

At any given time in America's skies, there are more than 6,000 planes in the air—and in a given day, as many as 55,000 find their “lane in the sky.” With numbers like these, it's no surprise there are so many air traffic delays. But that doesn't mean things won't improve. In 2005, the Federal Aviation Administration (FAA) approved Automatic Dependent Surveillance-Broadcast (ADS-B) for use throughout the national airspace system. Using precise location data from the global satellite network, instead of the current outdated radar and analog radio technology, ADS-B has been billed as a crucial piece in solving the air traffic puzzle. With ADS-B destined to be the new standard in air traffic management, we asked three air traffic experts to scan the skies and tell us:

Will ADS-B improve air travel over the next 20 years?



Frank Ayers
Chairman,
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→ **ADS-B will** increase the capacity of the system and the awareness of where all the aircraft are and where they are going, in real time. That will also increase the safety of the system, so it's a win-win for pilots and air traffic managers.

On the other hand, all the airplanes are trying to get into the same limited set of runways, so until there are more destinations for people to go to, there still will be a limit on how much ADS-B can increase capacity.

There may be an intermodal answer to this. We normally transfer from airplane to airplane, but certainly a system of smaller feeder airports that feed [passengers] by light, high-speed rail to a hub airport for larger aircraft might be a very useful way to increase capacity. Solutions to delays and wait-time issues will require “out of the box” thinking on how to integrate the entire intermodal transportation system to allow ADS-B to make things more efficient.



PHOTO BY: ZACH MAHONEY



Sid McGuirk
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→ **It's absolutely** essential that we transition to ADS-B. From a controller perspective, I think you will be able to see the difference in the current standard of separation [between aircraft], which, with current radar, is five miles in the enroute environment and three miles in the terminal environment. With ADS-B, you're within three or four meters from where the ADS-B says you are supposed to be. The separation standards will be reduced and we'll be able to put more

planes into the sky. Hopefully, all of these horrendous delays you read about on a daily basis may be diminished somewhat.

Counterbalancing that is the fact that we're building more very light jets (VLJs) every day and no one is building any more airspace. As we crank out VLJ after VLJ and don't crank out any more airspace—or put down any more concrete so these planes can land—the congestion will probably continue, even though we are able to reduce the separation level.



Mark D. Ward ('94, WW)
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→ **What ADS-B** will do for the air traffic industry, especially in close-proximity situations, is allow pilots and controllers to work together to make decisions that positively affect air safety.

In the NextGen—we're talking the year 2016 and beyond—controllers will manage the operation instead of control it. Pilots will have more interaction with the controller. For example, a pilot will

be able to say to the manager, “I see you have a lot of traffic here...how about I do this?” ADS-B will allow controllers and pilots to partner in managing air traffic.

I think that for both the pilot and the controller, especially the air traffic manager of the future, having a partnership and being able to know what's going on in the system can't be a bad thing. That can only be positive.

DID YOU KNOW?

Embry-Riddle's fleet on both campuses has been equipped with ADS-B (pictured above) since 2003, four years in advance of the FAA's approval.