



**U.S. SENATE COMMITTEE ON  
COMMERCE, SCIENCE & TRANSPORTATION**  
*Senator Maria Cantwell, Chair*

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**U.S. Senator Maria Cantwell**

**Senate Committee on Commerce, Science, and Transportation Hearing:  
“Strengthening the Aviation Workforce”**

**Thursday, March 16, 2023**

**Opening Statement**  
**[VIDEO](#)**

Yesterday, at the FAA Safety Summit there was agreement that there has been an uptick in safety incidents, from near-misses to runway incursions. Among the critical action items, is ensuing that we increase training to account for human factors in the cockpit and in the control tower. We’ve always had a risk of human error, but as we bring in a new safety workforce, we must double down on the human factors and training.

We also must have the right safety equipment to identify and prevent runway incursions and near-misses. And these airport surface device detection systems that are deployed at some airports and other technologies like them can help air traffic controllers track the movement of aircraft on the ground and facilitate communications between tower and the cockpit.

These types of investments are needed for situational awareness and to prevent incidents or accidents. The FAA, I believe, must move forward with these safety upgrades.

As Captain Jason Ambrosi can tell us, this means having also enough qualified and talented individuals, trained with the most up-to-date expertise, in every workgroup, not just pilots.

The FAA workforce must keep pace too. And that's what we're here to discuss this morning. We must continue to invest in an FAA that has 45,000 employees, including 14,000 air traffic controllers, 5,000 flight standards workers and 1,500 aircraft certification personnel. So I look forward to hearing from David Spero, representing the FAA safety professionals on this issue.

And from airlines to airports to aerospace manufacturing, Americans go to work each day basically depending on these individuals.

According to the FAA, aviation contributed to more than 5 percent of our GDP, \$1.9 trillion in total economic activity, and supported 11 million jobs. The subcommittee ranking member, Senator Moran, knows this well. He and I work on a lot of issues trying to train and scale a workforce for tomorrow.

And as this footprint continues to grow we see the economic opportunities for our nation. According to the Department of Transportation, the U.S. airline industry employed 787,328 workers in January 2023, nearly 8% more than in the pre-pandemic time period of 2019.

The U.S. aircraft manufacturing sector is expected to hire more than 10,000 workers in 2023 as production increases, continue to rise. And careers in this field offer highly skilled, good-paying jobs, with an average salary of over \$106,000, about 40 percent above the national average, according to the Aerospace Industries Association.

So we're proud of the talented workforce, particularly in my home state. The State of Washington is home to more than 130,000 aerospace workers and the supply chain that works with more than 1,500 suppliers.

With post-pandemic aviation growth, we face new challenges and we need to develop a pipeline of qualified workers to replace those who either retired or voluntarily left the workforce during the COVID-19 pandemic. Over the next 20 years, to meet projected growth in commercial aviation, we will need 128,000 pilots, 134,000 maintenance technicians and 173,000 crew members in North America alone.

So big opportunities for us to skill and train a workforce for the jobs of tomorrow that are already here today.

I look forward to hearing from our witnesses about how we can expand access to aviation jobs for all parts of America.

Now more than ever, we cannot afford to leave good talent on the table. Dr. Becky Lutte will tell us that women and people of color and how they are still underrepresented in aviation careers and that bridging this gap is key to ensuring we have a strong aviation system. And certainly, making education and pilot access to that diverse workforce more affordable so that they can get this skills set of the future.

Women represent roughly 5% of airline pilots and less than 12% of aerospace engineers yet make up 47% of the total U.S. workforce. So we got to bridge the gap and I look forward to hearing from our witnesses today.

I want to thank Ms. von Muehlen for being here from Alaska Airlines. We talked last week and she had a very compelling story about her own career and what they are trying to do to [close] the gap locally in the Pacific Northwest.

According to the Bureau of Labor Statistics, less than 15% combined of pilots and engineers are Black, or Hispanic, or Asian.

And we are going to hear about what we can do to build this pipeline for the future.

The cost of flight education, as I mentioned, is one of those barriers. A traditional four-year institution can range past \$100,000, subject to rising tuition fees. And that is why we should consider policies that will help drive down those costs and get more students into the aviation talent pool.

In 2018, we led efforts here on an FAA grant program to help develop a more inclusive talent pool of aviation pilots and aviation technicians.

And today, I have letters for the record from two recipients of the 2023 FAA workforce grant in the State of Washington – Aviation Technical Services, Inc. in Everett and Red-Tailed Hawks Flying Club in Mukilteo, part of the Black Pilots of America.

This funding will help Aviation Technical Services, Inc. develop and train new airframe mechanics and support military veterans transitioning to the civilian workforce.

And it will enable the Red-Tailed Hawks Flying Club to help underserved and underrepresented students access aviation education.

These Washington-state organizations are training the next generation of aviation professionals and Congress should consider ways to build up this successful program.

I think we'll also hear about how the ROTC can play a very vital role too. And we should consider that.

Strengthening our aviation workforce, having the right people, having the right skillsets, making safety in aviation the number one priority, that is what we're here to discuss this morning. Thank you again to our panelists.

## Q&A Portion

### [VIDEO](#)

#### **Witnesses:**

**Constance von Muehlen, Executive Vice President and Chief Operating Officer, Alaska Airlines**  
**Capt. Jason Ambrosi, President, Air Line Pilots Association, International**

**Senator Cantwell:** Thank you Madam Chair. This is such an important issue. It wasn't what I was going to ask questions about, but I do want to bring up the point.

I mean, this committee just passed a major infrastructure investment bill and the CHIPS and Science Act and it is about allowing innovation to happen in more places than just San Francisco and Seattle. It is about the unleashing of the innovation economy across the United States.

Well, I guarantee you, you have to have airports, some number, and it's a high number. It's like 80% of all economic development happens within 10 miles of an airport.

So, we're going to figure out how to get this and, I don't know that it's going to be all essential air service, I don't know. But Wenatchee deserves to have air coverage and so do other places throughout the United States that represent these markets.

Wenatchee is our apple economy, and they have to have coverage and so do other places. I don't know if my colleague Senator Thune has been here but he's been big on this, and so we can't let what I would call key economic engines at smaller airports across the United States be strangled because of the pilots. We've got to figure out a solution.

Captain Ambrosi, I did want to ask about yesterday and what happened at the FAA safety summit that was held. The NTSB is investigating six close calls at runways around the country, and investigating two wrong-way landings [since the start of this year], and two separate severe turbulence incidents in the same day in Hawaii last December. We heard from NTSB Chairwoman Homendy about what she's referring to.

One of the things the Committee also did in the safety bill was to say we want trend reports. We want to know, we want to understand the trends so that we can do our oversight job.

So what NTSB is saying is that there are open FAA issues...that are recommendations about what should be implemented because of these troubling patterns of near misses.

For example, NTSB has called for an expanded use of technology, Airport Surface Detection Systems, which is Model X (ASDE-X) or Airport Surface Surveillance Capability (ASSC), which helps the air traffic controllers track the movement of aircraft

and vehicles that could interfere with runway operations. It also alerts controllers when a plane – is lining up on to land on a taxiway instead of a runway. They get an alert.

This technology is currently used at 44 airports across the country, including at JFK where the ASDE-X helped avoid a collision on January 13. So we have this technology at SeaTac, and since its implementation since 2018, it's prevented pilots from mistakenly landing in the wrong direction [or place]. This is according to data on 50 different occasions. So I wanted to ask you, Captain Ambrosi, do you believe that implementing the NTSB recommendations for runway safety technology could enhance safety at airports? Yes or no?

**Captain Ambrosi:** Yes, there's no doubt. It's, it's related to funding.

**Senator Cantwell:** So should we establish a requirement for airplanes landing at primary airports to be equipped with systems that alert pilots when an airplane is not aligned on the runway surface? Yes or no?

**Captain Ambrosi:** There's so many advancements in technology. Pilots embrace technology. So anything that helps make our job safer, we absolutely support.

**Senator Cantwell:** Mandate technology for cockpit systems that provides and alerts pilots when an airplane is not aligned with the intended runway surface for airplanes landing at primary airports. Yes? Okay, thank you.

So I think I think this is where we are. Requiring all airports with scheduled passenger service the ground movement safety system that will prevent runway incursions and provide direct warning capabilities to flight crew?

**Captain Ambrosi:** Yes, again, it's related to funding. We support broad based funding to the FAA. It's not just these specific items, they have a long-term plan. They need funding for National Airspace improvements. We have all these new operators coming in with UAS. It's a broader topic than just ground surveillance. But that's a start. Absolutely.

**Senator Cantwell:** Well, I think what we're seeing here and feeling across these many stories, is that we have to have the highest safety standards, and we have to have the investment in modern equipment that is going to give us those safety standards.

**Captain Ambrosi:** Absolutely.

**Senator Cantwell:** So that is what we are going to be pushing for here.

I also wanted to ask, you know, specifically, you know, on the workforce side, my colleague here who's chairing our hearing this morning, has the Troop Talent Act. I wanted to ask Ms. von Muehlen about what Alaska has been doing to ready to get that workforce.

But what I feel like we need to do is - we're almost there, we're not quite there, there's still something missing between DOD and commercial carriers on how to take this workforce and get them delivered.

**Ms. von Muehlan:** Senator absolutely. Streamlining the pipeline is essential with regards to certification, for example, but also expanding the GI Bill to support more careers in aviation and specifically pilots. Increasing the funding in that area would be beneficial to facilitate that transition.

**Senator Cantwell:** I'm going to let Senator Duckworth talk a little bit more about her experience for the record. I really want it on the record.

But she's saying, as a military person, she got the training that was consistent with what would give her the education on the outside while she was in the military.

So now, as I believe as these people come out, they don't have that relevant - it's doesn't translate. And then we're doing an FAA one-off certificate for every single person to see if they qualify or not qualify. We need a more standardized system.

But one of the reasons why I support Phil Washington is because I feel like he's not going to go along with a group think of everything's okay. He's someone coming from the outside.

But on this issue of workforce, which is the issue here, and as the issue at large in the FAA, I feel like at his hearing he talked about this was one of his main objectives, which I was glad to hear. I feel like this is our best shot right now at a workforce is to get the DOD people that are practically trained to get the training, whatever it is, so that they can move into the commercial space. Is this our best opportunity?

**Ms. von Muehlan:** I think absolutely. What I was referring to is people who are not yet pilots in the military, benefiting from GI loans to become a pilot outside of the military. But yes, Senator.

**Senator Cantwell:** Yeah. Okay great. And Captain Ambrosi do you support Mr. Washington?

**Captain Ambrosi:** Thank you for the question. The FAA needs long-term stable leadership. I've had a conversation with Mr. Washington. I would like to say I appreciate his commitment to safety, his commitment to standards, and his commitment to keeping pilots in the flight deck. I believe that that Mr. Washington can be an effective FAA administrator.

**Senator Cantwell:** Great, thank you. Well, thank you very much for the hearing, Madam Chair, I think we have a lot of work to do. The witnesses have given us a lot of thought.

Look, this is a problem we can solve. But as you said, we can't lower the standards and, in many cases, I think we've seen here that we need to raise the standards.

But we have to figure out how to build this pipeline more successfully, and give American cities really access to good aviation access so that they can continue. It can't be held hostage to an airline that just wants to pay dividends. We have to get the system right and get air transportation right and that'll help America overall.