January 2021 Women in Aviation Advisory Board (WIAAB) Meeting

AGENDA Dr. Heather Wilson, WIAAB Chair, and Angela Anderson, Designated Federal Officer

Hosted at: Virtual Platform (Zoom)

Date: Thursday, January 14, 2021

Time: 9:00 a.m. to 3:30 p.m. EST

Objective: Receive updates from the four subcommittee chairs on the work completed to date and what they see as their way ahead.

Time	Торіс	Facilitator
9:00- am – 9:05 am	Call to Order	DFO
9:05 am – 9:10 am	Welcome Remarks	WIAAB Chair
9:10 am – 9:15 am	Welcome Remarks	DOT
9:15 am – 9:20 am	Open Meeting	WIAAB Chair
9:20 am – 10:05 am	 Understanding the Problem/Identify Industry Trends Speakers: Constance von Muehlen - Senior Vice President of Maintenance & Engineering; Alaska Airlines - Identifying the number of women in aviation occupations, including senior leadership positions, to better understand the areas of greatest gender gap. Tammie Jo Shults - Captain (retired); Southwest Airlines - Factors/barriers that directly or indirectly discourage women from pursuing careers in aviation. Bobbi Wells - Vice President for Safety and Airworthiness; FedEx Express - Factors that directly or indirectly encourage women to pursue careers in aviation. Maryanne DeMarco - Executive Director, Coalition of Airline Pilots Associations - 	WIAAB Subcommittee Chair

	Impact of these factors on the education, training, mentorship, outreach, recruitment, and retention of women in aviation.	
10:05 am – 10:50 am	 Training/Recruitment Speakers: Lindsey Dreiling, Executive Director of Aviation Strategy, Kansas State Polytechnic - Identify opportunities to attract a variety of age groups to aviation by fueling their interest Kriya Shortt, Senior Vice President, Global Customer Support, Textron Aviation - Engage and inspire youth through industry influencers and organizations Tracy Miller, President, Mid-Atlantic Aerospace Complex - Identify educational aviation focused curriculum to be used in primary education Suzanne Markel, President and Chief Executive Officer, Pittsburgh Institute of Aeronautics - Establish traditional and non-traditional post-secondary educational aviation pathways Stacey Rudser, National Board of Directors, Association for Women in Aviation Maintenance - Promote and provide financial assistance through scholarship and grant opportunities Kate Gebo, Executive Vice President, Human Resources and Labor Relations, United Airlines - Expand post-educational opportunities through internships, apprenticeships and industry partnerships Karrie Dixon, Chancellor, Elizabeth City State University – Maximize retention by closely mentoring students in aviation focused career training 	WIAAB Subcommittee Chair
10:50 am – 11:00 am	Break	
11:30 am – 11:45 am	 Mentoring/Professional Development Speakers: Martha Morris, First Officer, JetBlue Airways - Creation of a "best in class" database of scholarship opportunities and need to share across industry and organizations Jean Lydon-Rodgers, President and Chief Executive Officer, GE Aviation Services and Kandy Bernskoetter, National Membership Committee Chairman, ALPA - Definition of ideal mentor and sponsor relationships and creation of guidelines to foster success in those relationships 	WIAAB Subcommittee Chair

11:45 am – 12:45 pm 12:45 pm – 1:30 pm	 Candace McGraw, Chief Executive Officer, Cincinnati/Northern Kentucky International Airport - Identification of the gaps in and benefits for professional development across the continuum of career Kelly Jost, Managing Engineer, C&S Engineers, Inc Recommended methods of communicating our findings to interested entities within aviation and aerospace Lunch Models and Success Stories Speakers: Elise Eberwein, Executive Vice President of People & Communications; American Airlines & Laura Jones, Executive Director and Founder; Flight Club 502 – Individual Success Stories René Banglesdorf, CEO & Co-Founder; Charlie Bravo Aviation, Allison McKay, CEO and President; Women in Aviation & Pamela Williams, Human Resources Board of Directors; Organization of Black Aerospace Professionals – Successful Programs and Outreach Kate Fraser, Head of Safety for Joby Aviation; National Business Aviation Association – Data Gathering 	WIAAB Subcommittee Chair
1:30 pm – 2:30 pm	Subcommittees Open Discussion	WIAAB Chair
2:30 am – 2:40 pm	Break	
2:40 pm – 2:45 pm	Public Speakers	WIAAB Chair
2:45 pm – 3:30 pm	Other Business and Action Item Review	WIAAB Chair
3:30 pm	Adjourn	WIAAB Chair and DFO

The WIAAB agenda and other relevant information is available on the <u>FAA's committee website</u>.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Meeting Minutes

Date:	Tuesday, 8/11/2020
Time:	09:00AM to 03:45PM Eastern
Location:	Virtual
Recording:	Women in Aviation Advisory Board Recording, Part 1
	Women in Aviation Advisory Board Recording, Part 2

Women in Aviation Advisory Board (WIAAB) Members:

WIAAD Mombon	Attendance at the 08/11/2020
WIAAB Member	Meeting
Rene Banglesdorf	Present
Crystal L. Barrois	Present
Kassandra "Kandy" Bernskoetter	Present
Maryanne DeMarco	Present
Dr. Karrie Dixon	Present
Dana Donati	Present
Lindsey Dreiling	Present
Elise Eberwein	Present
Kathryn P. Fraser	Present
Kate Gebo	Present
Patricia Gilbert	Present
Lauren Lacey Haertlein	Present
Laura Jones	Present
Kelly Jost	Present
Dr. Rebecca Lutte	Present
Jean Lydon-Rodgers	Present
Suzanne Markle	Present
Candace McGraw	Present
Allison McKay	Present
Tracy Miller	Present
Martha Morris	Present
Constance von Muehlen	Present
Stacey Rudser	Present
Kriya Shortt	Present
Tammie Jo Shults	Present
Amy Spowart	Present
Bobbi Wells	Present
Pam Williams	Present



08/11/2020 WIAAB Virtual Meeting • Washington, DC

WIAAB Member	<u>Attendance at the 08/11/2020</u> <u>Meeting</u>
Beth Wilson	Present
Dr. Heather Wilson	Present

Non-Board Member Presenters:

Name	Affiliation
Elaine Chao	Secretary, United States Department of Transportation (US DOT) (presented via video recording)
Daniel Elwell	Deputy Administrator, Federal Aviation Administration (FAA)
Alexandra Randazzo	Office of Chief Counsel, FAA
Angela Anderson	Designated Federal Officer (DFO) for the WIAAB; Senior Advisor to the Assistant Administrator of Human Resource Management, FAA

Meeting Summary

The objectives for the meeting were as follows:

- Establish a WIAAB baseline
- Introduce members and discuss their interest in WIAAB
- Provide an overview of Federal Advisory Committee Act (FACA) (including roles and responsibilities)
- Discuss governance

Prior to the official start of the meeting, the FAA officials shared that the meeting was being livestreamed. The video will be posted online along with relevant meeting materials.

Angela Anderson, WIAAB DFO, opened the first meeting at 09:00AM on August 11, 2020.

Dan Elwell, FAA Deputy Administrator, gave his opening remarks and thanked board members for joining the first WIAAB. He highlighted the importance of the Board to the future of the industry and emphasized the top priorities for the WIAAB going forward.

Deputy Administrator Elwell then gave a brief description and introduction of US DOT Secretary Elaine Chao. The Board watched her welcome message video. Secretary Chao thanked board members and WIAAB chair Heather Wilson for serving on the Board. Secretary Chao outlined the industry workforce needs and pointed to the role of the Board in identifying industry trends and providing solutions.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Deputy Administrator Elwell then introduced and provided background on Dr. Heather Wilson, WIAAB Chair and President of University of Texas at El Paso. Dr. Wilson stated that the goals of the meeting were to understand the problem and then organize the Board to produce results.

DFO Anderson then provided welcoming remarks and outlined what is required by FACA.

Dr. Wilson suggested a shift in the meeting agenda to provide time for board members to introduce themselves after DFO Anderson shared the FACA statement and Alexandra Randazzo from the FAA Office of Chief Counsel gave an abbreviated version of the FACA requirements.

Dr. Wilson invited board members to introduce themselves, then provide background and goals in joining the Board. After introductions finished, the Board took a 10-minute break.

Dr. Wilson outlined the program plan and scope of the work, centered around the report due to Congress and the administrator. She then opened the floor for discussion, comments, and questions regarding the program plan.

Dr. Wilson outlined the four subcommittees that comprise the Board. Each subcommittee chair then read their draft mission statement. The floor was opened for discussion involving suggestions and changes to the statement's verbiage and subcommittee goals. The meeting then broke for lunch.

Dr. Wilson introduced the first panel, which discussed relevant research associated with understanding the problem and identifying industry trends. After the panel finished presenting their research, the floor was opened for discussion. After the first panel ended, the Board took a 15-minute break.

Dr. Wilson introduced the second and concluding panel, which discussed relevant industry perspectives associated with understanding the problem and identifying industry trends. After the panel finished, the floor was opened for discussion. Following the second panel, Dr. Wilson stated her action items from the meeting.

Dr. Wilson opened the floor for discussion to address any lingering questions or additional topics. Dr. Wilson then gave closing remarks and the meeting concluded.

Detailed Minutes

DFO Opening Remarks

DFO Angela Anderson started her opening remarks by welcoming everyone to the first WIAAB meeting. She mentioned that the meeting is being held on Zoom and streamed on FAA's YouTube, Facebook, and Twitter livestreams. DFO Anderson advised any reporters tuning into the livestreams that all discussions were for background only. She then introduced Deputy Administrator Dan Elwell for his opening remarks.

Deputy Administrator Opening Remarks

Deputy Administrator Elwell began his opening remarks by thanking everyone for joining the first WIAAB meeting. He emphasized the importance and benefits of a diverse workforce. He shared that the

08/11/2020 WIAAB Virtual Meeting • Washington, DC

industry workforce should reflect the face of America, draw from a broad pool of individuals, and knock down any barriers that come in the way of diversity. He stated that a challenge to this notion is the underrepresentation of women in the aviation field. He highlighted that the Board members have the experience and perspectives to help encourage and inspire young women to pursue careers in aviation. Mr. Elwell pointed to how one of the main characters on the TV series *The X-Files* inspired a generation of young girls to pursue careers in science, medicine, and law enforcement, and inquired how the Board could create a similar effect. He outlined many of the questions surrounding the lack of women in the aviation field and underlined how the WIAAB is well-equipped to help. Mr. Elwell then introduced DOT Secretary Elaine Chao before her welcome video was played. He highlighted that Secretary Chao is the first Asian-American woman to be appointed to the President's Cabinet in American history, and that she previously served as the nation's Secretary of Labor under a previous administration and has had a distinguished career in transportation's public and private sectors. Secretary Chao's welcome video was then played.

Secretary Elaine Chao Welcome Video

U.S. DOT Secretary Elaine Chao thanked members for serving on the Board and highlighted Dr. Heather Wilson's lifetime of leadership as President of the University of Texas at El Paso, a former member of congress, former Secretary of the Air Force, and captain in the Air Force. Secretary Chao then stated that there are over 10,000 women working for FAA and touched on the excellent opportunities for women in the aviation industry, especially in leadership positions. She pointed to Teri Bristol, the Chief Operating Officer (COO) of Air Traffic Organization (ATO), as an example. Secretary Chao stressed that the industry needs workers in a multitude of positions, including medical and legal. She stated that the Board can help identify industry trends that encourage or discourage women from pursuing careers in the industry. The Board can advise on creating more career support systems for women through networking, mentoring, training, and scholarships. Secretary Chao stated that DOT has invested in the development of future women leaders. Through programs like the Women and Girls in Transportation initiative, they offer internship opportunities to help young women enter the industry. Secretary Chao closed the message by saying that the Department is looking forward to the Board's recommendations, and thanked members again for serving.

WIAAB Chair Introduction

FAA Deputy Administrator Dan Elwell gave an introduction for Dr. Heather Wilson as the WIAAB Chair. Mr. Elwell underscored Dr. Wilson's accomplishments as the President of the University of Texas at El Paso, a former secretary of the U.S. Air Force, the former President of the South Dakota School of Mines and Technology, a former Congresswoman for New Mexico for 10 years, a former senior advisor in the defense and scientific industry, and a former President of Keystone International. Mr. Elwell also stated that she graduated from the U.S. Air Force Academy in the third class to admit women, and earned her Masters and Doctoral degrees in International Relations from the University of Oxford as a Rhodes Scholar before giving her the virtual floor.

Dr. Wilson thanked Deputy Administrator Elwell and the Board for committing their time and talents over the next 18 months. She highlighted the importance of professional and personal commitments to encourage the next generation of women to pursue careers in aviation, and to identify and systematically

08/11/2020 WIAAB Virtual Meeting • Washington, DC

eliminate barriers for women's participation. Dr. Wilson stated that in the meeting, the aim was to identify the problem and organize themselves to provide solutions. She said that the Board owes FAA and DOT their best judgement. The Board is not part of the federal bureaucracy and members are drawn from all over the country to understand the problem and give their best advice. Dr. Wilson then asked Angela Anderson to introduce herself as the DFO.

Welcoming Remarks in Concert with Requirements by FACA

DFO Angela Anderson introduced herself as Senior Advisor to the Assistant Administrator of Human Resource Management at FAA and the DFO for WIAAB before reading the welcoming remarks.

The WIAAB is a newly created federal advisory committee formed in response to the FAA Reauthorization Act of 2018. Section 612 of the Act stated that the Board will present a comprehensive plan of strategies to FAA. These strategies involve: identifying industry trends; coordinating efforts with industry partners; creating opportunities to expand existing scholarship initiatives for women in aviation; and, lastly, enhancing aviation training, mentorship, education, and outreach programs exclusive to women. The WIAAB is comprised of representatives from major airline and aerospace companies, aviation non-profit organizations, aviation business associations, engineering business associations, the U.S. Air Force Civil Air Patrol, and institutions of higher education and aviation training schools.

Dr. Wilson then defined the meeting structure moving forward, shifting the agenda to give Board members the opportunity to introduce themselves. Dr. Wilson suggested that DFO Anderson read the FACA statement and then Alexandra Randazzo, the FAA Office of Chief Counsel Attorney, provide an abbreviated version of the FACA requirements training to the Board.

Required FACA Statement

DFO Anderson read the official FACA statement.

This meeting is being held pursuant to a notice published in the *Federal Register* on July 8th, 2020. The agenda for the meeting will be as announced in that notice, with details as set out in the agenda posted on the FAA committee website. I am the designated federal FAA official, responsible for compliance with the Federal Advisory Committee Act, under which the meeting is conducted. It is my responsibility to see to it that the agenda is adhered to and that accurate minutes are kept. I also have the responsibility to adjourn the meeting should I find it necessary to do so in the public interest.

FACA Requirements Training

Alexandra Randazzo, Managing Attorney at the FAA Office of Chief Counsel, then presented on the FACA requirements training, stating the following:

- 1. FACA governs the WIAAB activities
- 2. FACA dictates that:
 - a. Unless specified by law or presidential directive, federal advisory committees (FACs) must be used solely for advisory functions



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- b. Congress and the public must be kept informed of the advisory committee's purpose, membership, activities, and cost
- 3. FACA includes requirements on:
 - a. Advisory committee procedures
 - b. Meetings
 - c. Publication of notices in the Federal Register
 - d. Federal officer responsibilities
 - e. Recordkeeping
 - f. Annual reports
- 4. A charter must be filed with the agency head, the Library of Congress, the appropriate Senate/House standing committees, and the Committee Management Secretariat before a FAC can meet or take any action
- 5. Federal Register notice was required when establishing the advisory committee
 - a. Must appear at least 15 calendar days before the charter is filed
- 6. A FAC terminates two years after its date of establishment unless otherwise provided by statute or renewed
 - a. The Board will terminate upon submittal of the report to the FAA Administrator and Congress
- 7. The agency must publish a *Federal Register* notice at least 15 calendar days before the meeting, including:
 - a. Date, time, place, and purpose of meeting
 - b. Summary of the agenda, and/or topics to be discussed
 - c. A statement regarding whether all or part of the meeting will be closed
- 8. The agency, through the DFO, manages arrangements for meetings, including:
 - a. Approving and attending the meetings called
 - b. Approving the agendas of the meetings
 - c. Adjourning any meeting when he or she determines to be in public interest
 - d. Chairing meetings when directed by the agency head
- 9. The agency:
 - a. Ensures detailed minutes are kept and certified for each FAC meeting within 90 days of the meeting, including ones that are closed or partially closed to the public
 - i. The Chair must certify the accuracy of meeting minutes
 - b. Makes minutes and other documents available to the public at a single location for copying and inspection (unless related to closed/partially closed meeting)
 - ii. FACA requires the FAC reports, transcripts, minutes, appendix, working papers, studies, agenda, or other documents that were made available to or prepared for by the FAC be made publicly available, unless they are subject to a Freedom of Information Act (FOIA) exemption
 - c. Manages Committee records in accordance with General Records Schedule 6.2
- 10. The Secretary will appoint all FAC membership, including the Committee chairs, to parent committees and subcommittees
- 11. Non-voting membership designations are prohibited unless otherwise required by statute



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- 12. All nominations must be reviewed by the FAA Ethics Official for proper classification prior to submission to the Office of the Secretary
- 13. Member responsibilities include:
 - a. Prepare all committee reports, recommendations, and other similar committee work products based on FAA taskings
 - b. Attend all meetings called by the DFO
 - c. Speak with Congress and the media only in a personal capacity, not on behalf of the FAC
 - d. Do not receive or discuss information concerning the following without prior approval:
 - i. Confidential or privileged commercial or financial information or trade secrets (FOIA Exemption 4)
 - ii. Information about individuals that would constitute a clearly unwarranted invasion of personal privacy (FOIA Exemption 6)
- 14. Subcommittees
 - a. FAC subcommittees must report back to the parent committee and must not provide advice or work products directly to the Agency or to another subcommittee
 - b. Subcommittees must be created by the FAA Administrator
 - c. Subcommittees are not subject to the following requirements:
 - i. To hold public meetings (unless determined otherwise by the Agency)
 - ii. To announce meetings in the Federal Register
 - iii. To take minutes and post those minutes (there are, however, other recordkeeping requirements)

Member Introductions

Dr. Wilson then provided the opportunity for the Board members to introduce themselves. Dr. Wilson read the member list alphabetically and instructed the Board members to take two minutes to introduce themselves and provide background on why they joined the Board.

- **Rene Banglesdorf** owns Charlie Bravo Aviation, which buys and sells aviation aircraft around the world. Her daughter just finished training for her commercial pilot's license. Rene has been a longtime member of Women in Aviation International (WAI) and other organizations geared towards encouraging women to make an impact in the industry.
- **Crystal L. Barrois** is a First Officer at Delta Airlines and flies 757 and 767 Boeing aircrafts. Over three years ago, she was tasked to come into management at Delta and establish a leadership development program for the future leaders of flight operation. She was also tasked to oversee the Delta Propel community and company career path programs, looking at Delta's future pilots. Ms. Barrois worked on scholarship allocation, strengthening community partnerships, and other initiatives to inspire women and minorities to explore pilot career paths. She has worked on various policy initiatives at Delta, including implementing the first Delta maternity uniform.
- **Kassandra Bernskoetter** is a First Officer at FedEx and flies the Boeing 777. She is also the membership chair for the Airline Pilots Association, which is the largest pilot union in the world, representing 35 airlines and 63,000 pilots in the U.S. and Canada. She is involved in their education committee, visiting universities and talking to students about becoming a pilot, and



08/11/2020 WIAAB Virtual Meeting • Washington, DC

serves as a subject matter expert on the new diversity and inclusion committee at the Airline Pilots Association.

- **Maryanne DeMarco** is the Executive Director of the Coalition of Airline Pilots Associations, representing over 30,000 airline pilots covering international and domestic policy. She has served on several aviation rule-making committees.
- **Dr. Karrie Dixon** is the chancellor of Elizabeth City State University, which is a Historically Black College or University (HBCU), and a constituent institution of the University of North Carolina. Elizabeth City State University offers the only 4-year degree in aviation science in the state. Their aviation science program produces graduates who focus on avionics, air traffic control, aviation management, and unmanned aircraft systems.
- **Dana Donati** is the general manager and director of academic programs at Lift Academy. After 13 years as a pilot, she left the flight deck to get into higher education with the goal of influencing more students and women to join the aviation industry. She is working with Lift Academy to remove barriers to entry by recruiting, influencing students, and reducing training costs.
- Lindsey Dreiling is the Executive Director of Kansas State University and leads the Global Aviation Initiative to promote and recruit women and minorities in aviation. She also serves as President of the Kansas Commission for Aerospace Education, is a member of the Kansas Airport Association, and is a lifetime member of Women in Aviation and the International Aviation Women's Association.
- Elise Eberwine is a former flight attendant who currently serves as Executive Vice President of People and Communication at American Airlines. She is interested in furthering corporate non-STEM careers in aviation for women, and aims to underline different roles that support aviation from the ground.
- **Kathryn P. Fraser** is Head of Safety at Joby Aviation, an aircraft manufacturer, and also represents the National Business Aviation Association. She previously worked for Uber, FAA, and the General Aviation Manufacturers Association. She has been focused on encouraging diversity in the industry.
- **Kate Gebo** works for United Airlines, leading human resources and labor relations. She is focused on increasing diversity in all aspects of aviation. She stated that it took her several conversations to realize she wanted to pursue aviation and stressed the need to start more of those conversations with youth.
- **Patricia Gilbert** is the Executive Vice President of the National Air Traffic Controllers Association (NATCA), which represents air traffic controllers, engineers, and staff specialists. She has over 20 years of experience as an air traffic controller and is excited to provide recommendations to FAA in seeking a more diverse workforce.
- Lauren Lacey Haertlein is General Counsel and Director of Safety and Regulatory Affairs for the General Aviation Manufacturers Association. She is a lawyer and pilot focusing mostly on safety and legal work. She stated that one of the best parts of her job is doing outreach for parent companies, highlighting the breadth of different careers available to women in the industry.
- Laura Jones has been flying since 1985 and has logged over 20,000 hours. She has a degree in education and has worked with her local high school, volunteering in aviation programs and



08/11/2020 WIAAB Virtual Meeting • Washington, DC

helping to craft curriculum. She started a nonprofit to better educate students and it has grown to over 200 members, 100 of whom are girls.

- Kelly Jost is a professional engineer, working for C&S Engineers, who undertakes infrastructure projects at airports. She is also the coach of the C&S Women's Network, which recruits women and brings them into leadership roles. She is part of Women in Aviation and is extremely passionate about the industry.
- **Dr. Rebecca Lutte** is an associate professor in the aviation department at the University of Nebraska at Omaha. She is also a pilot and aircraft owner, and is active in her local general aviation community. Additionally, she is representing Texans for General Aviation and is a board member of the University Aviation Association. She is specifically interested in research surrounding outreach, recruitment, and retention for women in aviation.
- Jean Lydon-Rodgers works at GE Aviation leading the after-market services business. She started her career as an engineer and was given the honor of leading the military engine division, serving U.S. military aviation needs. GE started a women's network in 1998, the purpose of which was to mentor and sponsor more women earlier in their careers and encourage them to experience the industry.
- **Suzanne Markle** is President and CEO of the Pittsburgh Institute of Aeronautics, which specializes in aviation maintenance and electronics technician training. She hopes to contribute to the strategies to recruit more women into technical positions in the industry.
- **Candace McGraw**, CEO of the Cincinnati/Northern Kentucky International Airport, is the immediate past chair of Airports Council International-North America, which represents all commercial airports in the U.S. and Canada. She is currently serving as the treasurer of Airports Council International's World Board, and is passionate about getting more women involved in aviation management.
- Allison McKay is the CEO of Women in Aviation International, which is a non-profit organization focused on bringing women into the industry and retaining them through professional development.
- **Tracy Miller** is the President of the Mid-Atlantic Aerospace Complex, which focuses on attracting and retaining aerospace jobs in West Virginia. She is the first West Virginia woman to be appointed to the West Virginia Aeronautics Commission and is excited to be part of the positive change.
- **Martha Morris** is part of the Civil Air Patrol southwest region and is representing the 60,000 Civil Air Patrol members, half of whom are youths. She's been involved in aviation from the age of 19 and is thrilled to be part of the Board.
- **Constance Von Muehlen** is the Senior Vice President for Maintenance and Engineering at Alaska Airlines. She started her career as a helicopter pilot in the US Army and is excited to help create more established career paths for women technicians and engineers. She stressed the importance of building supportive workplaces for women in the industry.
- **Stacey Rudser** is one of the few female FAA-certified Airframe and Power Plant Mechanics (A&P), and is a line maintenance supervisor for Frontier Airlines. She is also on the National Board of Directors for the Association for Women in Aviation Maintenance. She also engages in



08/11/2020 WIAAB Virtual Meeting • Washington, DC

local outreach and scholarship opportunities to introduce girls to aviation, and works with the Aviation Technician Education Council, who lobbied for the creation of the WIAAB.

- **Kriya Shortt** is the Senior Vice President for Global Distribution at Textron Aviation and sits on the leadership advisory board for the National Business Aviation Administration. She is here to help young women find their way into the industry and is passionate about maintaining a skilled workforce. Removing barriers and creating connection is her goal with the Board.
- **Tammie Jo Shults** was previously a pilot, flying Navy A7s and F18s before women flew in combat. She also mentioned her time at Southwest as a 737 pilot. She said that when the combat exclusion policy was lifted, the removal of barriers for women helped everyone. She stressed the importance of outreach to youth, saying that tools and resources should be provided as early as possible, so children are prepared for the future.
- **Amy Spowart** is the CEO and first female President of the National Aviation Hall of Fame. She stressed the importance of mentoring and establishing role models for young women.
- **Bobbi Wells** is the Vice President of Safety and Airworthiness for FedEx Express. She is the only licensed aircraft dispatcher on the Board. She is also the Director of Safety at FedEx. Ms. Wells is passionate about female leadership and is excited to bring the industry into a better position.
- **Pam Williams** is the Director for Human Resources at the Organizations of Black Aerospace Professionals and is excited to create a pathway for people to come into the Aerospace profession. She stressed the importance of accessibility and giving opportunities to women and minorities.
- **Beth Wilson** is a Museum Educator at the National Air and Space Museum and was previously a fine arts college professor. Ms. Wilson is one of the hosts for the *STEM in 30* television program produced by the museum for middle school students. She discussed her background in fine arts as being a unique way to enter the industry and underlined the importance of displaying a variety of careers in the industry.

Prior to the break, Deputy Administrator Elwell spoke about the caliber of WIAAB participants, stating that there were over 200 applicants for the Board and that the number of members was increased from 20 to 30 due to the quality of all applicants. He reflected on how fortunate he is to have met so many of the Board members prior to the establishment of the Board. Mr. Elwell mentioned the pandemic and how preparation is critical for the future of the industry. The Board then took a 10-minute break.

Program Plan

Dr. Wilson outlined the program plan and timeline. The report is due to the Administrator on November 8, 2021. Dr. Wilson emphasized the importance of getting the job done on time and figuring out the logistics behind the report (e.g., how many pages it will be, how it will be organized, what subjects need to be covered, etc.). She shared that the final report is due to the Administrator and Congress on May 9, 2022, after feedback is given on the first report. She stated that the first meeting's objective was to start understanding the problem. Dr. Wilson then opened the floor to questions and suggestions regarding the program plan.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

014

Discussion:

- 1. Constance von Muehlen underscored the importance of establishing a shared workspace to streamline the work required. Dr. Wilson agreed and made a note to prioritize the action after the meeting's close.
- 2. Martha Morris requested the date and time for future Board meetings to request off from work for those days.
 - a. Dr. Wilson said that the next meeting will be held in January and that it will likely need to remain virtual, due to the continuing pandemic. She remained hopeful for the possibility of an in-person Board meeting in May. Dr. Wilson stated another action item in identifying dates and times for future board meetings so that Board members can plan accordingly.

Subcommittee Structure (Dr. Heather Wilson, Rebecca Lutte, Amy Spowart, Beth Wilson, Dana Donati)

Dr. Wilson shifted to outlining the four subcommittees that were formed based on the tasks given by the congressional mandate. The subcommittees will be:

- Training and Recruitment
- Mentoring and Professional Development
- Understanding the Problem and Identifying Industry Trends
- Identifying Success Stories to Identify and Build on Best Practices

Dr. Wilson then opened the floor for discussion regarding the subcommittees.

Discussion:

- 1. **Question**: Kathryn Fraser asked if the FAA would help with the compilation and writing of the final report.
 - a. DFO Anderson replied that it was made clear to her that the Board would be responsible for writing the report without contracting support.
 - b. Dr. Wilson recognizes that the WIAAB does not have support from a federally funded research entity, but she believes that the Board has the expertise and tools to write the report successfully.
 - c. Amy Spowart, chair of the Mentoring and Professional Development subcommittee, shared that the subcommittee chairs have been in touch and hope to establish a universal writing formula or structure to streamline writing the final report.
 - d. Dr. Wilson stated that halfway through the WIAAB process there will be a check-in to gauge if members would like to change subcommittees and spread their expertise. She said that all subcommittee meetings would be open to everyone and that members should feel free to join any meeting they like.

Subcommittee Mission Statements—Understanding the Problem and Identifying Industry Trends

Dr. Wilson asked Dr. Rebecca Lutte, chair of the Understanding the Problem and Identifying Industry Trends subcommittee, to share her thoughts and the subcommittee's mission statement.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Dr. Lutte stated that one of the first actions in crafting the draft was to go back to the WIAAB's charter and look at the language to ensure it aligned with the committee's goals. The subcommittee's mission directly aligns with one of the tasks in the charter, which reads "Examine the industry trends that directly or indirectly encourage or discourage women from pursuing careers in aviation." Dr. Lutte outlined four tasks mentioned in the mission statement:

- Establishing how many women are in the aviation industry
- Identifying factors that directly or indirectly encourage women to pursue careers
- Recognizing the barriers or challenges for entry into the industry
- Focusing on education, training, mentorship, outreach, and recruitment of women in aviation.

Dr. Lutte then asked for input from the Board.

Discussion:

- 1. Bobbi Wells suggested adding the word "development" to the fourth task. Ms. Wells underscored the difference between "development" and "training", stating that development is more specific language.
- 2. Crystal Barrois agreed and suggested that "retention" and "promotion" should also be added because getting women to stay in the industry and promoting them to leadership roles is vital.
- 3. **Question**: Dr. Lutte asked DFO Anderson if the Board is limited by the charter.
 - a. DFO Anderson replied that the Board must remain focused on the charter but is not limited by it.
- 4. **Question**: Kate Gebo asked if there is any mention of a pay gap in the industry and said that the topic might be something to consider.
 - a. Dr. Lutte replied that the industry pay gap would fall under the umbrella of reasons that a woman might be discouraged from entering the industry. She asked that if any members have specific information on relevant areas, they share that information with her.
- 5. Rene Banglesdorf mentioned that the tech industry is researching the number of women on corporate boards, which could be another topic to explore.
 - a. Ms. Wells added that senior leadership positions would also fall into that category.
- 6. Candace McGraw shared that she thinks the Board should not lose sight of the conditions under which they are operating, alluding to Deputy Administrator Elwell's sentiment regarding the pandemic and the opportunity it offers the Board to build a better future for women in the industry.
- 7. Dr. Wilson stated that there were several good recommendations for changes to the mission statements and one of the tasks will be to update it with those changes.

Subcommittee Mission Statements—Training and Recruitment

Dr. Wilson asked Dana Donati, chair of the Training and Recruitment subcommittee, to share her thoughts and the subcommittee's mission statement.

Ms. Donati shared the mission statement.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

"The goal is to expand the minds of the youth by encouraging young women to consider aviation career opportunities through engagement and education while working to create a gender balanced workforce. Our tasks are: to identify opportunities to attract youth in aviation by fueling their interest, engage and inspire youth through industry influencers and organizations, educate our youth in aviation focused curriculum, promote and provide financial scholarship opportunities for women in the aviation industry, expand education opportunities post-graduation by removing barriers to entry such as high training cost, and mentor students in aviation-focused career training to maximize retention."

Dr. Wilson then opened the floor for discussion.

Discussion:

- 1. Stacey Rudser mentioned that identifying the most effective age group to engage with regarding aviation careers is critical. She raised the point that many of her associates who work in the industry come from aviation backgrounds, and stated that the visibility of aviation professionals and the inclusion of people like high school guidance counselors will be a key component in the Board's success.
- 2. Kathryn Fraser reinforced Ms. Rudser's point, saying that she was unaware of her local college's aviation school until after she had started at another college. Ms. Fraser underlines that lack of education and information on the aviation industry at the high school level.
- 3. Dr. Karrie Dixon added to comments made by other committee members, stating that it is important that aviation professionals are made accessible to youth because young women need to see someone like them succeeding in the industry. Dr. Dixon also added that it is a challenge to find trainers, instructors, and faculty who have those experiences in aviation and then come back to the university to train and teach.
- 4. Lindsey Dreiling suggested broadening the term "scholarship" in the mission statement to "financial assistance" by taking a look at grant opportunities and overall financial institutional support that might not fall under the "scholarship" umbrella.
- 5. Ms. Donati affirmed the mission statement suggestions. She then shared that there are two subcommittees tasked with looking at scholarships and emphasized avoiding redundancy by collaborating on findings.
- 6. Kriya Shortt added that in addition to financial assistance and post-graduation opportunities, the Board should look at internships and apprenticeships.
 - a. Kate Gebo mentioned that it is important to engage with union partners regarding internships and apprenticeships to support conversion of women into the industry.
- 7. Tracy Miller reinforced Dr. Dixon's point that getting instructors to come back and teach is challenging. She stressed their importance and suggested finding incentives for them to return.
- 8. Tammie Jo Shults raised the point that the 1,500 hours of flight training required to become a commercial pilot creates a gap between when professionals become licensed and when they can begin to use their license. This gap is costly and created an exodus from the industry, because young professionals would use their resources to obtain their license and then did not have the ability to earn a living with it due to the cost of obtaining such a high number of flight hours.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- a. Dr. Wilson suggested that there could be an alternative to requiring 1,500 hours, while still developing and maintaining pilot safety. She stated that the cost of attaining the number of hours could be a barrier of entry.
- b. Dr. Lutte stated that with this new restricted environment, there are collegiate programs that are approved for 1,000 hours but finding access to these programs, particularly at public universities, is not consistent across states.
- 9. Rene Banglesdorf shared that the industry is looking at virtual reality for design as it is a growing area of interest for young people. She suggested that it could be worthwhile to investigate this as an option for training.
- 10. Dr. Wilson responded to a question raised in the chat regarding the 1,500 hours of flight rule, sharing that the rule was made as the result of an aviation accident. She said that the topic should not be about the number of hours, but rather about access to the tools that will help young professionals become safe pilots.

Subcommittee Mission Statements—Mentoring and Professional Development

Dr. Wilson asked Amy Spowart, chair of the Mentoring and Professional Development subcommittee, to share her thoughts and the subcommittee's mission statement.

Ms. Spowart shared the mission statement:

"Our mission is to create exposure and mentorship opportunities in the aviation field, and generate additional opportunities for professional development that include organized and ongoing engagement. We want to seek scholarship prospects that include education, training, mentorship, and continued interaction. We want to define the parameters of mentors: how to attract them, engage them, train them, and retain them. We want to create goals and outcomes of the mentorship and combine and include professional development into that role. We want to seek out professionals in aviation fields, share the defined vision, and retain them for carrying out the specifications determined. We want to establish a process for long-term methods of interaction between mentors and apprentices."

Ms. Spowart emphasized the need to ensure these interactions have some way of carrying into the future after the conclusion of the Board.

She then opened the floor for discussion.

Discussion:

- 1. Jean Lydon-Rodgers suggested the addition of the term "sponsorship" to the subcommittee mission. She stated that "sponsorship" should be used in addition to "mentorship". Ms. Lydon-Rodgers also stressed the need for role models in addition to school curriculum.
- 2. Bobbi Wells suggested that the committee develop a roadmap to display what opportunities are useful for individuals based on where they are in their career.
 - a. Pam Williams added to this, suggesting the development of metrics around what the Board is doing. She stated that if the Board can develop metrics to illustrate how many



08/11/2020 WIAAB Virtual Meeting • Washington, DC

people they are engaging and what their progress is along the way, they can accurately track their success.

- 3. Tracy Miller stated that in terms of mentoring and professional development, internships and apprenticeships are becoming more and more competitive for youth. She stressed that finding ways to increase accessibility to these opportunities is important.
- 4. Lindsey Dreiling suggested guidance for structuring the report based on her previous committee experience.

Subcommittee Mission Statements—Success Stories

Dr. Wilson asked Beth Wilson, chair of the Success Stories subcommittee, to share her thoughts and the subcommittee's mission statement.

Ms. Wilson shared the mission statement.

"Our goal is to identify and promote success stories of women in aviation to encourage women and girls to enter the field. We need to: develop criteria for identifying stories worth promoting; identify local and national partners such as museums, libraries, and airports; explore and develop ways to make these stories public through creative and unconventional means and partnerships; and highlight diversity outside of the cockpit including researchers, mechanics, and aerospace engineers."

She then opened the floor for discussion.

Discussion:

- 1. Laura Jones shared her experience with the Experimental Aircraft Association's (EAA) Young Eagle program as an example of a success story. She outlined how the program has evolved over time to be more and more engaging to youth.
- 2. Lindsey Dreiling echoed some of Ms. Jones's comments, and suggested reaching out to other organizations to see what their success stories are to better define what the Board is doing and see if a model can be adopted.
- 3. Kelly Jost suggested expanding the phrase "aerospace engineers" in the mission statement to include all faculties of engineers.
- 4. Allison McKay suggested framing success stories as "influencers" to better appeal to youth. She said that success stories need to be framed in a way that make youth aspirational.
- 5. Bobbi Wells, in discussing benchmarks, shared that the U.K. Women in Aviation and Aerospace Charter provided an opportunity for companies to sign up and commit to create more of a gender balance in their company. She said that in terms of accountability, having senior leaders make a commitment allows women to feel more welcome and secure.
 - a. Tammie Jo Shults responded to Ms. Wells by saying that quotas kill credibility. Ms. Shults said that while she supports opening the door for more women, she does not want to take away the credibility of those women earning their place.
 - b. Ms. Wells replied that these initiatives are organizational commitments as opposed to quotas. She stated that if there is a lack of women in the pipeline, organizations must



08/11/2020 WIAAB Virtual Meeting • Washington, DC

reach further into their pipeline to make sure young girls see aviation as an opportunity.

- 6. Dr. Wilson opened the floor for any additional discussion on topics mentioned thus far.
- 7. Stacey Rudser pointed out that an obstacle for women in the industry is the perception that they are a diversity hire. Ms. Rudser is concerned for this pushback as more women enter the industry.

The Board then took a break for lunch.

Understanding the Problem & Industry Trends Part 1: Research Panel with Dr. Rebecca Lutte,

Heather Penney, and Bobbi Wells

Dr. Rebecca Lutte began the panel by introducing herself and the other panelists.

- **Heather Penney** is a Senior Resident Fellow at the Mitchell Institute for Aerospace Studies, one of the first women to fly an F16, and chair of the EAA Women Soar Society.
- **Bobbi Wells** is the Vice President for Safety and Airworthiness for FedEx Express, and the President of the International Aviation Women's Association.

Dr. Lutte outlined the role of each panelist, stating that she would be giving an overview of the numbers for women in aviation, Ms. Penney would be giving an overview of relevant pilot data, and Ms. Wells would talk about the International Aviation Women's Association (IAWA) Soaring Through the Glass Ceiling study. Dr. Lutte said she would then give the results of the Women in Aviation Recruitment and Retention Survey. Dr. Lutte asked participants to hold questions to the end.

Women in Aviation Workforce—Dr. Rebecca Lutte

Dr. Lutte started her presentation with a call for additional research, underlining the importance of studies in assessing the situation moving forward. She then outlined the research partners who collaborated on the report:

- Women in Aviation International
- University of Nebraska at Omaha
- National Aeronautics and Space Administration (NASA) Nebraska Space Grant

Dr. Lutte then presented a summary slide which highlighted the percentage of women in a given aviation profession. She stated that almost 50% of the workforce in the U.S. is comprised of women, but women are underrepresented in most occupations in the aviation industry. Dr. Lutte said that women are significantly underrepresented in leadership positions and technical operations positions such as pilots and maintenance technicians. Aircraft maintenance is the profession with the biggest gender gap, where women make up only 2.4% of workers. Women make up the following percentages of the aviation workforce:

- Dispatchers: 19%
- Air Traffic Controllers: 19%
- Aerospace Engineers: 13%
- Airport Managers: 16%



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- Aerospace Industry Association Aerospace Workforce: 24%
- Aviation Higher Education Faculty: 21%
- Cybersecurity: 11%
- Airline Pilots: 5%

Female Pilot Data—Heather Penney

Ms. Penney stated that as we look at relevant data, we get an idea of the life cycle, retention, and recruitment conversion of female pilots. She showed a depiction of a 30-year longitudinal study of the overall female pilot population, which illustrates that the female pilot population is stagnant.

Ms. Penney then showed a depiction of the male pilot lifecycle, and suggested that male pilots begin their interest in aviation early and peak in terms of student pilots in their twenties. Men do a good job of completing their training, and the male pilot population continues to climb. This means that men remain active pilots, male student pilots complete their training, and as men go through their lifecycle, they increase their ratings.

She contrasted that information with a depiction of the female pilot lifecycle. Ms. Penney stated that women's interest in aviation peaks at ages 18 to 34, and while women become students, they do not complete their training to become pilots. Unlike men, women peak in their total pilot population in their twenties and continue to decrease after that. Once women become commercial pilots, they usually convert to an Airline Transport Pilot (ATP). The number of female ATPs does not increase over time as the number of male ATPs does.

Ms. Penney underlined two takeaways from this data:

- Women do not complete their training at the most opportune time: in their twenties, when they have the most freedom and disposable income
- Women who do become pilots struggle to remain active

When looking at female/male relative pilot populations, Ms. Penney highlighted that women comprise 13% of student pilots, but only 6-7% complete their training, a significantly lower percentage than male student pilots.

Ms. Penney suggested that traditional outreach programs miss the mark when it comes to women.

- Approximately 57% of surveyed women in aviation report not having participated in a youth aviation outreach program
- Most aviation programs focused on female outreach are based on Science, Technology, Engineering, and Math (STEM)
- STEM grant funding requires a STEM foundation
 - Aviation outreach begins with STEM
 - Studies show that girls ages 12-15 self-eliminate out of STEM tracks
 - Interest in STEM does not recover once it is lost

Ms. Penney stated that the STEM focus is counter-productive to the effort to engage female youths.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

In research by Dr. Rebecca Lutte, women in aviation reported their top ranked motivations for pursuing careers in aviation as follows:

- Passion for aviation: 87%
- Perceived as adventurous: 86%
- Perceived as fun: 85%
- Desire to prove personal abilities: 81%
- Desire for a challenge: 80%

According to a 2010 Aircraft Owners and Pilots Association (AOPA) survey, 75% of women enter aviation for recreational purposes.

Focusing recruitment efforts on professional opportunities may sub-optimize general aviation and professional female pilots. To increase the female pilot population, it is important to:

- Tap into known motivations
- Market to women 18-34
- Remove training barriers to achieve high conversion

More data is needed on the following:

- FAA female cohort conversion and exit
- Why do women leave aviation?
- What are the barriers to women remaining active pilots?
- How can we help women re-enter the aviation field?
- Which women can be encouraged and enabled to re-enter the aviation field?

Any effort must be able to set and measure the performance of recruitment, conversion, retention, and reentry targets. Increasing the female pilot population must be a multifaceted strategy.

IAWA Soaring Through the Glass Ceiling Study—Bobbi Wells

Bobbi Wells introduced the Soaring Through the Glass Ceiling study by explaining that it was a project of Korn Ferry, a management consulting firm that wanted to better understand what happened with women in aviation regarding leadership positions. They reached out to IAWA to partner for the study, with the goal to provide a conduit to access women in the aviation space.

The study set out to discover the circumstances and perspectives of professionals all over the industry to help design an effective response. It was a multifaceted look at identifying problems and actionable best practices. It was the first global industry study, the first cross-sectional study for all parts of the aviation industry, and the first study to provide comprehensive actions that all stakeholders could take part in.

There were additional partners in conducting the study:

- Aerospace Industries Association (AIA)
- Airlines for America (A4A)
- Airports Council International (ACI)



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- Civil Air Navigation Services Organizations (CANSO)
- International Air Transport Association (IATA).

The participants came from over 40 companies and organizations from around the world. The study was sent to over 9,000 people in 2019, with a 27% response rate. The participants were aviation leaders in the fields of human resources, education, and business.

The number one driver for why women thought they could not be successful in aviation was that they had not seen an increase of women in leadership positions. Of the women surveyed, 40% thought their voices were not being heard, and two thirds felt like they were treated differently because of their gender. Respondents also thought that there were unclear career paths for aviation professions. The case studies provided a look at what guidance organizations were successful with, including:

- Raising awareness
- Sponsor philanthropic programs
- Public recognition
- Closing the gap via recognition
- Set diversity objectives
- Publicize a cross industry campaign

Ms. Wells closed her presentation by saying that the lack of data is no longer a reason not to act. Understanding the data points covered in the meeting and identifying actionable objectives will help in the future.

Women in Aviation Recruitment and Retention Survey—Dr. Rebecca Lutte

Dr. Lutte began the last research presentation, discussing what draws women into aviation and what makes them want to stay or leave. The survey was done in cooperation with Women in Aviation and targeted members of that organization. It had over 1,300 responses and included women from over 25 different occupations in aviation. The largest group of respondents was pilots, followed by students. Dr. Lutte also noted that there was a wide range of experience levels in the survey.

The study explored what draws women into aviation:

- Passion for aviation: 87%
- Perceived as adventurous: 86%
- Perceived as fun: 85%
- Desire to prove personal abilities: 81%
- Desire for a challenge: 80%

Dr. Lutte stated that 54% of the respondents said early exposure to aviation as a child positively influenced their decision to pursue a career in aviation. She emphasized how important outreach is to youth.

"Influencers" are defined as people who influence young women's decision to pursue aviation and what role they will play.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- Parents: 55% positively influenced the respondents' decision to pursue a career in aviation
- High school counselors: 84% had no influence
 - When they did, it was more negative than positive
- Mentors: not a major influence
 - 23% had a positive influence on the respondents' decision to pursue a career in aviation
 - Play a larger role in retention than recruitment
 - Opposite gender mentors had a greater role
 - Open-ended responses reveal there is a need for more good mentors
- What discourages women from staying in aviation?
 - Existence of a "good ole boy" network: 41%
 - Cost of required training/education: 37%
 - Family life impact: 34%
- Greatest Challenge/Barrier: Survey Comments Summary
 - Workplace culture
 - Cost
 - Family/life/work balance
 - Training-related issues
 - Lack of support
- Workplace Culture: Survey Comments
 - "Men were the biggest challenge I experienced"
 - "Sexism isn't blatantly obvious, but it wears you out over a long period of time"
 - "You'll never be one of us"
 - "Overcome discrimination and harassment"
- Family/Work/Life Balance: Survey Comments
 - "Poor policies surrounding maternity leave"
 - "Being a mother and trying to juggle everything"
- Training-related Issues: Survey Comments
 - "Finding a reliable CFI"
 - "Being alone during training"
- Lack of Support: Survey Comments
 - "I feel isolated"
 - "Not having a woman support system up front or a mentor"
 - "Not having any women as aviation teachers or mentors"
- Confidence: Survey Comments
 - "Learning to believe in myself"
 - "Confidence in my skills"
 - "I stand in my own way too often"
- How does all this inform actions for recruitment and retention of women in aviation?
 - Continued industry focus on cost and family/work balance
 - Diverse faculty/flight instructors/leadership



08/11/2020 WIAAB Virtual Meeting • Washington, DC

- Youth outreach
- Outreach to influencers
- Active support

Dr. Lutte then opened the floor for discussion.

Discussion:

- 1. **Question**: Amy Spowart asked about the research suggesting STEM is counterproductive and if the survey alluded to what was productive. She also asked what the impact of stopping a career to start a family would have on the findings.
 - a. Heather Penney answered by saying more research is needed, but there is a large amount of funding for STEM programs so most of the aviation programs are focused on using STEM as their foundation. Ms. Penney believes there is an unwanted link between aviation and STEM programs considering the data Dr. Lutte presented. She acknowledges that there may be overlap between STEM and aviation, but STEM is certainly not necessary to work in the aviation industry.
- 2. **Question**: Kathryn Fraser asked about how to show aviation as an adventurous field while at the same time addressing the issue of work/life balance for women who want to work in the field but don't want to be defined by it.
 - a. Dr. Lutte answered by saying that the topic will be discussed in the second panel, and is an important question. She said that it is important to think of policies that support the ability to make the work/life balance happen.
- 3. **Question**: Stacey Rudser asked if there were any questions in the survey that addressed women who had left the industry and why they did.
 - a. Dr. Lutte answered by saying that it is difficult to find people who leave the industry after they have gone.
 - b. Candace McGraw stated that the board should look at analogous industries to see if there is a successful model to tackle similar issues.
- 4. **Question**: Kelly Jost asked for more information on the statistic that reported guidance counselor experience as a negative to the student experience.
 - a. Dr. Lutte said that as an industry, she does not know if they have gotten the right information to the right influencers.
 - b. Suzanne Markle said that in her experience with technical/maintenance positions, guidance counselors are often rated or incentivized by how many of their students go to a four-year program. Many technical training schools are not recognized the same as traditional bachelor's degrees, and students are guided elsewhere.
- 5. Tammie Jo Shults made the point that girls can be turned off by careers in the aviation field because of the uniforms they are required to wear. She recognizes that it may be a small thing, but can be important in making impressions.

The Board then broke for 15 minutes. Upon their return, Dr. Wilson gave Dr. Lutte the floor to move forward with the second panel.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Understanding the Problem and Industry Trends Part 2: Industry Panel with Tammie Jo Shults, Constance von Muehlen, and Pam Williams

Dr. Lutte introduced the speakers in the second panel.

- Tammie Jo Shults is a Southwest Airlines Captain, author, and former A7 and FA18 pilot.
- **Constance von Muehlen** is the Senior Vice President for Maintenance and Engineering at Alaska Airlines, and a former Black Hawk helicopter pilot in the army.
- **Pam Williams** is the Director of Human Resources for the Organization of Black Aerospace Professionals.

Dr. Lutte laid out the structure for the final panel, where she would ask questions and give each panelist time to respond before opening the floor for discussion.

- **Question 1**: In your personal experience, what are the biggest challenges and barriers to the recruitment of women in aviation?
 - In terms of recruitment, Ms. Shults stressed that outreach should start in elementary school so students can understand what skills they need to achieve what they want. In terms of barriers, Ms. Shults mentioned flexibility and the desire to start a family requiring women to take a break from their job.
 - Ms. von Muehlen highlighted a lack of career pathways, realizing the steps and breadcrumbs needed to reach the end goal. She also stressed representation and the ability to see other people like you in jobs you are excited about.
 - Ms. Williams stressed the need for access in terms of recruitment. The ability to have programs that are readily available in schools and communities will enable recruitment of women into the industry. She also stressed the need for mentorships for youth to make connections and get engaged at an early age.
 - **Question 2**: Much has changed in the industry since the call for this panel. How does the current environment with furloughs and industry losses impact this committee?
 - Ms. von Muehlen stated that the Board needed to remain committed to adding professionals to fill the positions of retirees, which may be accelerated by the current situation. She said that it is a great time to continue investing in yourself.
 - Ms. Shults suggested that the landscape of commercial aviation has changed, but there are still some exciting pathways to get into the cockpit. She thinks it is a pause but not an end for the need of commercial pilots, and that it would be a mistake to say there are no opportunities.
 - Ms. Williams said that there is no better time than the present to be a female in the aviation field. Furloughs are unfortunate, but women and minorities will have opportunities that might not have been there before.
 - Question 3: What industry practices do you see that are working?
 - Ms. Williams mentioned FedEx's Purple Runways program, which is a pilot program extended to aircraft mechanics and is diligent about conducting outreach in schools and educating students. She said that the Organization of Black Aerospace



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Professionals' (OBAP) mission is to make sure youth have access, and there are many programs that support students – the issue is getting them into those programs.

- Ms. von Muehlen said it is a continuing effort. The elevation of the professional workplace, one that is respectful and allows for the voices of women or underrepresented persons to be heard, recognized, and included in the conversation, is crucial.
- Ms. Shults mentioned that the Naval Aviation Flight Museum has a program where kids can dive into mission planning, air traffic controlling, and a variety of other activities. Once students get hands-on experiences in problem solving, they are hooked. She believes the current situation will give the Board time to line up some important opportunities.
- **Question 4**: How important are mentors and mentorships to meeting the goals of the committee?
 - Ms. Shults believes friendship is an extremely important part of mentorship in meeting the committee's goals. She shared that she has experience mentoring young girls and emphasized how important having a support system is.
 - Ms. von Muehlen stated that having someone guide you through the ropes is essential early on in your career so you don't head down the wrong path due to something you didn't realize.
 - Ms. Williams mentioned that mentors are vital to one's success, that having unfiltered and trustworthy advice is crucial to boosting confidence.
- Question 5: What unique perspective should the committee be aware of?
 - Ms. Williams said that it is not enough to bring underrepresented groups into the fold; listening to them and engaging them is vital. She pointed out that they must be intentional about creating a pathway forward.
 - Ms. Shults said it is important to encourage underrepresented groups and realize their equal work. Encouraging female empowerment will trickle into other groups.
 - Ms. von Muehlen replied that the committee should think about workplace environment and getting to a more respectful place, and making sure voices are heard.
- **Question 6**: Was cost a barrier for you and how did you address it?
 - Ms. von Muehlen stated that she was fortunate enough to receive a Reserve Officers' Training Corps (ROTC) scholarship and would not be where she is without it. Cost was a barrier, but she overcame it. She pointed out that it is hard to be working and supporting your education so bridging that initial gap is difficult.
 - Ms. Williams says the number one barrier to entry for minorities entering the aviation field is cost. OBAP has opened a flight academy where students are allowed to train strictly on donor dollars, and it has been a great addition for the community.
 - Economics is a great teacher—Ms. Shults says she couldn't afford the books or teachers, so she found another way via the Navy. She says it is important to encourage young people to strive in tackling their barriers.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Dr. Lutte then opened the floor up to discussion.

Discussion:

- **Question**: Beth Wilson asked what the informal education community does to reach and recruit women who might not know anything about aviation.
 - Ms. von Muehlen said that casting the widest net possible is a great approach. She said her local museum sponsors programs for the community that are successful.
 - Ms. Williams followed up by mentioning OBAP's program that goes into schools to talk to students about opportunities that are available to them.
- **Question**: Stacey Rudser asked how the lone woman can stand up and demand a more professional work environment without alienating herself from her peers.
 - Ms. Von Muehlen responded by saying the education aviation professionals usually come from a legal position as opposed to a personal care position. She suggested beginning with a collective team concern and then voicing your own, finding your advocates, and working with them to get your needs met. It is a careful path, but there are always allies.
 - Ms. Shults reinforced this and added that it can be helpful to use humor to diffuse the situation as it is difficult to navigate personalities.
 - Ms. Williams said that women need to find advocates who will support them and advised that women look for the relationships and people who will help them.

Public Speakers

Dr. Wilson thanked the panelists and shared that more than 9,500 people tuned in for some of the meeting; because they are a public advisory committee, public members can request to attend. Dr. Wilson also shared that the public can present information, testimonies, or statements to the Board at any time. There were requests to attend the meeting but no requests to speak.

Other Business and Action Item Review

Dr. Wilson then shifted to discussing established action items and then to address lingering questions.

- Action items:
 - Identify a way for the Board to share documents and work collaboratively
 - Announce January meeting date as soon as possible so members can plan accordingly
 - Implement changes to subcommittee language by this weekend and send out final versions next week
 - Obtain and share a copy of slides from presentations
 - Circulate the meeting minutes

DFO Anderson shared that there is some overlap and information sharing between the WIAAB and the Youth Access to American Jobs in Aviation Task Force.

Kelly Jost shared a request she received concerning the word "airman" on the airman certificate for a private pilot license to reflect more inclusive language.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Dr. Wilson opened the floor for discussion.

Discussion:

- 1. Kate Fraser shared that the company she represents has officially changed their verbiage to be gender neutral and stated that it has been a powerful transition.
 - a. Tammie Jo Shults gave a dissenting opinion, stating that a small word does not have the bearing to discourage women from entering the field.
 - b. Bobbi Wells suggested looking into research about the topic, stating that it is important to see how young girls interpret the language as they will be the future of the industry.
 - c. Kandy Bernskoetter said that it is important to the younger generation and makes the point that if the name was flipped to cater to females it would be an issue.
 - d. Kate Gebo said that words do matter and that language can make a difference in how people view industry culture.
 - e. Lindsey Dreiling reinforced Ms. Wells's sentiment and suggested that more research be done to see if it is a barrier for young women.
 - f. Ms. Shults shared a concern that a change in language could cause resentment against women professionals.
 - g. Suzanne Merkle said that she speaks with the youth often about this topic, and they care. If the committee wants more representation, then they must consider these things even if they don't offend the individuals on the Board.
 - h. Kriya Shortt gave a similar sentiment, and stressed that finding a balance is needed if it is important to the youth, then it should be important to the Board.
 - i. Amy Spowart echoed what Ms. Shortt said and disagreed with gendering professional roles.
 - j. Pam Williams said that there are five generations that exist in the current workplace and that not doing anything is not the answer.
 - k. Kelly Jost and Allison McKay both stated that this is an important topic and should be put into a larger context.
 - 1. Kate Fraser echoed what Ms. Williams said, and stated that the committee might have to work outside of their comfort zone to find solutions to future problems.
 - m. Stacey Rudser underlined Ms. Fraser's comment and emphasized that the goal is for women to become a norm in the industry.
 - n. Ms. Wells said that no progress will be made unless industry problems are addressed.

Meeting Adjourn

Dr. Wilson closed the meeting with takeaways from the meeting. She commended the fantastic presentations and outlined the three biggest barriers of entry for women in the industry:

- Cost
- Culture
- Work-life balance



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Dr. Wilson stated that finding strategies that work long term on those problems will be a tremendous help for women and the industry. She then shared unique and powerful phrases used in the meeting.

Dr. Wilson thanked everyone for their role in a successful meeting and DFO Anderson stated that meeting materials will be posted on the FAA committee website.



08/11/2020 WIAAB Virtual Meeting • Washington, DC

Additional Information: Detailed Meeting Agenda

- Call to Order and Introduction of FAA Deputy Administrator Dan Elwell
- o Welcoming Remarks and Introduction of Secretary of Transportation Elaine Chao
- o Secretary of Transportation Elaine Chao Welcoming Remarks Video
- o Introduction of WIAAB Chair Dr. Heather Wilson
- o Welcoming Remarks
- Meeting Opening
- FACA Statement
- o Overview of FACA
- o Member Introductions and Overview of WIAAB
- WIAAB Objectives and Tasking Discussion
- Understanding the Problem and Industry Trends Part 1: Research Panel with Dr. Rebecca Lutte, Heather Penney, and Bobbi Wells
- Understanding the Problem and Industry Trends Part 2: Industry Panel with Tammy Jo Shults, Constance von Muehlen, and Pam Williams
- o Public Speakers
- Other Business and Action Item Review
- Meeting Adjourn

Women in Aviation Advisory Board (WIAAB) Subcommittee:

Understanding the Problem and Industry Trends

Subcommittee Mission Statement



Examine the industry trends that directly or indirectly encourage or discourage women from pursuing careers in aviation.

Subcommittee members

- Dr. Becky Lutte: Chair, Univ. of Nebraska Omaha
- Crystal Barrois: Delta Air Lines
- Maryanne DeMarco: Coalition of Airline Pilots Associations
- Patricia Gilbert: National Air Traffic Controllers Association
- Lauren Haertlein: General Aviation Manufacturers Association
- Constance von Muehlen: Alaska Airlines
- Tammie Jo Shults: Southwest Airlines
- Bobbi Wells: FedEx Express

Task 1:

Identify the number of women in aviation occupations, including senior leadership positions, to better understand the areas of greatest gender gap.

Task Lead: Constance von Muehlen



What we know...

Representation Data

% Women in the Field	Occupation
2.5%	Maintenance technicians
3%	Airline executives (CEO, COO)
5%	Airline pilots
7.9%	Total certificated pilots
11% - 20%	Aerospace engineers
	Dispatchers
	Airport managers
	Air traffic controllers
	Aviation higher education leadership
	Cybersecurity
21% - 30%	FAA employees
	Aviation higher education faculty
31% - 40%	TSA screeners
	NTSB employees
	NASA employees
>70%	Travel agents
	Flight attendants

Women in Aviation: A Workforce Report Table 1, pg. 6 Rebecca K. Lutte, PhD, U of Nebraska at Omaha Aviation Institute – May 2019 Data Quality Challenge

- Breadth
 - Across occupations
 - Across entities
- Depth
 - Granularity
 - Consistency
 - Comparable
 - Interval
- Access



Task 2:

Identify factors/barriers that directly or indirectly discourage women from pursuing careers in aviation.

> Task Lead: Tammie Jo Shults

Factors/Barriers that discourage...

- Missed introduction in 5th grade & lack of touchstones in junior high & high school
- Industry perceived as exclusively STEM
- Subcultures not represented in pipeline
- Cost disproportionately affects women
- Gender balance not valued
- Schedule flexibility
- System designed for men
- Micro-aggressions and bias
- Role models missing
- How can I choose aviation and have a family?

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Task 3:

Identify the factors that directly or indirectly encourage women to pursue careers in aviation.

> Task Lead: Bobbi Wells

Factors that encourage...

Directly

- Family Member In Industry
- Visible female role models
- Public diversity hiring targets
 & objectives
- Financial assistance & scholarships
- Leadership commitment
- Inclusive culture & mindset
- Prioritized access & development
- Well compensated

Indirectly

- Strong mentors
- Personal traits

 (grit, challenge,
 adventurous, trailblazer)
- Feel welcome & valued
- Social influences (media role models, toys, targeted organizations)
- School programs & counselors



Task 4:

Explore how these factors impact the education, training, mentorship, outreach, recruitment, and retention of women in aviation.

> Task Lead: Maryanne DeMarco

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Factors that impact...

- Education/Training
- Mentorship
- Outreach
- Recruitment/Retention

Questions?

To provide input:

s612womenadvisoryboard@faa.gov



Training and Recruiting Subcommittee

Encouraging young women and girls to consider aviation career opportunities through engagement and education, while working to create a gender balanced workforce.

- Identify opportunities to attract a variety of age groups to aviation by fueling their interest
- Engage and inspire youth through industry influencers and organizations
- Identify educational aviation focused curriculum to be used in primary education
- Establish traditional and non-traditional post-secondary educational aviation pathways
- Promote and provide financial assistance through scholarship and grant opportunities
- Expand post-educational opportunities through internships, apprenticeships and industry partnerships
- Maximize retention by closely mentoring students in aviation focused career training

Identify Opportunities to Attract a Variety of Age Groups to Aviation by Fueling Their Interest Task Lead: Mrs. Lindsey Dreiling, Executive Director of Aviation Strategy, Kansas State University

Key Highlights

Early Engagement: Elementary school camps & activities through museums, organizations, groups, community colleges, career-focused training programs, and universities

Pathway to Career: Aviation focused curriculum through middle schools, high schools, community colleges, career-focused training programs, and universities

Sustaining Engagement: Activities through aviation organizations and groups including federal agencies, national industry and trade organizations, and national youth organizations

Industry Engagement - Professionals: Mentorship, education, and training programs

Adapted from ACRP. (2019). Developing Innovative Strategies for Aviation Education and Participation

Next Steps to Attract Girls and Women to Aviation

1) Reach girls and women during key moments in their aviation journey

- 2) Connect aviation pathways from elementary to post-retirement to increase engagement
- 3) Prioritize aviation outreach programs to maintain and grow the talent pipeline

4) Foster collaboration across aviation organizations and empower established groups

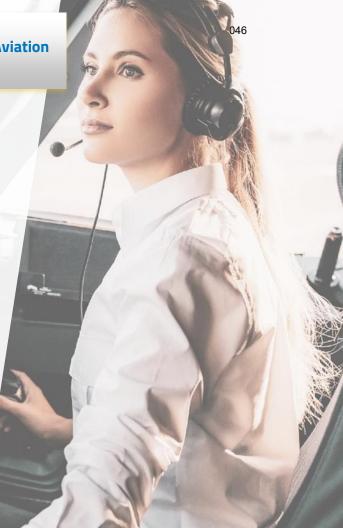


Engage and inspire youth through industry influencers and organizations Task Lead: Ms. Kriya Shortt, Senior Vice President Global Parts Distribution, Textron Aviation

Key Highlights

- Best in class: there are a number of organizations focused on creating unique experiences that inspire youth to pursue aviation
- Broaden our perspective: a larger audience could be reached leveraging nonindustry organizations
- Representation: experience can be translated when imagery and volunteers reflect the audience we are seeking to reach

- Can we better identify and track youth as they progress through their journey?
- How do we make it easy for non-industry to partner?
- Is there a part local airports can play in being a centralized focal?
- What part can social media/influencers play?



Identify educational aviation focused curriculum to be used in primary education Task Lead: Ms. Tracy Miller, President, Mid-Atlantic Aerospace Complex

Key Highlights

- Minimal options for primary aviation curriculum are available
- There are more STEM curriculum choices than aviation specific; and most curriculum is geared toward high school students
- Lack of female representation in aviation curriculum

- Identify gaps
- Update and modernize Aviation curriculum
- There is no one size fits all curriculum or curriculum delivery, but there are plenty of opportunities to improve female representation

Establish traditional and non-traditional post-secondary educational aviation pathways Task Lead: Ms. Suzanne Markle, President and CEO, Pittsburgh Institute of Aeronautics

Key Highlights

- Both aviation colleges and aviation employers have too small a pool of women candidates to meet their diversity needs.
- Aviation programs in high school are effective in encouraging young women to pursue these careers, but credit transfer for this coursework is difficult due to current FAA requirements.
- FAA curriculum for AMT and ATC requiring seat time for all clock hours lacks flexibility needed for retention of women in their programs and effective industry partnerships.

- Partnerships with industry and postsecondary providers must be forged to communicate to girls in K-12 both the career opportunity and the education needed.
- A proficiency-based model of instruction promotes high school/college partnerships, allowing students to become qualified as AMTs, ATC, pilots and other aviation professionals more quickly and at less expense.
- A proficiency-based model provides flexibility for work-life balance and employer shadowing and internships during college.



Expand post-educational opportunities through internships, apprenticeships and industry partnerships Task Lead: Mrs. Kate Gebo, Executive Vice President, Human Resources and Labor Relations, United Airlines

Key Highlights

- Historical stereotypes strongly contribute to lack of awareness of aviation careers for women in post educational timeframe.
- Opportunities are not centrally located so family and personal connections play a significant role
- Pilot career pathway programs are industry norm while there is an opportunity to expand this concept to other disciplines.

- Creating awareness of aviation related careers and job opportunities through shorter "exposure" experiences potentially using airports as the "hub".
- Rotational awareness internships/apprenticeships (e.g., 1 week each with an airline, FAA, and airport authority) in addition to skill development internships/apprenticeships to build awareness.
- Explore flexible apprentice style programs with union partners.



Promote and provide financial assistance through scholarship and grant opportunities Task Lead: Mrs. Stacey Rudser, National Board of Directors, Association for Women in Aviation Maintenance

Key Highlights

- Millions of dollars in scholarship, internship & grant opportunities exist, but little stability
- No comprehensive database exists
- FAA scholarship page is lacking
- Opportunities available to current students/professionals; little assistance for prospective students
- Most smaller organizations require membership
- No standalone federal grants
- Application cost and varied deadlines make applying for scholarships daunting

- Awareness of opportunities must be spread beyond established industry
- Stabilize industry-driven scholarship support during economic downturn
- Link industry-sponsored pages to other scholarship providers and FAA
- FAA Scholarship page should be expanded and divided by career path
- Create scholarships for those with interest in aviation careers
- Establish federal grant program to assist minorities pursue aviation careers

Maximize Retention by Closely Mentoring Students in Aviation Focused Career Training Task Lead: Dr. Karrie Dixon, Chancellor, Elizabeth City State University

Key Highlights

- Aviation workforce predicted to see an influx of retirements
- Mentoring programs provided around Aviation Career Training
- Career focused mentoring helps address preparation gaps
- Career mentoring should be an integral component at universities/colleges
- Mentoring programs need to be customized to maximize retention

- Obtain data on Aviation Career Mentoring across gender and race
- Develop successful career mentoring models
- Review reports related to airline related job stress, satisfaction, insecurity, and wellbeing
- Identify challenges/strategies in finding the right career mentor

Women in Aviation Advisory Board

Mentoring and Professional Development

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Subcommittee Mission Statement

Identify and create exposure for existing mentorship, funding, and professional development opportunities in aviation, generate ideas for additional opportunities where there is a need, and ensure on-going engagement.

Subcommittee Members

- ★ <u>Amy Spowart</u>, Chair, President and CEO, National Aviation Hall of Fame
- ★ <u>Kandy Bernskoetter</u>, National Membership Committee Chair,

Air Line Pilots Association

★ Jean Lydon-Rodgers, Vice President and General Manager,

GE Aviation Aftermarket Services

- ★ <u>Candace McGraw</u>, CEO, Cincinnati/Northern Kentucky International Airport
- ★ <u>Martha Morris</u>, Colonel, Civil Air Patrol
- ★ <u>Kelly Jost</u>, Managing Engineer, C&S Companies

Task 1:

Creation of a "best in class" database of scholarship opportunities and need to share across industry and organizations

Task co-lead: Martha Morris

Scholarship Opportunities-Creating a "best in class"

What does "best in class" mean and how do we get there?

What we know:	Challenges:	Opportunities:
There are all types of schools that teach aviation and aerospace	Lack of resources specifically geared toward females	Dedicated aviation middle/high schools to college programs
There are varieties of aid for education	Many have focused requirements	Exhaustive lists from grants, scholarships, etc.
There are extensive listings	No one place to find them	Far ranging orgs. from academic, civic, etc.

Task 2:

Definition of ideal mentor and sponsor relationships and creation of guidelines to foster success in those relationships

Task co-lead: Jean Lydon-Rodgers Task co-lead: Kandy Bernskoetter

Mentor and Sponsor Relationships

What does success look like/mean?

What we know:	Challenges:	Opportunities:
Programs exist across industry and academia	Establishing the connections	Start in elementary school continue through career
Key values: inspiring, connecting, motivating	Maintaining engagement	Design to build confidence
Catalyst for placement, movement and promotion	Administration and oversight	Knowledge, support and advocacy to chart career

Task 3:

Leveraging the benefits of professional development at all career intervals and mitigating any gaps in that development

Task co-lead: Candace McGraw Task co-lead: Kelly Jost

Professional Development

Identifying gaps and benefits

What we know:	Challenges:	Opportunities:
Vast amount of technical content available	Sourcing readily available professional development opportunities	Identifying and promoting existing programs and filling in gaps
Different and specific needs for women	Meeting changing development needs over the continuum of career	Leveraging existing trade associations for female focused programs
Important and different needs at all stages of a career	Encouraging and growing the number of women in leadership	Creation of more female focused content for all stages

Women in Aviation Advisory Board

Questions?

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Women in Aviation Advisory Board (WIAAB) Subcommittee:

Success Stories

Subcommittee Members

Beth Wilson, Chair

- Smithsonian, National Air and Space Museum
- René Banglesdorf
 - Charlie Bravo Aviation
- Elise Eberwein
 - American Airlines
- Kate Fraser
 - Joby Aviation
- Laura Jones
 - Flight Club 502

Allison McKay

Women in Aviation International

Pamela Williams

Organization of Black Aerospace Professionals

Subcommittee Mission Statement

Identify and promote success stories of women in aviation in order to encourage women and girls to enter the field.

- Develop criteria for identifying stories worth promoting
- Identify local and national partners such as museums, libraries and airports
- Identify programming opportunities which have the potential to scale up
- Highlight diverse stories outside the cockpit including researchers, mechanics, engineers, other paths
- Explore and develop ways to publicize these stories through creative and unconventional means and partnerships, including utilizing digital influencers (Instagram, linkedin, You Tube) who are interested in or who are currently building aviation and aerospace skills and careers.

065



- Criteria for Individual Stories:
 - Unique
 - Diverse
 - Engaging
- Focus on:
 - Self esteem and discovery
 - Ability to communicate
 - Acceptance of failure on the way to success
 - Curiosity and a desire to learn
 - Discipline and drive
 - Accessibility

Shaesta Waiz from the "My Path" series produced by STEM in 30, National Air and Space Museum



Flight Club 4 Girls Video







By identifying programs reaching students and impacting career growth, we can:

- Collaborate on best practices
- Share resources
- Multiply impact

By using a survey with key questions, we will glean information about successful programs at the local, regional, national and international levels--across rural, urban and suburban communities.

Local airports, national associations, school systems, museums, and libraries are all vital contributors.

Cirls T IN AVIATION DAY

A Women in Aviation International® Event



History of Girls in Aviation Day

- 2012 First official Bring Your Daughter to Conference Day was held in Dallas with 140 youth
- 2013/2014/2015 Every WAI Conference hosted a Girls in Aviation Day on Saturday
- 2015 WAI Chapters began hosting an annual Girls in Aviation Day in the fall, and Aviation for Girls magazine was created







A Women in Aviation International[®] Event

Year	# of Events	# of Attendees
2015	39	3,850
2016	67	4,900
2017	77	9,700
2018	101	15,200
2019	103	20,000
2020	VIRTUAL ONLY – 59 Countries Reached with App	

IN AVIATION DAY

A Women in Aviation International[®] Event

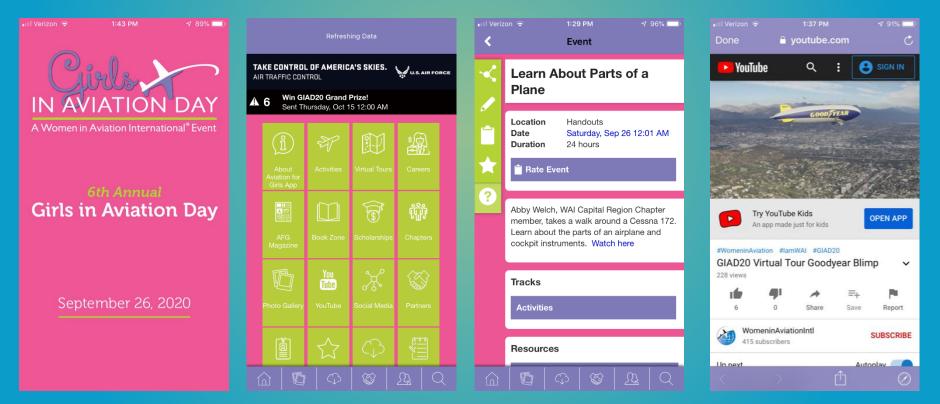
September 26, 2020







Visit the App Store or Google Play and search for WAI Events





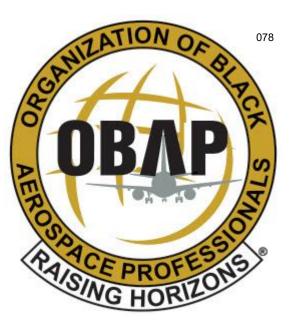


IN AVIATION DAY

A Women in Aviation International[®] Event

March 13, 2021 & September 25, 2021





https://www.canva.com/design/ DAER1NaQTjU/Mk-GTNNQPUEHV_CxqsEiYw/vie w?utm_content=DAER1NaQTjU &utm_campaign=designshare& utm_medium=link&utm_source= publishsharelink October 2020: The Organization of Black Aerospace Professionals (OBAP) hosted its inaugural "Girls LAUNCH," a free opportunity for girls /women of all ages to learn about careers in aerospace.

This was the culminating event for OBAP's first virtual Aerospace Professionals in Schools (APIS) week.

Girls LAUNCH was supported by the Houston Airport System, Higher Orbits, Frontier Airlines, and the United States Coast Guard.

Over 760 attendees explored aerospace through virtual tours, interacting with professional women in aerospace careers and participating in immersive breakout sessions, including:

- Girls LAUNCH Digital Library, an interactive collection of career stories and hands-on activities in the Girls LAUNCH Magazine
- A behind-the-scenes virtual tour of the Miami Air Traffic Control Tower
- An under-the-hood view of a commercial aircraft from Delta Airlines



Potential Publicity Platforms

- Traditional press
 - National/wire print, broadcast media
- Influencers
 - Social media
 - Bloggers
 - Opinion shapers
 - "Celebrity" endorsers
- Trade Publications
- Aviation/Aerospace Company partnerships

Survey Discussion

- Goal: Information gathered will create best practices and case studies to be developed for a final report.
- Primary Focus:
- Extent of reach: local, national, global
- Area of reach: urban, rural, both
- How the clubs track and target different ethnic and economic groups
- Focus of group: does it target women
- Size, years in operation, reach
- Challenges
- Cost, funding, scholarships

Desired Outcomes:

- Identify individuals who are highly successful in aviation careers and promote their stories in creative ways.
- Identify groups that have been successful in engaging youth, in particular girls and young women, in developing a lifelong interest in aviation.
- Identify best practices and develop case studies that demonstrate a "road map" for success.