equipage**

For more than 20 years AOPA has supported the transition from ground-based infrastructure to satellite-based systems. AOPA also supports ADS-B provided it is affordable and delivers clear, tangible benefits to users. The Association is hopeful that changing technology and modifications to the implementation approach will make ADS-B more valuable to the GA community. However, at this time, it is difficult to identify adequate benefits in the current ADS-B implementation strategy.

For most general aviation pilots, there are no direct benefits of the ADS-B Out mandate. Rather, complying will simply allow pilots to continue using the national airspace system as they do today.

## **Mandate Is Costly And Could Be Prohibitive to Small Businesses**

Aviation Adventures owns and operates 39 aircraft for flight training and rental. The ADS-B mandate will require significant changes to these aircraft, including the removal of some equipment and possibly the redesign of the control panel to accommodate the new equipment.

The actual avionics required to meet the mandate would cost approximately \$5,000 per aircraft. Additional costs associated with changes to the control panel and installation of the new equipment would add approximately \$3,000 to \$4,000 per aircraft. I estimate that the total cost to equip my fleet will be \$312,000 for minimal compliance—a major investment for a small business and one many small aviation businesses will be unable to make.

I recently participated in a Flight School Conference with 88 Flight Schools in attendance. The topic of investing in avionics upgrades was part of the discussion. When the question was asked how many flight schools were profitable and could afford to invest in new avionics, representatives of only three schools indicated they were ready to make such an investment.

Unlike investing in adding aircraft or facilities, the money spent on ADS-B Out equipment will not bring a return because it will not increase our customer base, allow us to serve more clients, provide new capabilities, or otherwise help grow the business.

For that reason alone, it is not a sound business decision to equip early since there will be no return on investment.

Continuing uncertainties about exactly what the FAA will ultimately require to fulfill the mandate further reduces the incentive to equip the aircraft in advance of the mandate. Business owners are reluctant to make a large investment in new equipment when that equipment may ultimately not meet FAA requirements.

The tendency of technology prices tend to drop significantly over time also serves as a disincentive to equip early. Anyone who purchased a large flat screen television a few years back is familiar with this phenomenon. A television that I purchased a few years ago when the technology was relatively new cost \$3,000. Today, the same television can be purchased new for just \$800. Similar trends apply in avionics. We have already seen a decrease in prices for ADS-B equipment since the mandate was finalized in 2010. It is in the interest of business owners to wait for further price drops before investing in new equipment.

## **Loans and Existing Technology Can Help Move NextGen Forward**

Because of the high cost and low return on equipping for the 2020 mandate, general aviation operators need assistance to equip. The establishment of a fund to provide low-cost, federally guaranteed loans to equip GA aircraft could provide the financing needed to help the GA community meet the mandate.

At the same time, maximizing the utility of existing cockpit technology can help move NextGen modernization forward without imposing unmanageable hardships on general aviation operators.

Handheld devices can provide ADS-B In information, significantly enhancing safety at nominal cost. Many aircraft operators are already using these handheld devices in the cockpit, and the same devices could be used to provide ADS-B Out.

By focusing on providing added capabilities to GA operators using existing cockpit equipment, the FAA could increase operational efficiency. Providing precision approaches to airports that don't already have them would allow pilots to make all-weather use of airports that do not currently have that capability. Offering surveillance outside of the existing radar footprint would increase safety for operators flying at low altitudes and outside of large airports. Additional capabilities could include more efficient point-to-point navigation and better routing through congested airspace. Together, these capabilities can boost general aviation use and the resulting economic impact by saving fuel and time, increasing safety, and lowering the cost of flying.

## **Conclusion**

In conclusion, I believe the current ADS-B Out mandate fails to provide the needed benefits and support for general aviation operators and businesses to equip. At the same time, there are a number of steps the FAA can take to move NextGen modernization forward while promoting safety, encouraging general aviation activity, and reducing the burdens on small general aviation businesses.

By creating a fund to provide low-cost guaranteed loans and leveraging existing equipment to provide benefits like improved point-to-point navigation, extended surveillance, and precision approaches at airports not currently served, the FAA can take advantage of the equipment already in cockpits, keep NextGen moving forward, and help GA businesses thrive.

On behalf of the 41 employees of Aviation Adventures and the more than 350,000 members of AOPA, we appreciate your leadership in addressing the concerns of the general aviation industry so that it can continue to help small businesses nationwide grow and thrive.

Thank you for the opportunity to appear before this Committee.