

September 2022 Youth Access to American Jobs in Aviation Task Force Meeting

AGENDA

Sharon DeVivo, Chair, and Angela Anderson, Designated Federal Officer

HOSTED AT: FAA Headquarters, MacCracken/Huerta Collaboration Center and Virtual Platform (Zoom)

DATE: September 22, 2022

TIME: 9:00 AM to 12:00 PM Eastern Time

Time	Topic
9:00 – 9:05 am	Call to Order Federal Advisory Committee Act (FACA) Official Statement
9:05 – 9:10 am	Welcome
9:10 – 9:15 am	Opening Remarks
9:15 – 9:20 am	Approval of Minutes
9:20 – 10:00 am	Presentation of Final Recommendations
10:00 – 10:10 am	Break-10 min
10:10 – 11:00 am	Recommendations Report Discussion
11:00 – 11:05 am	Approval of Recommendations Report
11:05 – 11:15 am	Final Thoughts
11:15 am	Adjourn

Draft YOUTH ACCESS TO AMERICAN JOBS IN AVIATION TASK FORCE RECORD OF MEETING

MEETING DATE: March 31, 2022

MEETING TIME: 9:00 A.M. – 11:00 A.M. Eastern Time (ET)

LOCATION: The Youth Access to American Jobs in Aviation Task Force (YIATF or Task Force) held a public virtual meeting.

PUBLIC ANNOUNCEMENT: The Federal Aviation Administration (FAA) provided notice to the public of this YIATF meeting in a *Federal Register* notice published on February 24, 2022, (87 FR 10427).

ATTENDEES:

Committee Members
Andrew Ross
Brett Levanto
Cyd Smith
David Purser
James ‘Jim’ Hall
Jewel Fletcher
Joanne Damato
Joel English
John Huff
Kasey Herzberg
Dr. Nancy Shane Hocking
Dr. Ralph Coppola
Ryan Goertzen
Dr. Sharon DeVivo, <i>Chair</i>
Tammera Holmes
Whitney Dix
Yvette Rose

FAA
Aliah Duckett
Angela Anderson, <i>Designated Federal Officer</i>
Arlene Salac
Jack Fino
Johann Hadian
Leslie Welch
Lindsay Aaronson
Steve Custer
Talisa White
Thuy Cooper

The FAA live streamed this meeting on its social media platforms.¹ As a result, the list of FAA and public attendees does not capture all individuals.

Welcome and Introduction

Ms. Angela Anderson, Designated Federal Officer (DFO), began the meeting at 9:00 AM ET by welcoming everyone to the Youth Access to American Jobs in Aviation Task Force (YIATF or Task Force) public meeting.

Ms. Anderson read the required press disclaimer and the live stream statement, as the meeting was live streamed on the FAA's YouTube, Facebook, and Twitter accounts. She also read the Federal Advisory Committee Act (FACA), Title 5, United States Code (5 U.S.C.); Appendix 2 (2007) statement.

Ms. Anderson introduced the YIATF Chair, Dr. Sharon DeVivo, who thanked everyone for their time and contributions to the Task Force's critical work. She recognized the appointment of two new YIATF members, Mr. Andrew Ross and Ms. Jewel Fletcher. She stated that the YIATF final recommendations would provide critical first steps for the FAA and industry to consider and should inspire a collaborative effort among many organizations to promote awareness of the aviation industry. Dr. DeVivo noted that these first steps create the foundation for a pathway that includes real data to drive better culture and decision-making. She congratulated the Women in Aviation Advisory Board (WIAAB) for completing their report, which she suggested to use as a guide for some YIATF recommendations.

Ratification of Minutes

Dr. DeVivo asked for a motion to accept the January 20, 2022 meeting minutes. Ms. Jo Damato motioned to accept the minutes, and Mr. Brett Levanto seconded the motion. The Task Force voted to ratify the minutes with no objections.

¹ A recording of the meeting can be found at: <https://www.youtube.com/watch?v=K0cRUZ-7tbU>

Status Reports

Dr. DeVivo asked both of the new members to introduce themselves. Ms. Fletcher, appointed to represent young people interested in pursuing careers in aviation, stated that she is a student majoring in Aircraft Operations and pursuing a private pilot's license. Ms. Fletcher noted that she hopes to bring more awareness of the aviation industry to youth within and outside of the United States. Mr. Ross, appointed to represent organized labor, stated that he is currently a pilot and a member of various aviation organizations. He noted that, from his experience, interest in aviation is often formed at a very young age, and it is his prerogative to help remove barriers and encourage youth to join the industry.

The March 31, 2022, YIATF meeting packet can be found at:

https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/March%202022%20YIATF%20Agenda_FINAL.pdf.

Trends Subcommittee

Ms. Yvette Rose provided the Trends Subcommittee update. She complimented the WIAAB's report, emphasizing recommendations in the recruitment section. Ms. Rose highlighted the *Train the Workforce Trainers* recommendation, which seeks to establish professional development opportunities for career coaches, teachers, and guidance counselors. She noted that the YIATF could use some of the language in this WIAAB recommendation.

Ms. Cyd Smith emphasized the importance of gathering accurate data. She noted that creating a clear and accessible pathway to aviation is very important for educators, students, parents, and anyone else along the pipeline.

Ms. Rose noted that because the group's survey results include qualitative and quantitative information, the group will cite supporting results in their recommendations and make the raw data available to YIATF. Dr. DeVivo noted that she would work with FAA to create a shared drive for that information.

Awareness Building Subcommittee

Ms. Whitney Dix provided the Awareness Building Subcommittee status report update. She noted that the subcommittee meets regularly and has completed the development of its guidance counselor's survey. She reviewed the results of the survey the group has received so far, and she noted that the survey would remain available for further data collection for at least another week. Ms. Dix stated that, based on completed survey results, the subcommittee would like to collect additional data through focus groups.

Dr. DeVivo noted that she would distribute the survey among a group of counselors at an upcoming event and asked others to help expand the reach of distribution. Ms. Jo Damato encouraged using Facebook groups for distribution. Mr. Ryan Goertzen asked if the

subcommittee would resend the link out to members for distribution, and Ms. Dix confirmed she would.

Mr. Ross asked if the American School Counselors Association (ASCA) has been involved in distribution. Ms. Dix noted that any contacts Task Force members have at those organizations would be welcomed information. Mr. Ross confirmed he would contact Ms. Dix outside of the meeting to discuss this matter. Ms. Smith supported the notion of connecting with ASCA.

Dr. DeVivo requested that members contact Ms. Dix if they can assist with distributing the survey.

Funding Subcommittee

Dr. Ralph Coppola provided the Funding Subcommittee status report. He described the subcommittee's progress of work, which included an analysis of the following:

- Literature,
- Government and private workforce reports,
- Existing funding sources,
- Ideas to address the workforce issue using funding strategies, and
- Feedback from key stakeholder groups using structured interviews.

Mr. David Purser thanked everyone for their participation in the interviews and emphasized the importance of good data. Mr. John Huff agreed, noting that the structural interviews were very insightful.

Ms. Tammera Holmes emphasized how critical funding is in all of the recommendations coming from the Task Force. She noted that the funding recommendations were created with the other subcommittees' charges in mind. She emphasized the timely need to transfer aviation knowledge to help save the industry and develop financial strategies to implement outreach.

Dr. DeVivo asked whether the group has identified non-federal funding opportunities through its interviews and believes the recommendation report should include specific calls to action to states or industry organizations. Ms. Holmes stated that state funding opportunities are available, and she is researching strategies to get that kind of funding approved for aviation needs. Dr. Coppola noted that the group has reached out to states like North Carolina and Virginia to support aviation awareness.

Ms. Holmes noted that the group is considering sources for funding and how to disperse and implement those sources within the subcommittee's recommendations. Mr. Goertzen agreed that the collaborative effort between various agencies within the federal government, states, and industry should be outlined in the recommendation report in the funding section. Ms. Holmes agreed, citing a successful example of sponsorship by the

Chicago Housing Authority and Foot Locker as a collaborative effort at a local aviation event.

Mr. Levanto asked about the availability of Pell grants through various points of entry and encouraged their use. He noted that aviation includes expertise from many different fields, and suggested the Task Force consider innovative ways to show people that aviation includes proficiencies from varying industries.

Dr. Coppola noted that agencies often have inconsistencies in definitions and in data, which causes discrepancies within the transfer of information. He stated that agencies citing varying data can make information difficult to research. He agreed that collaboration across agencies and within the industry is imperative.

Dr. DeVivo stated that changing the way Title IV Funding is categorized and awarded to get someone on the pathway from a different industry into aviation is a good strategy. Ms. Smith agreed and encouraged the idea of working with local housing authorities, specifically to promote diversity within the workforce. Ms. Holmes agreed, noting that housing authorities often have more direct data and access to students than schools or other resources.

Ms. Holmes emphasized the impact and positive effect on mental health that aviation has had on local underprivileged youth she has directly worked with. She noted that partnering with organizations that affect mental health and professional development is a great way to expose youth to aviation further. Others encouraged spreading aviation awareness through collaboration efforts. Task Force members agreed and thanked each other for their vulnerable perspectives to engage in discussions around collaboration and the connection of aviation to socio-economic impacts and mental health.

Expanded Pathways Subcommittee

Mr. Goertzen and Mr. James Hall provided the Expanded Pathways Subcommittee status report. Mr. Hall announced that FAA issued the part 147 Interim final rule, which will change part 147 training and eliminate barriers. He expressed his excitement regarding this rule and described the positive impacts on the aviation industry. Mr. Goertzen echoed earlier sentiments around the importance of having accurate data and collaborating efforts through various pipelines, particularly using untapped resources like the Department of Labor (DOL).

Ms. Damato noted that one of the subcommittee's primary goals is the creation of a one-stop-shop for aviation information. She noted that the WIAAB report includes a similar recommendation. She stated that the group hopes to connect directly with students to gather more data.

Mr. Goertzen concluded the update by stating that the subcommittee's work focuses on the need for apprenticeship programs, accurate data points, and a one-stop-shop for information.

WIAAB Report Discussion

Dr. DeVivo opened the floor for discussion on the WIAAB recommendations report. She encouraged members to read the report and think about any information, including visuals that could connect to YIATF recommendations. With respect to the YIATF final report, Dr. DeVivo stated the plan is for each subcommittee to submit their draft reports to her so that she could combine them into a single report.

Dr. Coppola appreciated that the WIAAB's report recommendations addressed audiences such as FAA, the Department of Transportation, the Department of Education, and industry. Dr. Coppola suggested that YIATF consider using this strategy. Ms. Rose emphasized the importance of addressing issues around culture in advancing the aviation industry.

Dr. DeVivo noted that the YIATF and WIAAB's recommendations should complement each other. Ms. Holmes discussed data outlining the poor retention rate of women in the aviation workforce and the need to keep women and other minorities in the workforce longer and get them into leadership positions. Ms. Damato agreed, emphasizing that there is a need to attract youth into aviation and keep them interested in staying in the industry.

Mr. Goertzen complimented the WIAAB members for their industry work and their passion for retaining women in the industry. YIATF members spoke of their experiences of maintaining youth's interest in aviation and the barriers students face that pull them away from the industry. Ms. Dix emphasized the importance of cultural change, noting that some of the barriers cited in the WIAAB report are the same barriers faced by other minorities.

Dr. DeVivo emphasized the importance of thinking about retention in creating a complete pathway of recommendations. Ms. Holmes agreed, stating accurate data must drive cultural change. She described barriers for underrepresented communities, emphasizing the importance of substantiating these claims through objective data.

Dr. DeVivo thanked members, FAA, and Ms. Anderson for their support. She noted that the next meeting has not been scheduled. Ms. Anderson thanked the Task Force for their commitment and passion for their work and indicated that FAA is excited to receive the recommendations.

Adjournment

Dr. DeVivo adjourned the meeting at 10:54 AM ET.

Building A Brighter Future

Youth Access to American Jobs in Aviation (YIATF) Report

September 22, 2022 Public Meeting



Youth Access to Aviation Jobs in America (YIATF): Task Force Members

009

- **Stacey Bechdolt**, Founder and President; Aerospace Education Resource Organization (AERO)
- **Joey Colleran**, Industry Relations Manager, Boeing Global Services
- **Ralph Coppola**, President and Chief Executive Officer, Aerospace Education Program Alliance; Founder & Executive Director, Real World Design Challenge
- **Joanne Damato**, Senior Vice President; Education, Training & Workforce Development, National Business Aviation Association
- **Sharon DeVivo**, Chair, YIATF; President and Chief Executive Officer, Vaughn College
- **Whitney Dix**, Manager of Dispatch Training, Southwest Airlines
- **Joel English**, Executive Vice President, Centura College
- **Jewel Fletcher**, Student, Bachelor of Science in Aircraft Operations (Flight)
- **Ryan Goertzen**, Vice President, Maintenance Workforce Development
- **James Hall**, Dean, Aviation & Manufacturing, Wichita State University Campus of Applied Sciences & Technology; President, Aviation Technicians Education Council
- **Jennifer Henderson**, Engineering Test Pilot, Boeing
- **Kasey Herzberg**, Director of Engineering, Aircraft Data Fusion
- **Nancy Hocking**, Director Gateway Programs, JetBlue
- **Tammera L. Holmes**, Founder and Chief Executive Officer, AeroStar Avion Institute
- **John Huff**, Vice President Human Resource, HAECO Americas
- **Brett Levanto**, Vice President of Operations at Obadal, Filler, MacLeod & Klein, P.L.C.; Vice President of Operations, Aeronautical Repair Station Association, Aircraft Repair Stations
- **David Purser**, Aviation Physics Instructor; Karnes City High School
- **Yvette Rose**, Senior Vice President, Cargo Airline Association; President, Aero Club Foundation of Washington
- **Andrew Ross**, Steering Member, Education Committee, Airline Pilots Association
- **Cyd Smith**, School Counselor, Elkins Park School, Cheltenham School District
- **Amy Voss**, Flight Training Quality Specialist, Cirrus Aircraft



YIATF Charter: Objectives and Scope of Activities

The Task Force will develop and provide independent recommendations and strategies to the FAA Administrator to:

- a. **Facilitate and encourage high school students** in the United States to enroll in and complete career and technical education courses, including science, technology, engineering, and mathematics (STEM), that will prepare them to pursue a course of study related to an aviation career at an institution of higher education, a community college, or trade school;
- b. **Facilitate and encourage these students to enroll in a course of study** related to an aviation career, including aviation manufacturing, engineering and maintenance, at an institution of higher education, including a community college or trade school;
- c. **Identify and develop pathways** for students to secure registered apprenticeships, workforce development programs, or careers in the aviation industry of the United States.



YIATF Charter: Description of Duties

When developing recommendations and strategies, the Task Force will:

- a. **Identify industry trends** that encourage or discourage youth in the United States from pursuing careers in aviation;
- b. Consider how the FAA; air carriers; aircraft, powerplant, and avionics manufacturers; aircraft repair stations; and other aviation stakeholders can **coordinate efforts to support youth** in pursuing careers in aviation;
- c. **Identify methods of enhancing aviation apprenticeships, job skills training, mentorship, education, and outreach programs** that are exclusive to youth in the United States;
- d. **Identify potential sources of government and private sector funding**, including grants and scholarships, that may be used to carry out the recommendations and strategies and to support youth in pursuing careers in aviation



YIATF: Approach to the Work

Members were placed in one of four following sub-committees:

- **Trends:** *Identify industry trends that encourage or discourage youth in the United States from pursuing careers in aviation.*
- **Building Awareness:** *Consider how the Administration; air carriers; aircraft, powerplant and avionics manufacturers; aircraft repair stations; and other aviation stakeholders can coordinate efforts to support youth in pursuing careers in aviation.*
- **Expanded Pathways:** *Identify methods of enhancing aviation apprenticeships, job skills training, mentorship, education and outreach programs that are exclusive to youth in the United States.*
- **Funding:** *Identify potential sources of government and private sector funding, including grants and scholarships that may be used to carry out the recommendation and strategies (as listed in the charter) and to support youth in pursuing youth in pursuing careers in aviation.*

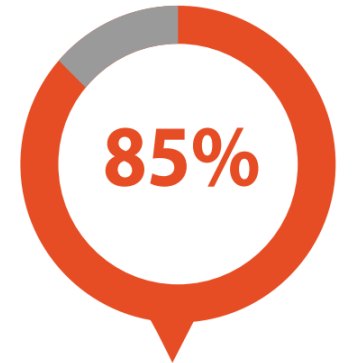
Defining the Workforce Shortage

As the Boeing workforce outlook from 2022 to 2041 report states:

Passenger demand has recovered to near pre-pandemic levels in many areas of the world and will accelerate as travelers regain a sense of safety and security...This outlook assumes continued investment in an uninterrupted pipeline of qualified personnel to replace those who either reached retirement age or opted for voluntary early retirement during the pandemic. As a result, competition to recruit and retain top-tier talent will be strong as more flights and routes are added.

Oliver Wyman Economic Analysis in June 2022 that examined trends that impacted the aviation industry over the past year notes:

Demand recovery is steady and solid across both leisure and corporate travel, and US airlines are looking at one of their best quarters in recent history. Leisure demand is close to pre-pandemic levels. Corporate bookings, while still lagging leisure travel, are rising, and international demand continues to improve as travel restrictions ease. Tight labor market conditions go beyond having enough crews for flights; it also reflects staffing problems in the ranks of ground staff, baggage handlers, air traffic controllers, TSA agents, and vendors that help supply airlines and airports.



Percentage of senior executives that said new hires was their biggest challenge



Defining the Workforce Shortage

McKinsey and Company identified in 2022 the urgent need to take a new approach to attracting and retaining the workforce. Specifically:

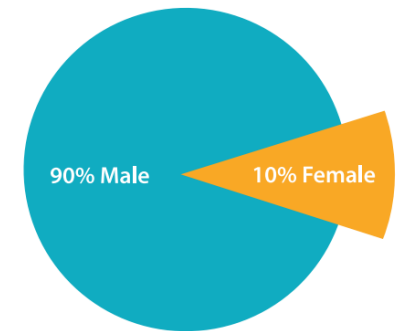
“....an industry with 50,000 unfilled positions is losing staff at a rate of 6 percent higher than other sectors and at the same time is losing out in recruiting new talent due to factors including a failure to compete with tech companies’ pay rates that, for example, typically run twice as high for software engineers.”

For too long, the vast majority of aviation and aerospace workers and leaders has been overwhelmingly male and white. The number of women in such jobs as pilot, aviation maintenance technician and others are less than 10 percent female and even smaller percentages for those from ethnically diverse backgrounds. Central to the work of this Task Force has been a shared understanding of the powerful opportunities for social mobility offered by aviation and aerospace and a commitment to bringing those opportunities to underrepresented and underserved communities including rural communities. To achieve that will require ongoing education, commitment and action by those in positions of power to expand opportunities and create pipelines of success.

Outreach to Underrepresented Groups is Paramount

To meet the need for a qualified and well-trained workforce, we must create awareness in communities that can be the greatest contributors to the industry's success.

- Creating a diverse, equitable and inclusive industry is critical to achieving our long-term workforce goals. We will all need to do more to support underrepresented populations in their pursuit of a career that provides for them and their families in a fast-paced exciting industry.
- To expand the pipeline, we must create greater awareness at the middle and elementary school levels leading to greater engagement at the high school level. Increasing that engagement level, creating a sense of belonging and seeing more students who look like them can lead young people to enroll in collegiate and technical training programs and, hopefully, pursue a career in aviation and aerospace.
- Once we create awareness and students decide that these are fields that they want to pursue, we must find a way to make this pathway affordable. Students from low socioeconomic backgrounds need the financial support to pursue the credentials to join this industry—whether it is training in aviation maintenance, flight or an engineering degree.



**Pilot and Aviation
Maintenance Careers**

Approach to the Recommendations



Recommendations fall into four major categories:

- **Early Awareness and Engagement:** Focused on the fact that engagement with young people needs to start early—waiting until high school is simply too late, given that awareness and financial support are two of the significant barriers that this Task Force has identified.
- **Information Access:** There is tremendous need for easy-to-access resources where someone—caregivers, teachers, guidance counselors and youth—can find out more information and connect to local resources.
- **Collaboration:** Speaking to the importance of collaboration among all of the amazing programs across the United States to create a connected career pathway that draws students into aviation and aerospace.
- **Address Financial Hurdle:** Representing possibly the biggest hurdle for the students we are trying to reach, is funding and entails both providing individual financial support to pursue training and education and creating a sustainable funding model for organizations.
- This report provides:
 - *a roadmap for implementation* for specific constituents in our industry, including industry, education (at all levels), states, youth-serving organizations, and the federal government.
 - *a set of actionable items* with the data and survey results that led to that recommendation.
 - suggest the *use of documented best practices*
 - *initiatives designed to open pathways for minorities and women*, underserved and underrepresented groups who have so much to gain and so much to give to an industry that very much needs to capitalize on their potential.



Connective Tissue of the Recommendations

Communication is the thread that ties all of these efforts together. We suggest a model for how educators, industry and the federal government can work together and support each other to drive success at both the regional and national level, better understanding our common purpose and share in each other's success. Specifically:

- **Regional Advisory Councils** that would assist in this effort would be comprised of the major stakeholders in the region (e.g., airports, airlines, repair stations, business aviation, museums, non-profit organizations engaged in activities, scouting, education/training providers including high schools, colleges and universities especially Minority-Serving Institutions, etc.). These groups would collaborate on designing pathways, best practices, resources and more.
- **National Advisory Council** would be comprised of the chairs of the regional advisory councils and that would monitor the efforts, provide information about best practices across the country, design metrics of success and a model for continuous improvement.

Urgently Needed: Early Awareness

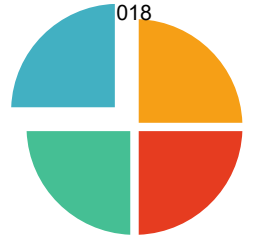
For far too long, aviation and aerospace as a career has been a mystery to those outside of the community (or beyond the security fence) with little understanding about the vast array of professions needed to support a thriving industry. Students and families are eager to understand career opportunities and pathways that provide consistent and long-term options for growth. We offer three ways to build awareness: Education, New Platforms and Industry Support.

Build Awareness through Education

1. **Fund Libraries to Provide Aviation and Aerospace Books and Media.** Ensure that elementary, middle and high school as well as public libraries have the means to create sections with age-appropriate books and media on all-things aviation and aerospace.

Proposed implementation:

- Allocate city/state/federal funding for libraries to select books and media with aviation and aerospace themes.
- Form Regional Advisory Councils who could strategize on increasing support for aviation and aerospace materials in libraries in their region.



Percentage of teachers with basic-to-no knowledge of available aviation & aerospace career resources

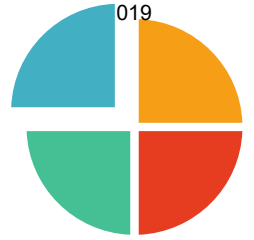


Urgently Needed: Early Awareness

2. Provide in-person engagement whenever possible and develop written materials on aviation and aerospace for school staff and teachers. Survey data indicated the strong desire for in-person presentations and written materials. Materials on aviation and aerospace careers are not widely developed or distributed for aviation and aerospace careers and school counselors, career counselors and teachers believe these would be beneficial.

Proposed implementation:

- Bring Aviation Professionals to the Classroom: Aviation and aerospace organizations develop “Adopt a Classroom” or “Adopt a School” programs.
- Create a list of speakers and mentors by region to develop a plan for outreach
- Encourage the FAA’s AVSED office to develop a standardized curriculum that could be used by aviation and aerospace professionals to incentivize young people to consider aviation and aerospace as a potential career.
- Form public-private partnerships between businesses, associations, schools, and government agencies to create new and update existing materials
- Develop a list of best practices (a toolkit) for organizations on how to engage with youth.
- Invite youth organizations to industry conferences.
- Encourage professional industry organizations to expand youth outreach.
- Consider using the 4-H model and apply it to aviation by sponsoring local outreach clubs in an afterschool enrichment environment.
- Partner with Professional Organizations for Women and Minorities.



Percentage of teachers with basic-to-no knowledge of available aviation & aerospace career resources



Urgently Needed: Early Awareness



3. Develop Turnkey After school Aviation and Aerospace Activities. Respond to the strong demand for afterschool programs by developing easy-to-implement aviation and aerospace activities that can be used within current after school programming.

Proposed implementation:

- Expand the FAA Aviation Career Education (ACE) Academy through industry partnerships.

4. Launch Early Outreach to Future Teachers and Guidance Counselors. Outreach to degree-seeking students at post-secondary educational institutions pursuing a career as a teacher/guidance counselor in order to inform them of aviation/aerospace careers and pathways so they have base knowledge when they enter the teaching profession.

Proposed implementation:

- Distribute information targeting degree-seeking teachers, regardless of their specialty, before they get to the classroom.
- Work with educational institutions to help provide information through their own curriculum.
- Collaborate with universities that have a Teaching Fellows Program

Urgently Needed: Early Awareness



5. Empower Teachers To Ignite Student Interest Establish professional development opportunities and aviation/aerospace teaching “academies” for educators in K-12 with the goal of enhancing a teacher's knowledge of aviation/aerospace careers and pathways; a “train-the-teacher” concept. of tPrepare and equip teachers to implement aviation-based projects and curriculum into the classroom leveraging a network of aviation museums, Civil Air Patrol with their numerous hands-on kits, AOPA’s high school curriculum, and others with expertise throughout the nine geographical regions he FAA. AVSED would identify standards as well as the learning outcomes that programs can work toward.

Proposed implementation:

- Use established curriculum, teaching academies/camps and hands-on kits to inspire and equip teachers.
- Identify and coordinate with aviation museums within the nine geographic areas of the FAA’s Regional Headquarters.
- Provide Continuing Education Units (CEUs) and funding for any model developed for a particular state.
Use the Regional Advisory Council specifically for that area to coordinate and collaborate for maximum impact.
- The FAA’s AVSED office should host a booth at the American School Counselor Association (ASCA) annual conference.

Urgently Needed: Early Awareness



Build Awareness through New Platforms

6. Meet the Students Where They Are With Gaming and Social Media: Target and tailor aviation and aerospace outreach programs based on age, demographics, and geographic location to ensure young people are engaged and inspired through the most effective means. This also includes messaging to parents and caregivers who hold significant influence over the career choices of their students. **Specifically, we suggest that social media, gaming and other new technologies (e.g. virtual and augmented reality) as well as platforms (e.g. Metaverse) can open pathways to engaging and inspiring young people like never before. We need to take advantage of these platforms to reach the next generation.**

Proposed implementation:

- Create an outreach advisory committee composed of young people.
- Explore YouTube as a delivery method.
- Reach out to celebrity or prominent influencers (brand ambassadors) and enlist them, particularly Black, Indigenous and People of Color (BIPOC) and women, and their social media platforms
- Enlist the help of the Ad Council (a non-profit organization to offer pro bono campaigns to raise awareness and inspire action, (Ad Council, n.d.) to spread the word about aviation and aerospace
- Create a short video for seat-back entertainment systems in commercial aircraft
- Develop partnerships with the gaming industry to create digital collateral with an aviation focus

Urgently Needed: Early Awareness



Build Awareness through Industry Support

7. Industry Stakeholders Can Sponsor Student Competitions. Establish partnerships with industry stakeholders to support and create exciting, awareness-building aviation and aerospace competitions for middle and high school students.

Proposed implementation:

- The National and Regional Advisory Councils could develop a new area of competition for middle and high school students

Information Access is Essential: The Internet is the Answer

We suggest that the most effective way to provide accurate, helpful information would be to develop a website that meets the needs of a variety of constituents and provides connections to local resources.

- Our website will include a “virtual counselor” interactive component that provides general career information to all visitors and also allows for an opt-in mechanism to provide youth with individually-tailored information and engagement.
- A national website would change the most cited reason in our survey work from—a family member or friend who connected me to the industry to—I went to a website based on awareness (built from the recommendations in the first section of the report).
- The Regional Advisory Councils will be integral to providing content oversight, particularly as it pertains to their region, and to keep the site up-to-date.



Percentage of school guidance counselors that believe the best resource for introducing students to aviation & aerospace careers would be the Internet.



Information Access is Essential: The Internet is the Answer

8. Create A One-Stop Aviation/Aerospace Information Portal. Host a comprehensive industry platform to house information on aviation/aerospace careers and pathways, a centralized website.

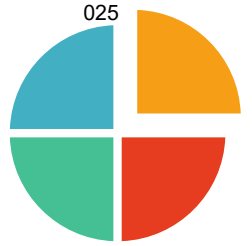
Proposed implementation:

- We suggest creating messages for students, parents/caregivers and educators and various tools to provide greater details about all of the aspects of aviation and aerospace, video, FAQs, national calendars of events and more
- Provide connections to and between regional and national organizations
- Access to curriculum, infographics and more for educators
- Information on career pathways, salaries and training/education resources for parents/caregivers

9. Create a “virtual counselor” component on the site. This interactive component of the website would use artificial intelligence to provide general career information to all visitors and could also allow for an opt-in mechanism to provide youth individually-tailored information and engagement on securing an aviation and aerospace career in the United States.

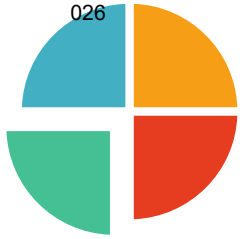
Proposed implementation:

- An artificial intelligence tool that would scrape the website in order to answer questions to prospective visitors
- A possible “live chat” option could be available for limited hours or easily follow-up at a later time



Percentage of school guidance counselors that believe the best resource for introducing students to aviation & aerospace careers would be the Internet.





Collaboration is Key: Create a Connected Pathway

We need to work together to create a connected career pathway that leads to a position in aviation and aerospace. This pathway would be built by creating collaborative councils by region, using existing platforms and education programs to reach young people, and exploring additional ways to reach young adults.

10. Create Regional Advisory Councils. Representatives from industry, government, and education form advisory councils at the regional level, based on the nine regions of the Federal Aviation Administration, for better coordination, communication and partnership opportunities. Ideally, these Councils would be managed and coordinated by the FAA's AVSED representative(s) in that region.

Proposed implementation:

- Use the Regional Advisory Council to bring parties together to coordinate outreach and programs locally
- Champion these regional efforts with a National Council
- Establish standing committees or councils with structure and management similar to other bodies



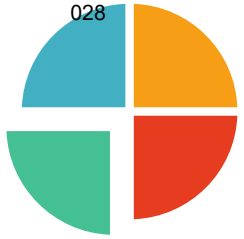
Collaboration is Key: Create a Connected Pathway

11. Tap the Power of College and Career Readiness Platforms. Work with college and career readiness platforms to provide and enrich information on aviation/aerospace careers; targets are school counselors, caregivers and students.

Proposed implementation:

- The leadership of the FAA's AVSED office could reach out to careers platforms including Naviance, CareerZone, CareerConnect, and Xello to determine how these platforms collect and determine what information that is shared with students and families.
- Create a collaboration between the FAA/Department of Transportation and the Department of Education along with these career readiness platforms to work together in a public-private partnership with a free flow exchange of economic data

Collaboration is Key: Create a Connected Pathway



12. Significantly Increase the Mentoring, Pre-Apprenticeships and Apprenticeships Available to Grow Future Employees. Stimulate career development programs that utilize aviation and aerospace employers to engage with prospective applicants. Utilize stackable credentialing programs that lead to credit toward the airframe, powerplant or general certificates (for aviation maintenance technicians), uncrewed aerial systems (UAS), flight, dispatch and other industry recognized credentials. Programs should begin in high school (whenever possible) to close the gap between exposure to a career and full training leading to certification and opportunities should be explored to recognize these credentials as part of the core curriculum (such as math and science requirements).

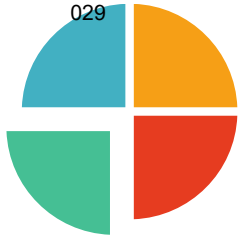
Proposed implementation:

- Offer Job Corps training through a partnership between the FAA and the Department of Labor (DOL).
- Increase aviation industry apprenticeship opportunities
- Encourage the FAA to explore recognition of other industry credentialing bodies
- Bring underrepresented groups to aviation through FAA partnerships with non-profit workforce organizations
- Aviation and aerospace companies can contribute to building a connected pathway by promoting internships, externships (job shadowing) as well as consider offering those opportunities to regional high schools
- Consider best practices in developing a mentoring program with middle and high schools as well as college students from underrepresented groups, and recruit young professionals from those underrepresented groups to be the mentors
- Develop career coaching for prospective aviation industry employees
- Create stackable credentials as the Part 147 Airframe and Powerplant Certification Program evolves with the new flexibility in regulations

600,000 / 92%

Number of students currently engaged in aviation apprenticeships Retention Rate

Collaboration is Key: Create a Connected Pathway



13. Build Educational Outreach to Underrepresented Groups particularly at Minority-Serving Institutions, Community Colleges, Technical Institutions and Non-Aviation Minority Organizations. Improve and increase outreach to education institutions specifically serving underrepresented groups, especially Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), Asian and Pacific Islander Institutions (APIs) and Tribal Colleges and Universities (TCUs).

Proposed implementation:

- Engage with Minority-Serving Institutions and two-year colleges to provide information about the market-driven job opportunities that most impact them
- Drive recruitment with underrepresented groups by allowing already-completed aviation or aerospace organizational/educational activities to count as industry experience
- Partner with university minority sororities and fraternities
- Leverage opportunities outside of aviation including non-traditional inroads into underrepresented communities by adding them to Regional Advisory Councils or partnering to increase representation

14. Dual enrollment programs between high schools and colleges/universities as well as workforce development grant programs create well-aligned pathways.

Proposed implementation:

- Employers should seek out higher education/technical institutions with aviation and aerospace programs especially those that serve underrepresented populations
- Significantly expand the grant funding available to the FAA to drive innovation and outreach across the nation

Overcoming the Financial Hurdle: Support for Individuals and Organizations

Education and training costs present a significant barrier to entry in aviation and aerospace for most individuals and particularly those from low-income backgrounds and underrepresented groups (Flyby, 2020).

To assist individual students we recommend the following:

15. Decrease the cost of flight training by increasing the allowable simulator time for pilot certification. With the advancement in simulator technology, more allowable time in the simulator while simultaneously reducing the minimum number of flight hours, could decrease training costs.

Proposed implementation:

- FAA to work with several of the existing approved Flight Training Device manufacturers to determine the optimal mix of simulator and in-air flight

16. Increase the maximum Pell Grant for students. President Biden has proposed doubling Pell by 2030 and included an increase in next year's proposed budget.

Proposed implementation:

- Congress should support increasing Pell Grants as soon as possible to make education and training possible for more low-income individuals
- Create a memorandum of understanding (MOU) between the FAA/Department of Transportation and the Department of Education could provide the structure to explore options of expanding Pell eligibility, especially for students who are pursuing careers in high-demand fields such as aviation and aerospace



New Potential Maximum for Pell Grant

Overcoming the Financial Hurdle: Support for Individuals and Organizations

031



17. Develop a National Aviation Scholarship Program. These would be funds made to qualified students and would not need to be repaid.

Proposed implementation:

- Add funding to the US Department of Education budget to support the recommendation
- Establish a separate fund or redirect funds within the Airport and Airway Trust Fund
- Establish a \$.10 user fee on all commercial airline tickets sold in the United States
- Consider increasing landing fees and use the funds to support scholarships for education and training programs
- Congress should significantly increase the grant funding available to the FAA from the current level of \$10 million to \$50 million for innovative programs that lead to documented best practices in raising awareness and bringing more young people to careers in aviation and aerospace. Congress might also choose to increase that amount to \$100 million providing \$50 million to begin a National Scholarship Fund

Overcoming the Financial Hurdle: Support for Individuals and Organizations



To assist aviation and aerospace education providers:

18. Implement a Multi-Faceted Aerospace Workforce Development Program. Develop an incentive to fund aviation and aerospace education programs through Departments of Defense and Transportation contracts.

Proposed implementation:

- The program will be paid for by using 0.25% of all Department of Defense (DOD) and Department of Transportation (DOT) aviation and aerospace contracts. The estimated funding available using this approach would be \$512.5 million per year based on contracts awarded in 2019.
- DOD and DOT contracts will require companies to address the workforce need by including aerospace education programs that build the aerospace workforce as subcontractors. Companies will choose educational programs to be subcontractors from the Aerospace Education Program List.
- The aerospace education program subcontracts will focus on building the workforce by demonstrating how programs are getting students into jobs such as pilot, aircraft maintenance technician and engineer.
- The Aerospace Education Program List will be located on a federal agency website. The website will be paid for by using a portion of funds allocated for the aerospace education subcontracts.
- Congress would need to take the next step in developing legislation to implement the program and the DOD and DOT would need to modify the existing contracting process to accommodate the proposed changes.

Overcoming the Financial Hurdle: Support for Individuals and Organizations

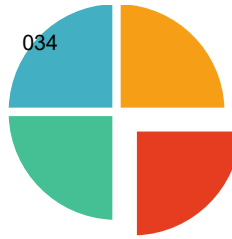


19. Increase Donations to Aerospace Education Programs by Increasing the Corporate Tax Benefit. Companies currently receive a tax incentive of 25% for donating to not-for-profit organizations (Internal Revenue Service, 2021) and we propose increasing that incentive.

Proposed implementation:

- Congressional Action. The House of Representatives Ways and Means Committee to work with the Department of Transportation to consider a process review to determine next steps
- Incentives would increase corporate engagement by creating greater interest by companies to offer their employees as volunteers with aviation organizations and institutions
- Enhance the effectiveness of corporate support by creating easy-to-find resources, such as a point of contact on their websites so that aerospace education programs and organizations can find and request volunteers to serve as mentors, judges and speakers, etc. as well as request financial support

Overcoming the Financial Hurdle: Support for Individuals and Organizations



20. Aviation and aerospace companies could consider several different financial options to assist in bringing underrepresented groups to the sector. The Task Force looked at several options not widely used to assist those from low socioeconomic backgrounds to make a career in the industry possible.

Proposed implementation:

- Assist with repayment of student and training loans
- Follow a similar model to healthcare.
- Increase the amount of pathway support offered to underrepresented populations (particularly to cover the gap between federal and state aid and the actual cost of education/training) including a stipend for expenses that will allow the student to focus on training and not on finding the funding for training
- Industry should work with Minority-Serving Institutions to identify students at targeted high schools (particularly Title I schools) and provide financial/pathway incentives

21. The FAA should review its regulations and guidance related to technical proficiency of industry personnel and certification standards as well as update its own practices for managing and developing government human resources. We encourage the government to review its own standards with regard to skill development and seek ways to enhance opportunities for growth and provide for new technology to drive down the cost of training.

Proposed implementation:

- Execute the final recommendations that will be made by the SOCAC
- Execute recommendations in the May 2021 report by the US Government Accountability Office assessing the FAA's strategic planning to prepare its workforce for the future
- Institute industry recommendations (and pursue further opportunities to implement) revising FAA procedures for training acceptability
- Update agency guidance and other resources describing aviation career opportunities

Critical Next Steps: Creating Inclusive Work Environments

All the effort to build a talent pipeline that reflects the diversity of America will not succeed if when individuals join the industry they do not feel as though they belong. In order to attract and retain individuals from underrepresented backgrounds, the industry must be:

- Committed to diverse outreach and hiring
- Creating equitable environments so that diverse individuals feel psychologically safe and valued as members of the team
- Holding courageous conversations in the workplace concerning diversity, equity and inclusion
- Examining of policies with a new educated lens, and
- Providing ongoing training and education programs that allow everyone to learn, make mistakes and move forward

Long-term results will only come with accountability and responsibility for making change happen by:

- Setting measurable goals
- Publishing our data
- Sharing our learnings
- Never stopping the work



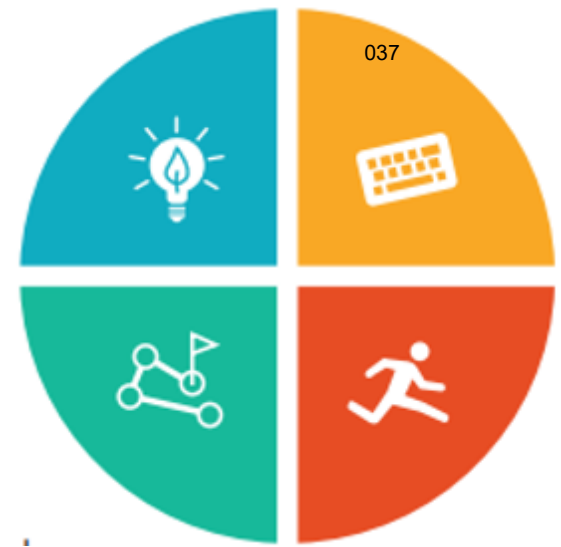
Critical Next Steps: The Work Must Continue

The single most important recommendation we can make after more than two years of work is that we must continue the conversation at the regional and national level.

Throughout the report, we recommended Regional Advisory Councils that bring together all of the stakeholders on a regular basis to connect resources, collaborate on projects and imbue a passion for aviation and aerospace across that region. These Regional Advisory Councils would then send a representative from their group to a National Advisory Council that would monitor these efforts, assist in further collaboration, share best practices across the country and lead a national effort to make a difference.



Summary of Recommendations



Early Awareness & Engagement

1. Fund Libraries to Provide Aviation and Aerospace Books and Media
2. Provide in-person engagement whenever possible and develop written materials on aviation and aerospace for school staff and teachers
3. Develop Turnkey Afterschool Aviation and Aerospace Activities
4. Launch Early Outreach to Future Teachers and Guidance Counselors
5. Empower Teachers To Ignite Student Interest
6. Meet the Students Where They Are With Gaming and Social Media
7. Industry Stakeholders Can Sponsor Student Competitions



Information Access

8. Create A One-Stop Aviation/Aerospace Information Portal
9. Create a "virtual counselor" component on the site

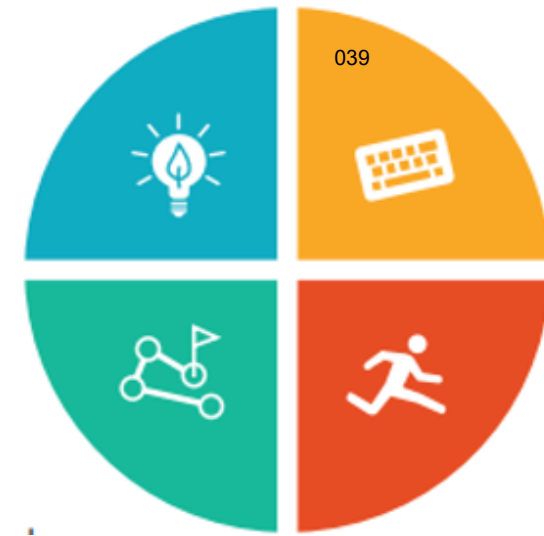
Summary of Recommendations



Collaboration

10. Create Regional Advisory Councils
11. Tap the Power of College and Career Readiness Platforms
12. Significantly Increase the Mentoring, Pre-Apprenticeships and Apprenticeships Available to Grow Future Employees
13. Build Educational Outreach to Underrepresented Groups at Minority-Serving Institutions, Community Colleges, Technical Institutions and Non-Aviation Minority
14. Dual enrollment programs between high schools and colleges/universities as well as workforce development grant programs create well-aligned pathways.

Summary of Recommendations



Address Financial Hurdle

15. Decrease the Cost of Flight Training By Increasing the Allowable Simulator Time for Pilot Certification
16. Increase the maximum Pell Grant for students
17. Develop a National Aviation Scholarship Program
18. Implement a Multi-Faceted Aerospace Workforce Development Program
19. Increase Donations to Aerospace Education Programs by Increasing the Corporate Tax Benefit
20. Aviation and Aerospace companies could consider several different financial options to assist in bringing underrepresented groups to the sector
21. The FAA should review its regulations and guidance related to technical proficiency of industry personnel and certification standards as well as update its own practices for managing and developing government human resources

Final Thoughts

The approach to solving aviation and aerospace's workforce challenge must be a multi-solution approach (we have provided 21) with some opportunities happening more quickly and some having greater impact. What will ultimately make a difference will be our *ability to collaborate, communicate our wins and challenges, and our commitment to attracting young people* to this exciting, impactful, and horizon-expanding industry.

