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# ***Headquarters U.S. Air Force***

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## **United States Air Force Pilot Shortage Perspective & Way Forward**



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# Current Challenges to the Aviation Community

## Security of Nation's National Defense

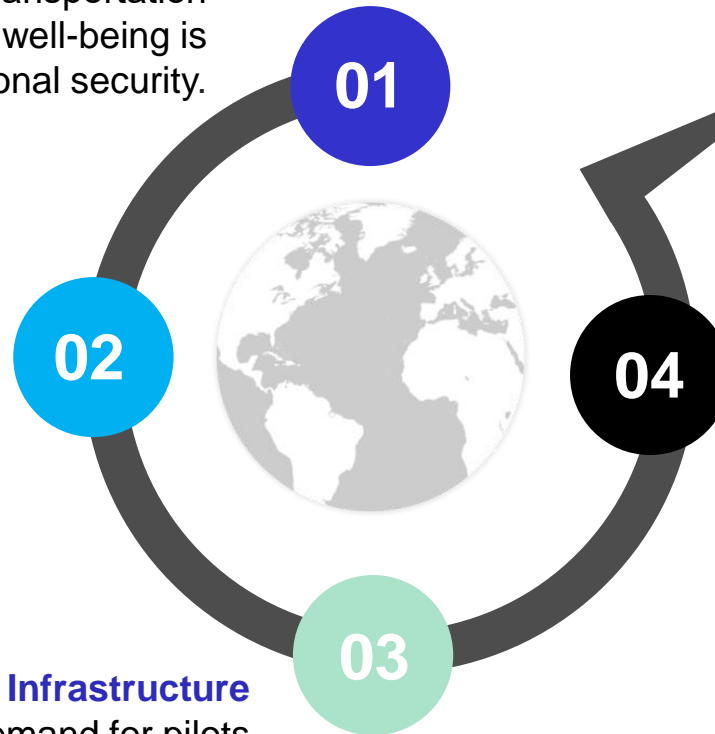
Our nation's commercial transportation infrastructure and economic well-being is predicated on national security.

## Growing Demand for Qualified Pilots

Global demand for pilots is increasing exponentially. Boeing estimates commercial demand to reach 635,000 by 2037 (including 127,000 in North America)

## Insufficient Training Infrastructure

The growing and rapid demand for pilots requires training infrastructure and capacities to be innovative and adaptable to meet current aviation needs.



## Inspiring Aviation

Inspiring aviation among youth and underrepresented groups is critical to ensuring that there is an enduring and sustainable pipeline of pilots to supply the current aviation enterprise.



# USAF Perspective & Scope of the Challenge

- At the end of FY18 the Air Force was short approximately 2,000 pilots across the Total Force.
- Pilot shortages remain most acute in the RegAF in fighter, bomber, and special operations pilots.
- Pilot production grew above the programmed target for the first time but is still unable to outpace the loss of experienced pilots.

## SIZE

We are short 2,000 Total Force pilots as of the end of FY18



- We are not keeping up with our departures
- The most stressed communities are at critical manning levels
  - RegAF Combat Air Forces
  - RegAF Bomber
  - RegAF Special Ops Forces
  - Air Reserve Component Fighter
  - Air Reserve Component Mobility

## SHAPE

Retention is critical to ensure we have enough FGOs for command billets

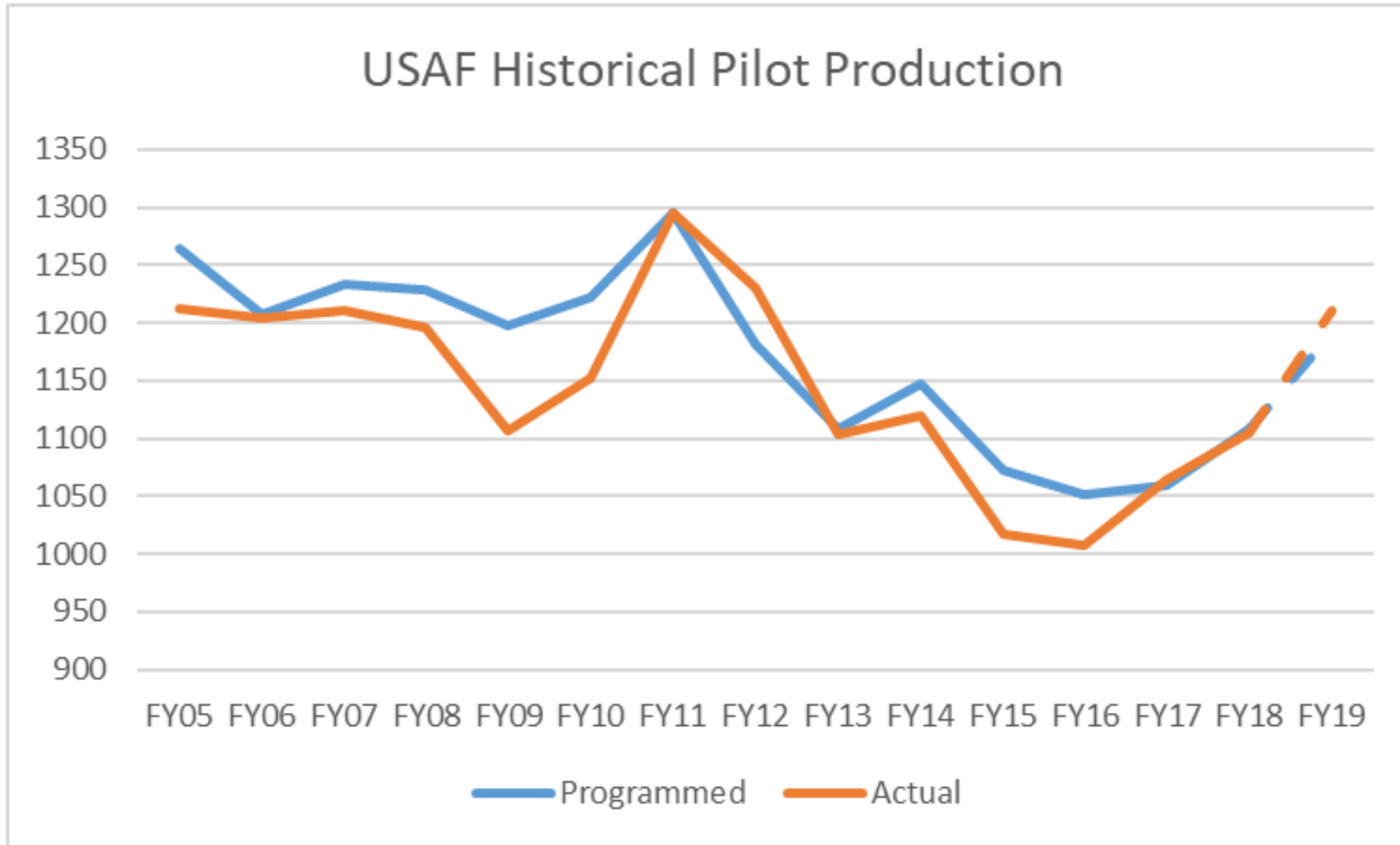


- Retention rates remained consistent from FY17 after increases were made to all three bonus and pay programs for aviators, arresting a multi-year downward trend.
- Aviation Bonus take rates, which correlate with retention, were at 45% (short of the 65% target)

**Returning the Air Force to a healthy, sustainable manning level requires addressing production and retention shortfalls simultaneously and congruently**



# Historical Total Force Programmed vs. Actual Pilot Production

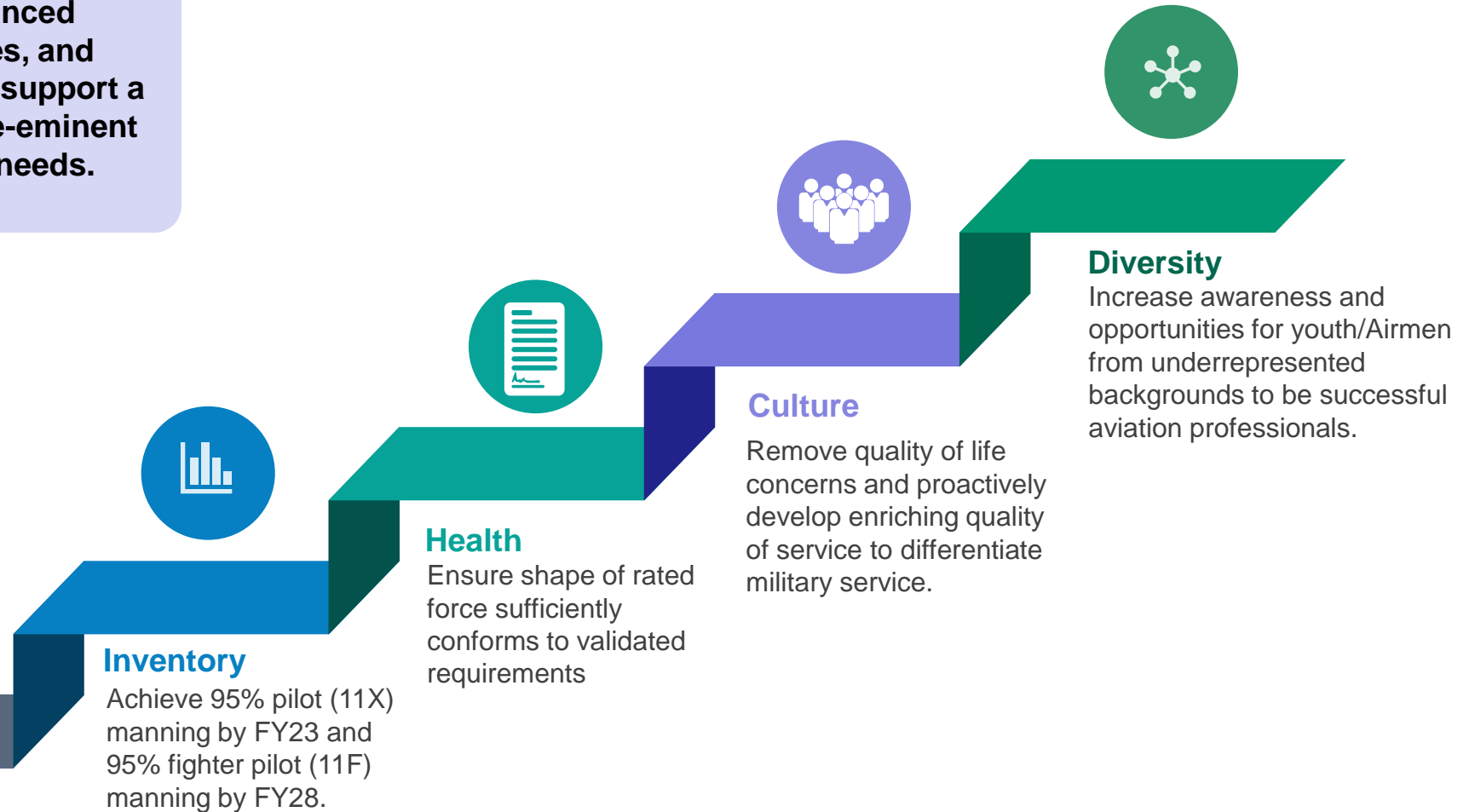




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# USAF Way Forward

Enable sustainable processes (enhanced recruitment, agile production pipelines, and enriching quality of service and life) that support a healthy aviation enterprise providing pre-eminent warfighters to meet national defense needs.



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# *Pilot Training Next*

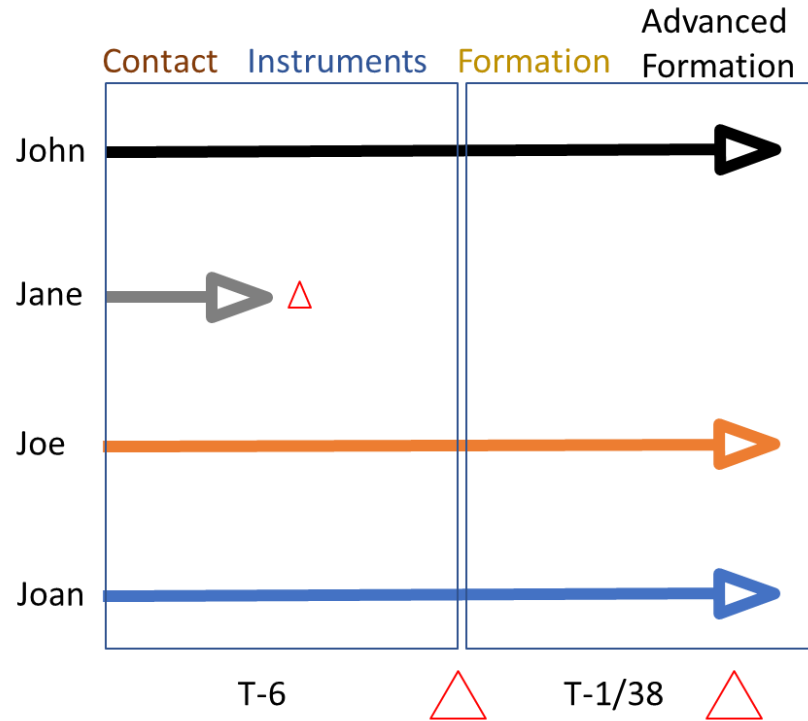
- **By leveraging innovative technology the AF is able to reduce the time needed to train an AF pilot from 1 year to 6 months.**
- **In summer of 2018 PTN successfully graduated 13 of its 20 original students.**





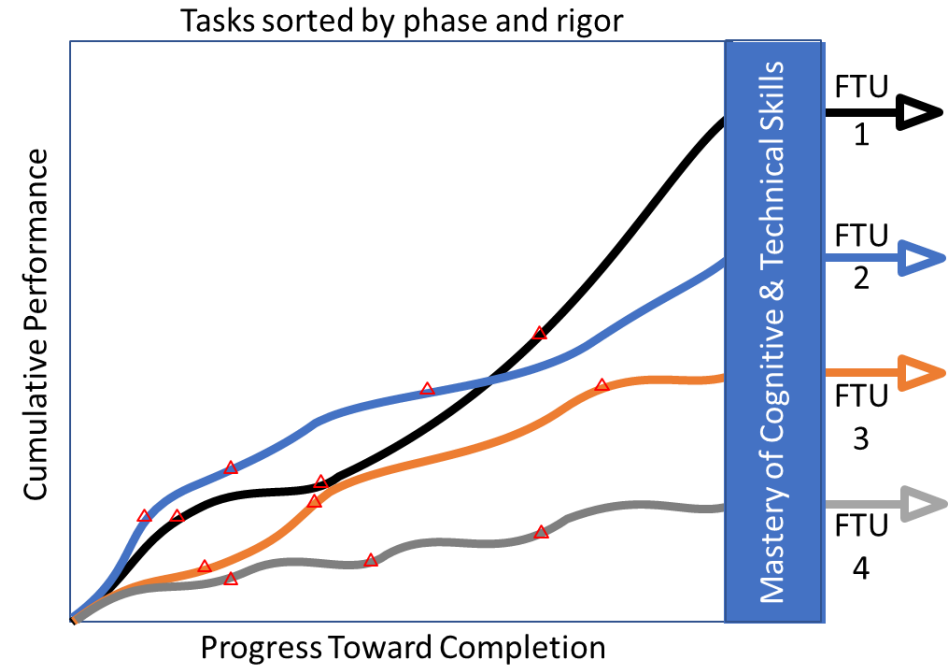
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# USAF Pilot Production: Producing Pilots in More Innovative Ways



### Industrial Age Model

- Linear progression
- Sortie-centric
- Standardized
- Accumulates subjective data for



### Information Age Model

- Emergent progression
- Task & Aptitude-centric
- Individualized
- Continual decisions based on accumulated objective data



## ■ Effectiveness

- End Users (FTUs) will be conducting final evaluation and will relay data accordingly, but initial feedback is that students are well within average performance

## ■ Training Lessons

- COTS VR simulation needs further development, but greatest learning is in use of VR as a training tool.
- IPs were lynchpin to successful winging of SPs
- Immersive academics were lauded by students for effectiveness of communicating lesson objectives
- Student-centric training is valuable but presents significant scheduling challenges

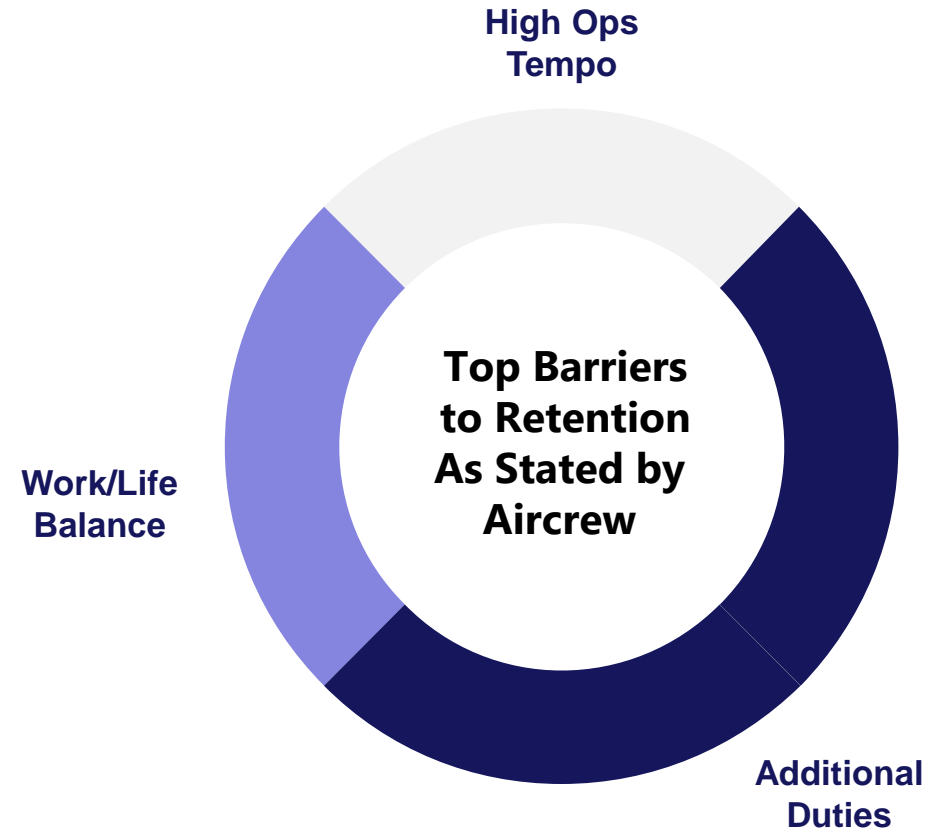
**PTN's current model is not "the answer" to the future of pilot training, but it contains elements of "an answer" that we are working to distill**





# USAF Retention: Keeping the Experience We Need

- We've determined that:
  - Quality of Service and Quality of Life are major drivers to retention
  - Maintaining a Successful "Work-Life Balance" is key
- The Air Force has undertaken a number of initiatives to remove barriers to continued service.
  - Modernizing and creating transparency in the assignment process
  - Increased flexibility in career path requirements
  - Support in squadrons to assist with ancillary duties
  - Bonus and incentive pay



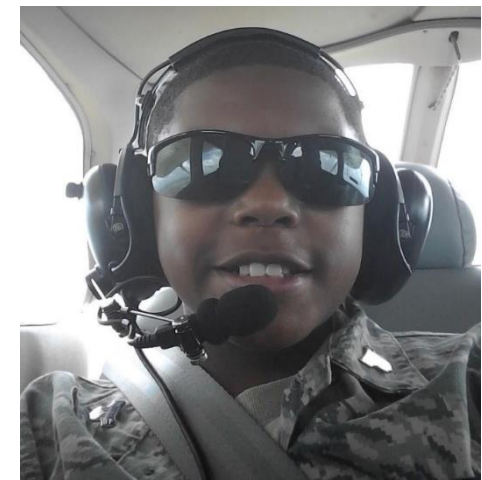
Starting to bend the curve, but more work to be done



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# Inspiring Youth & Attracting Diverse Talent

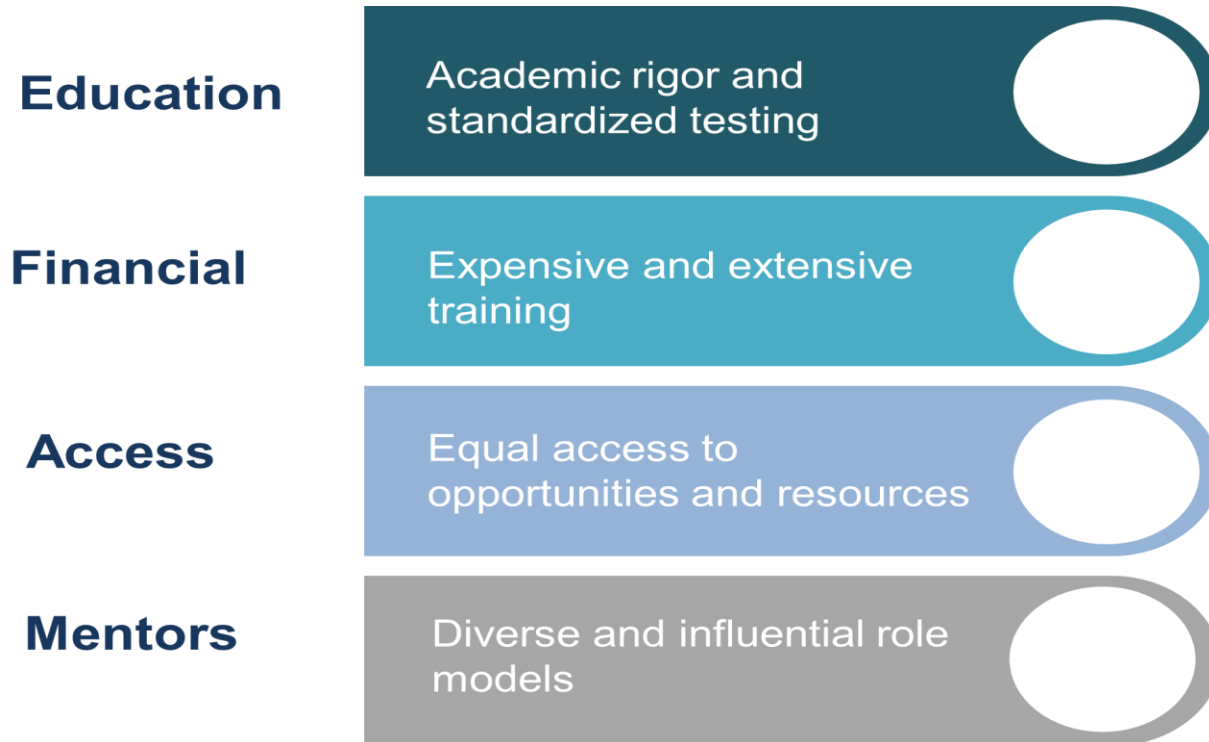
- The AF continues to work in collaboration with external groups in order to increase awareness and opportunities for youth and Airmen from underrepresented backgrounds.
- The CSAF and SecAF believe that increasing diversity among the pilot community is an American strength and a warfighting imperative.





# Current Barriers for Youths

- By collectively working together to reduce barriers for youths we will be able to produce more pilots faster and increase the overall capacity of the aviation enterprise

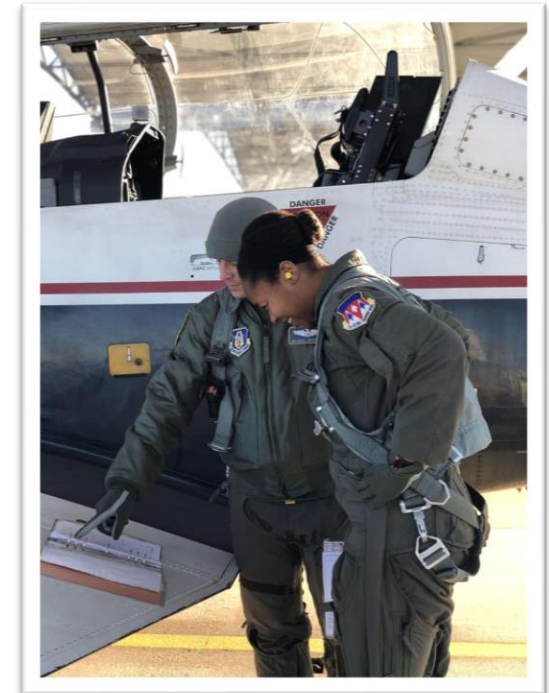




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# ***USAF Involvement & Program Examples***

- **The AF's actions involve working with agencies both inside and outside the Air Force in order to reach and develop future aviators**
  
- **Key programs include:**
  - **AFJROTC Flight Academy**
  - **Aviation- Character- Education (A.C.E) Solo Flight Program**
  - **Chief Master Sergeant of the Air Force Pilot Scholarship**
  - **Civil Air Patrol Cadet Programs**
  - **AFROTC Flight Training Opportunities**
  - **Pilot Interviews at Women in Aviation Conference**





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# ***Air Force Partnership with Federal Aviation Administration***

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- **FAA and USAF have formally begun collaborating to reach the following goals:**
  - **Grow the national aerospace enterprise**
  - **Reduce barriers, costs, and time of entry for pilots – equal opportunity, regardless of background**
  - **Promote aviation nationwide**
  - **Inspire youth to get involved with aviation and STEM**
  - **Use technology to create more efficient training processes and a safer pilot**
  
- **Key topics:**
  - **Share current innovations and resources, including Pilot Training Next and artificial intelligence technology with FAA to build a more efficient training system**
  - **Align common interests to facilitate executive and government action**
  - **Collaborate with industry for technological developments**
  - **Shape a new pipeline with various entry and exit points**



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# *How Can We Work Together ?*

- Develop a sustainable and enduring pipeline of pilots not only within the military but also across the civilian sector as well
- Improve training inefficiencies through technology (i.e., artificial intelligence & mixed reality) in order to produce pilots faster and more safely
- Increase collaboration among military, industry, and collegiate institutions
  - Collectively work together to reduce barriers to entry
  - Provide equal opportunities
  - Promote aviation nationwide

**We all play a role in shaping the future of the aviation enterprise!**



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# QUESTIONS?