



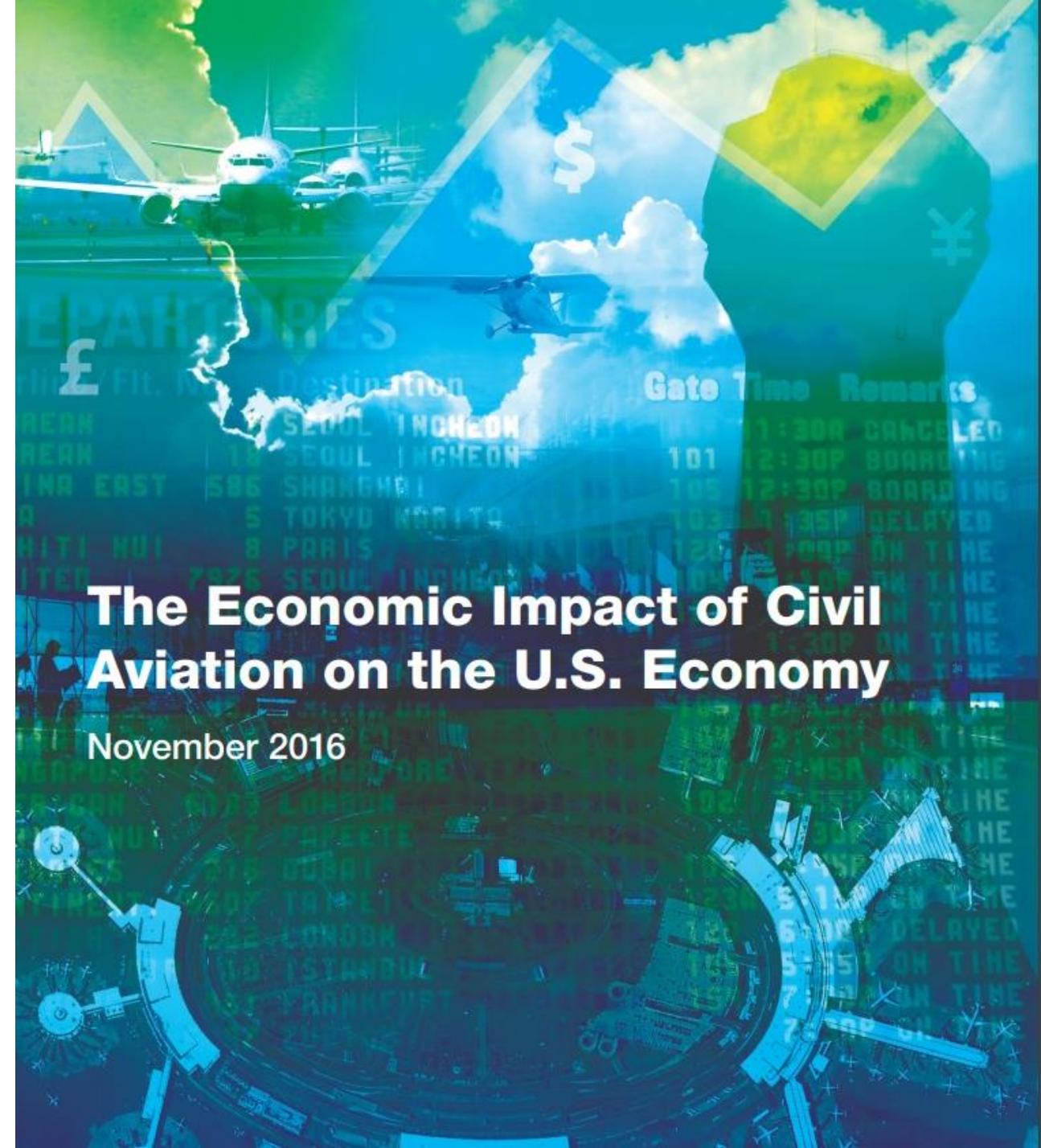
Regional Airline Association

Pilot Workforce Update
August 2018

Economic Impact of Civil Aviation

- In 2014, civil aviation generated \$1.6 trillion in economic activity and supported 10.6 million jobs.
- Civil aviation accounted for 5.1% (846 billion) of the U.S. gross domestic product in 2014.
- Commercial airline operations enabled \$310.0 billion of visitor expenditures on goods and services.
- Civil aircraft manufacturing continues to be the top net exporter in the U.S. with a positive trade balance of \$59.9 billion.

Source: [U.S. DOT FAA "The Economic Impact of Civil Aviation on the U.S. Economy" November 2016](#)



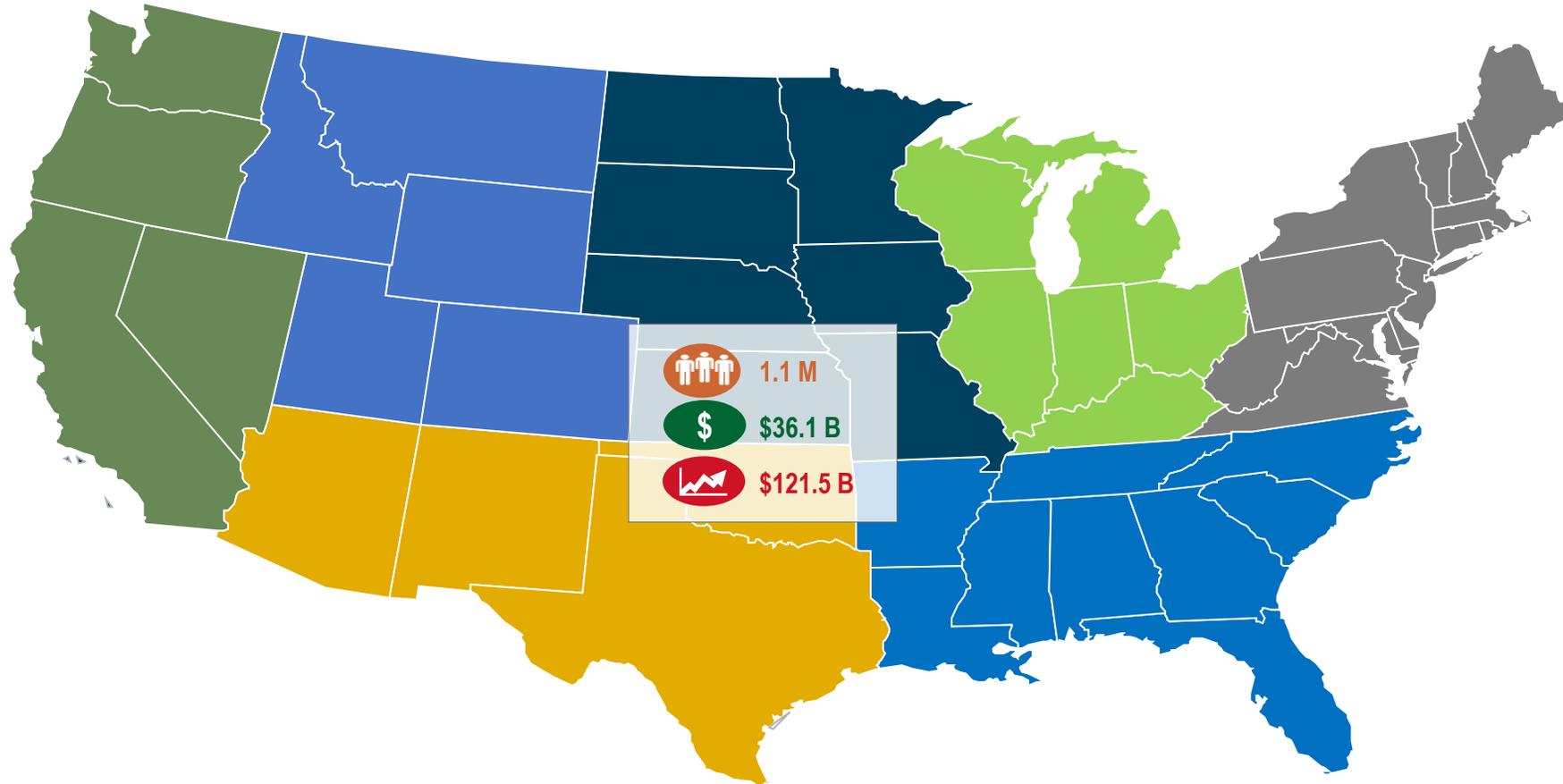
The Economic Impact of Civil Aviation on the U.S. Economy

November 2016

Regional Airlines are Critical Infrastructure



Economic Impact of Small Community Air Service

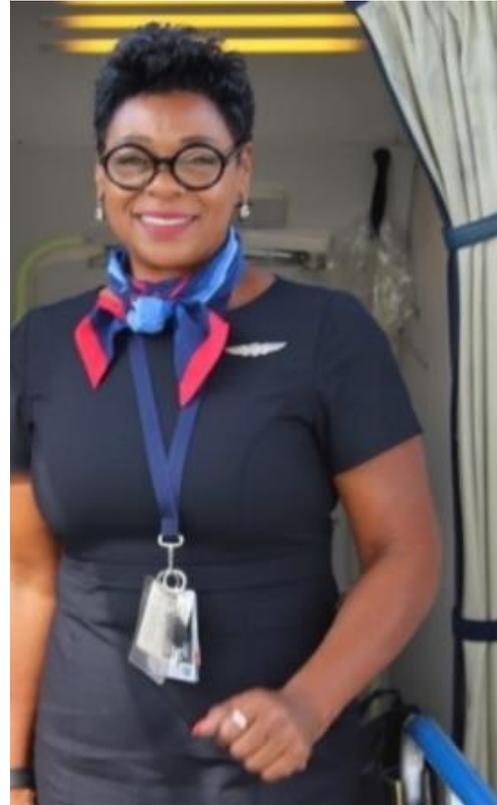


In 2015, the economic impact of air service to small and non-hub airports alone in the contiguous 48 states was an estimated **\$121B** — supporting over **1.1m jobs**

Source: <http://www.airservicealliance.com/wp-content/uploads/2014/08/IVC-ECON-IMPACT-FOR-RASA-IN-MSP.pdf>

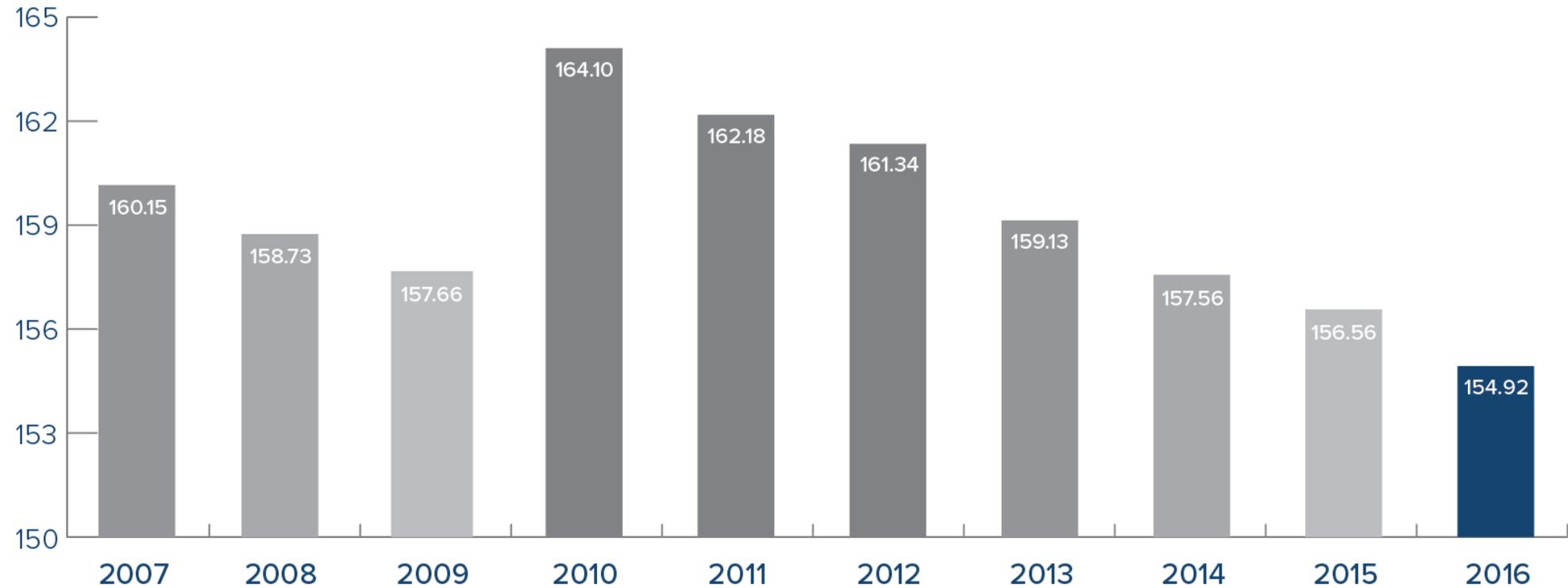
RAA Members Generate 59,000 Direct Jobs

- 20,000 pilots
- 10,000 support staff
- 1,000 flight control
- 8,000 mechanics
- 5,000 customer service
- 15,000 flight attendants



Regional Airline Industry is Contracting

Passengers Enplaned *(Millions)*





The Pilot Shortage

- Major airlines are replacing unprecedented number of pilots due to mandatory Age 65 retirements and growing air service demand during a time when fewer pilots are entering the career than retiring from it.
- Regional airlines are the career entry point; major airlines draw heavily from regional airlines when hiring.
- A regulatory change (FAA's 2013 FOQ Rule) further constrained pilot supply by making the training path more expensive and the career more difficult to access.
- Regional airlines provide the ONLY source of air service to most U.S. airports. Industry contraction is a national crisis.
- With too few pilots, airlines have been forced to curtail frequency and in some case exit markets.

Great Lakes Airlines suspends operations

By Chrissy Suttles, Wyoming Tribune Eagle Mar 26, 2018 Comments

Already critical U.S. pilot shortage forecasted for continual decrease

By: Allissa Corak

post you

CBS NEWS

National pilot shortage could impact local flights and eventually your wallet

By: Lorena Inclan, Action News Jax

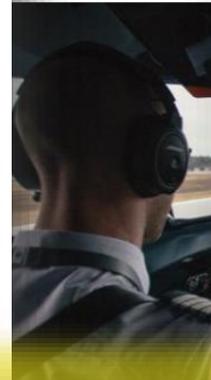
Updated: Jul 5, 2018 - 6:42 PM

ed: Jul 18, 2018 1:36 PM

FACEBOOK TWITTER

Regional airlines hurt by worsening pilot shortage: "It should be a national concern"

JUL 4, 2018 6:47 PM EDT CBS EVENING NEWS
BY KRIS VAN CLEAVE / CBS NEWS

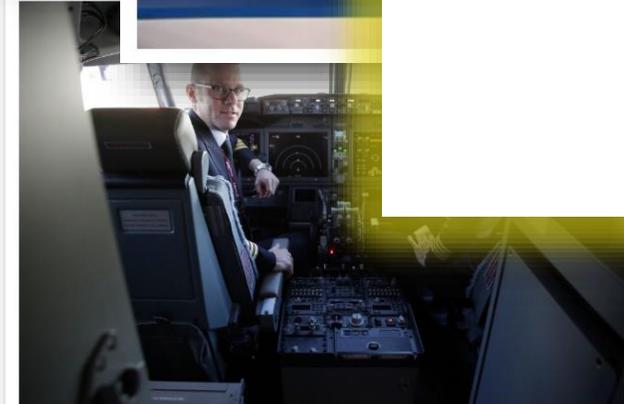


COMMENTARY • AIRLINE INDUSTRY

Small Airports Could Soon Be Doomed Thanks to America's Growing Pilot Shortage



A flight crew loads a plane. Blaine



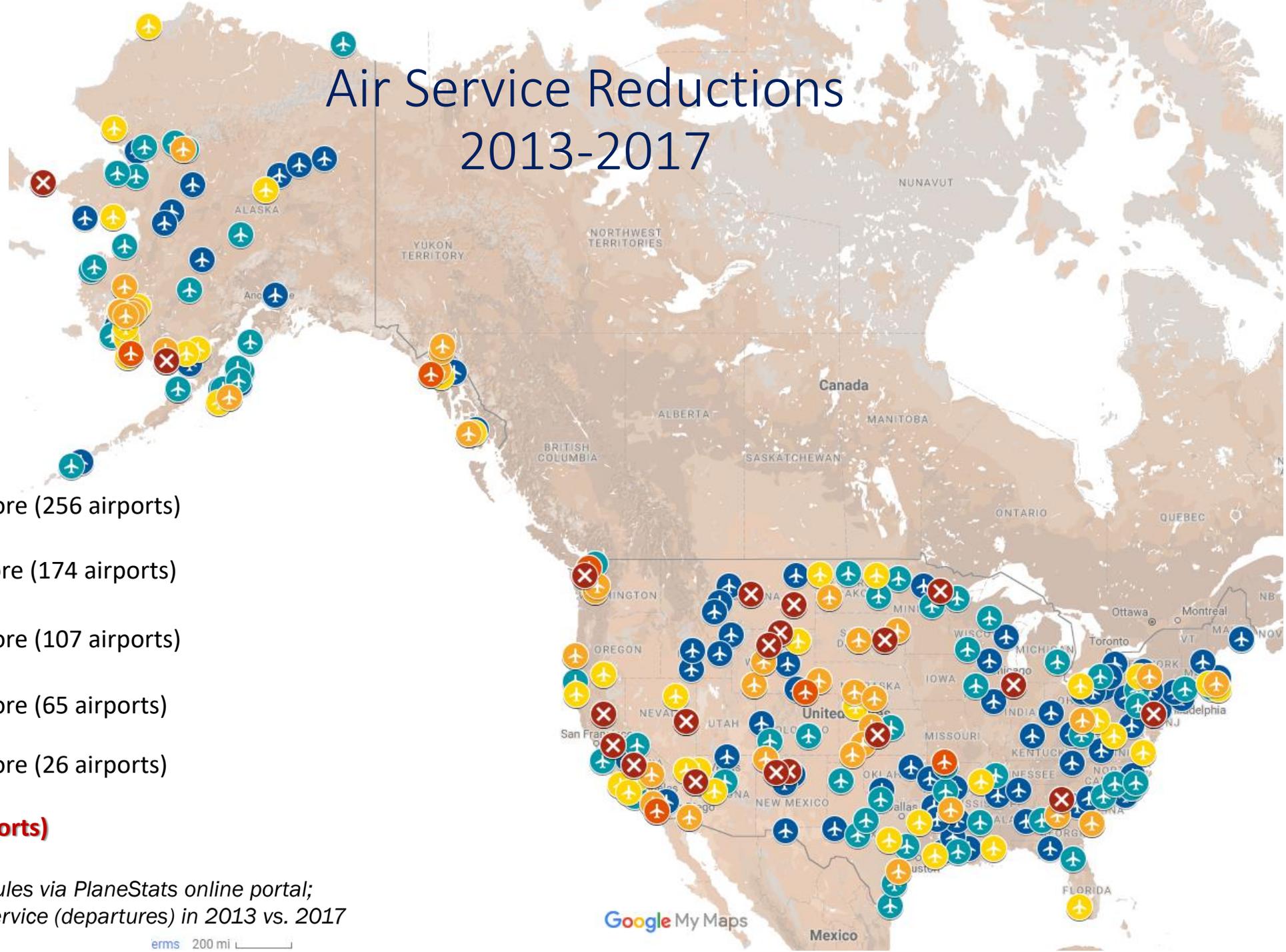
Pilots pose inside the cockpit of a Boeing 737 MAX 8 as Boeing Commercial Airplanes, Qatar Airways and Air Italy celebrate the delivery of their first 737 MAX in Everett, Washington on May 11, 2018. JASON REDMOND/AFP/GETTY IMAGES



Air Service Reductions 2013-2017

-  Reduction of 10% or more (256 airports)
-  Reduction of 20% or more (174 airports)
-  Reduction of 33% or more (107 airports)
-  Reduction of 50% or more (65 airports)
-  Reduction of 75% or more (26 airports)
-  **Lost all service (20 airports)**

Source: RAA analysis of OAG schedules via PlaneStats online portal;
Airports scheduled passenger air service (departures) in 2013 vs. 2017



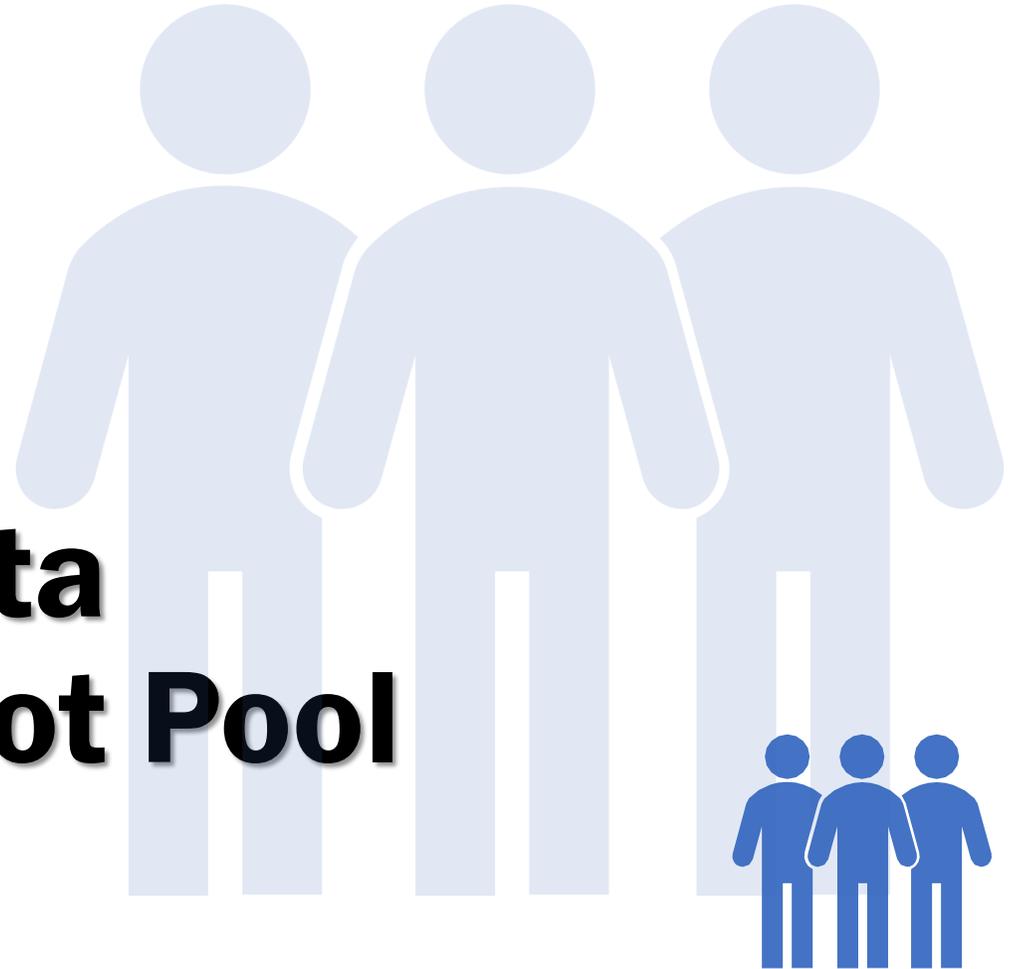
Small Communities Face Economic Consequences

When air service is lost and connectivity reduced, communities....

- struggle to attract and retain businesses.
- lose essential service providers, including medical professionals.
- experience diminished economic viability.



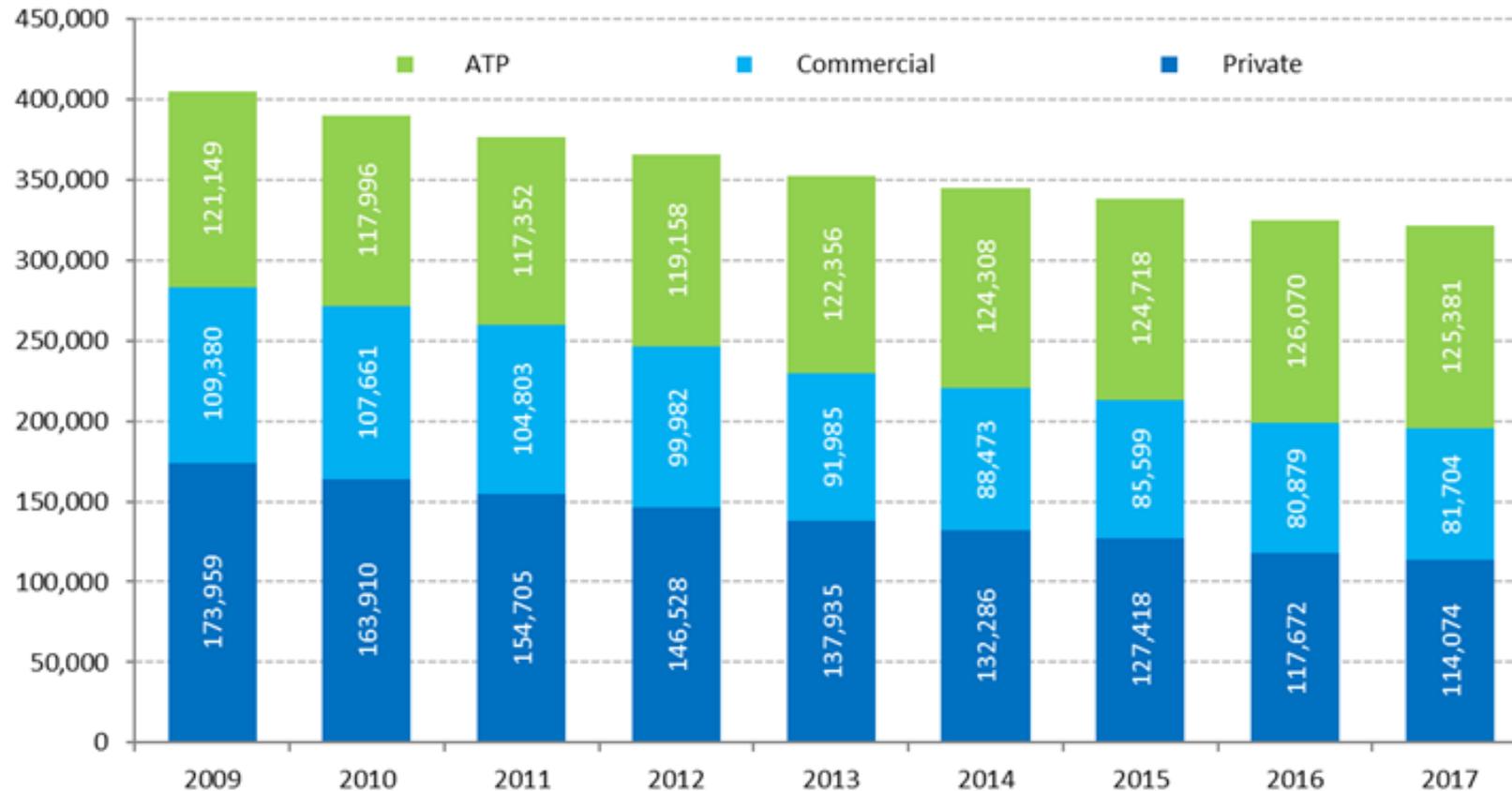
FAA Civil Airmen Data Shows Shrinking Pilot Pool



Shrinking Hireable Pilot Pool

Estimated Active Pilot Certificates Held by Category Ages 20-59

Federal Aviation Administration U.S. Civil Airmen Statistics, Table 12



-20.6% since 2009

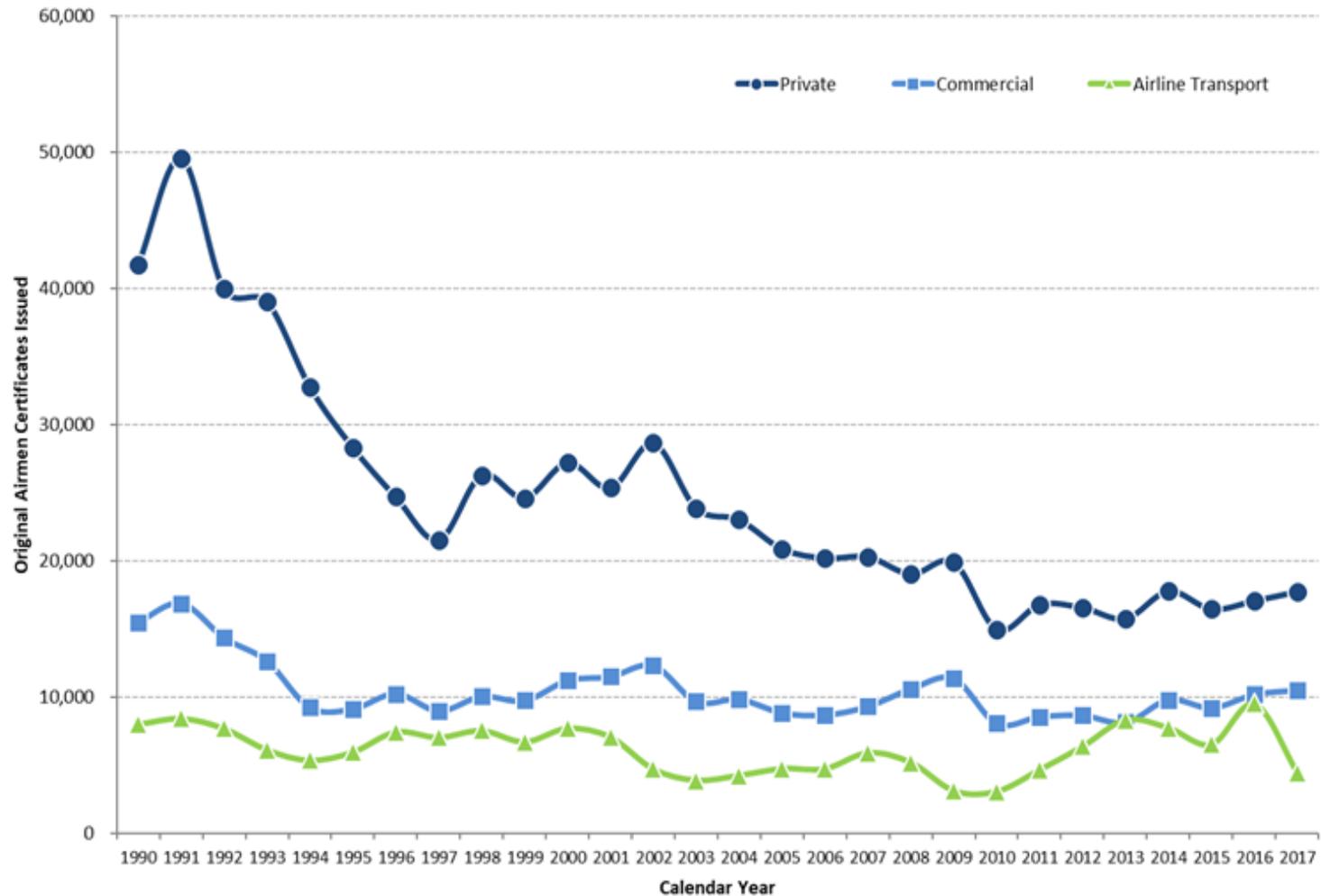
-992 per month

-33 per day

All Categories Declining

Original Airmen Certificates Issued by Category

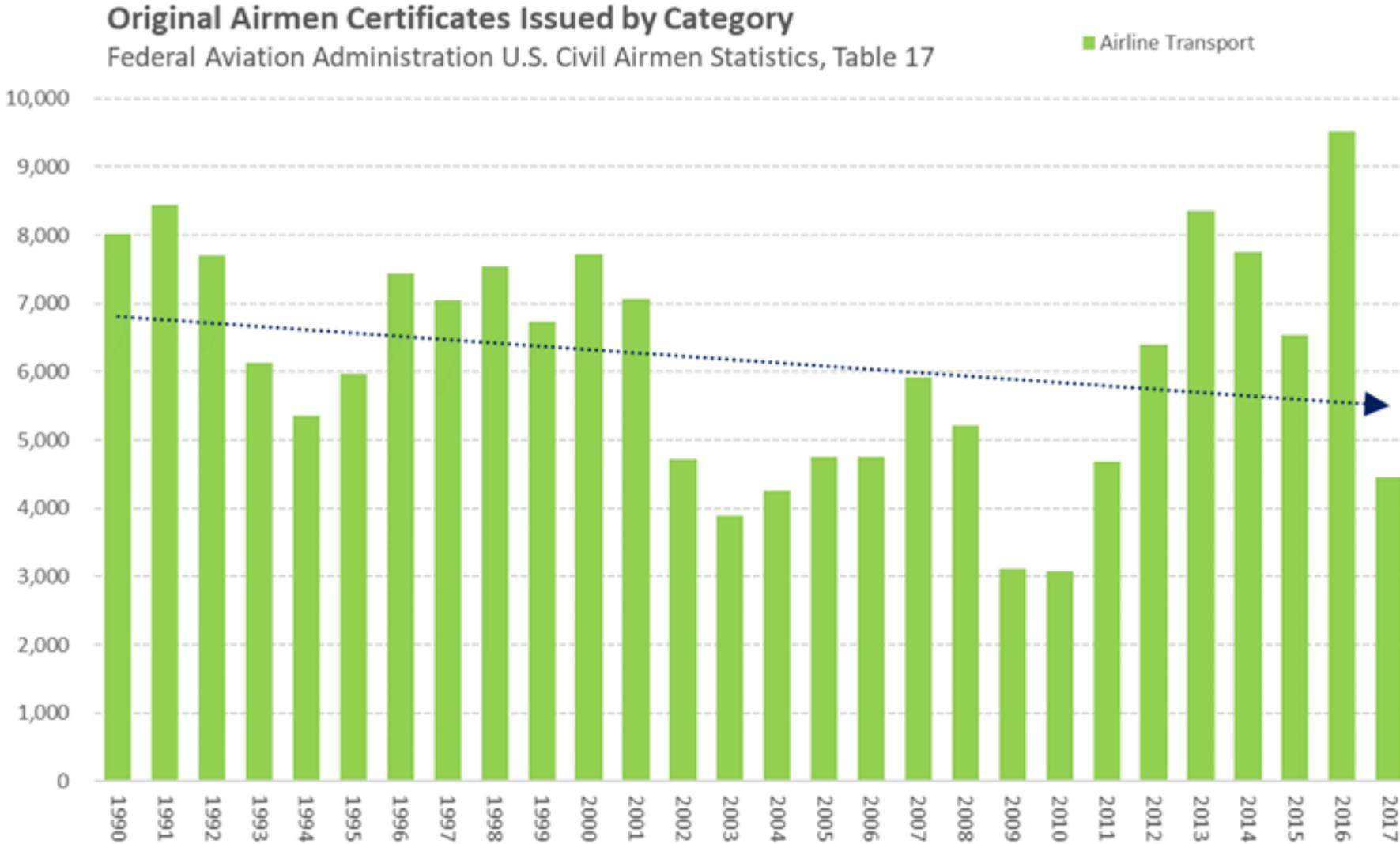
Federal Aviation Administration U.S. Civil Airmen Statistics, Table 17



Regulatory Change Influenced ATP Issuance

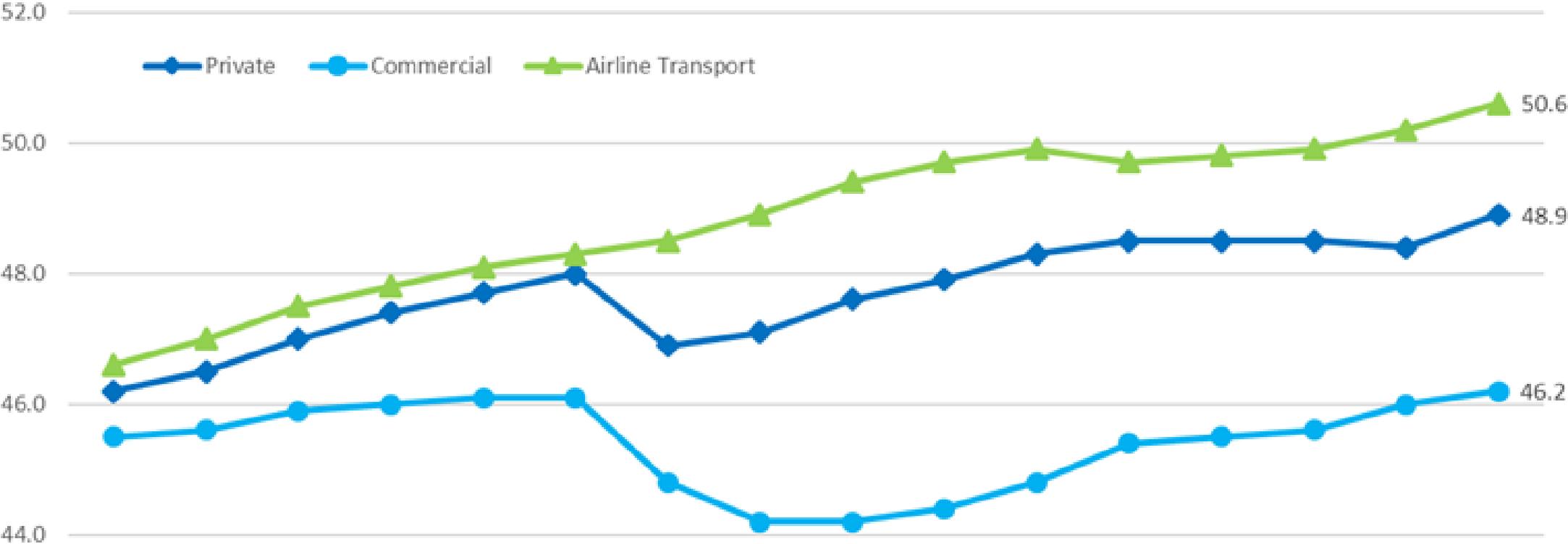
“Commercial and air transport pilot (ATP) certificates have been impacted by a legislative change... The Airline Safety and Federal Aviation Administration Extension Act of 2010 mandated that all part 121 flight crew members would hold an ATP certificate by August 2013. Airline pilots holding a commercial pilot certificate and mostly serving at Second in Command positions at the regional airlines could no longer operate with only a commercial pilot certificate after that date, and the FAA data showed a faster decline in commercial pilot numbers, accompanied by a higher rate of increase in ATP certificates.” -- FAA 2018-2038 Aerospace Forecast, March 15, 2018

Negative ATP Trend *Despite* Rule Change

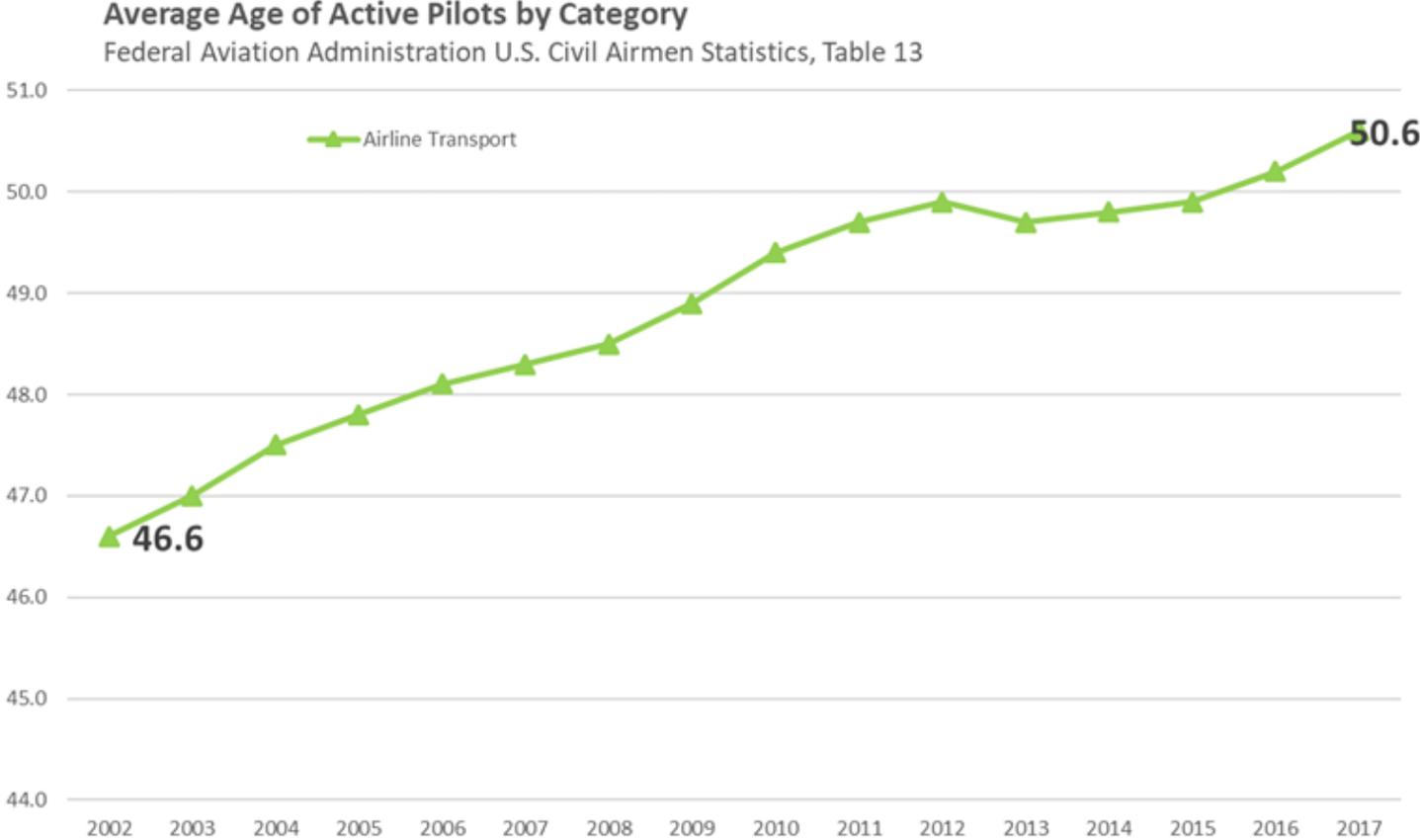


Aging Pilots in all Categories

Federal Aviation Administration U.S. Civil Airmen Statistics, Table 13



Aging ATP Pilots



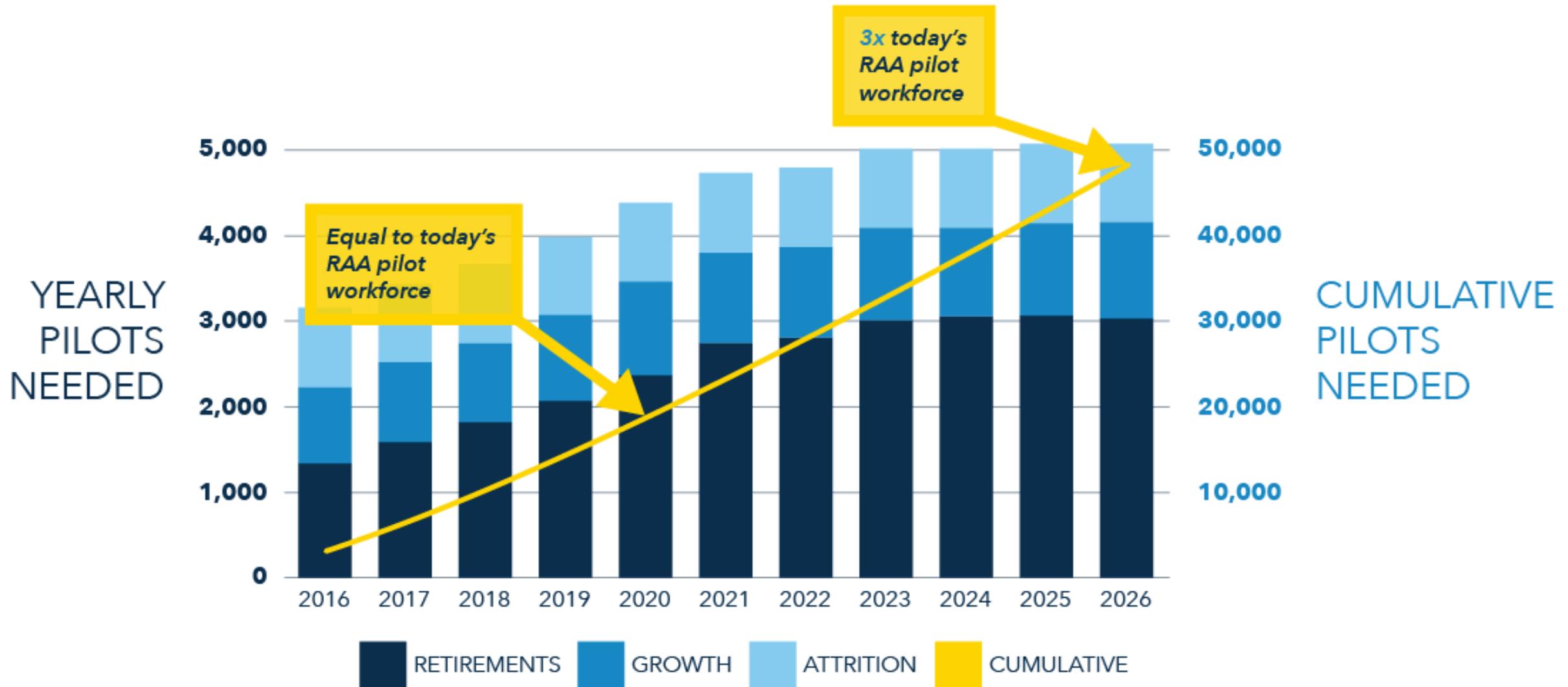
Forecasts predict
worsening pilot
shortage



Forecast Pilot Supply & Demand

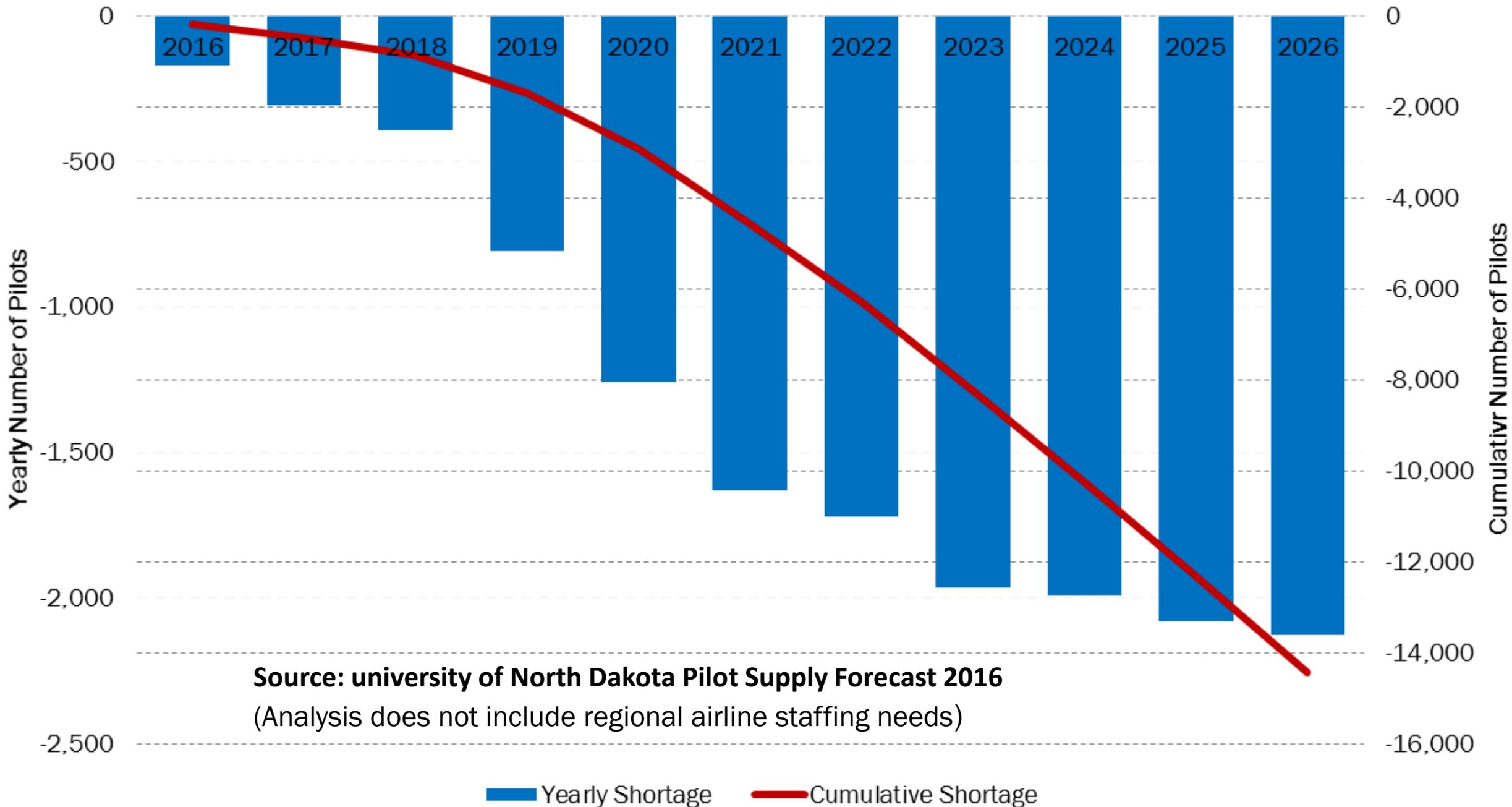
- **UND U.S. Airline Pilot Supply Forecast (2016)** predicts cumulative pilot shortage of 14,000 by 2026.
- **CAE Airline Pilot Demand Outlook (2017)** indicates 85,000 new airline pilots needed, by 2027, including 62,000 new captains; cites large number of retirements as significant challenge.
- **Boeing Pilot Outlook (2018)** projects worldwide growth in pilot demand, with 206,000 pilots needed in North America by 2038.
- Since 2008, the number of private pilots decreased by 27% and the number of commercial pilots decreased by 21%.

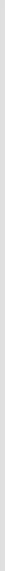
Major Airlines Hiring Forecast



Source: University of North Dakota Pilot Supply Forecast 2016

Forecast Yearly and Cumulative Shortages of Pilots to Staff the U.S. Airline Fleet





Enhancing the Career



Regional Airlines are Investing in Pilots

- Collegiate and training institution partnerships focused on career opportunities; preferred hiring agreements.
- Internship, cadet, and leadership development programs.
- Partnering with major airlines on academy style training programs, using flight schools to train pilots.
- Flow and guaranteed interview programs with major airlines to support career stability.
- Tuition reimbursement agreements.
- Significant salary investments, starting year one.

Pilot Compensation is High and Climbing

RAA member airlines pay **first year, First Officers** an average total compensation of **\$59,098**.

The Bureau of Labor and Statistics (BLS) reported 2017 median annual wage for all U.S. occupations at all levels was **\$37,040**.

Median Compensation for commercial airline pilots in 2017 was **\$137,330**.
(17% increase from 2015)

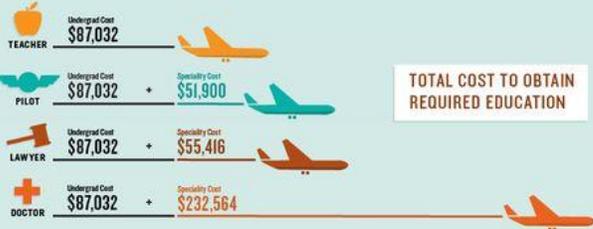
FLYING HIGH WITH A PILOT'S ROI

HOW FOUR CAREERS COMPARE

If you calculate potential career earnings compared to the cost of education, the output is return on investment (ROI).

WE COMPARE FOUR BIG CAREERS:

$$\text{ROI} = \frac{(\text{ANNUAL SALARY} \times \text{YEARS IN CAREER}) - \text{EDUCATION COSTS}}{\text{EDUCATION COSTS}}$$

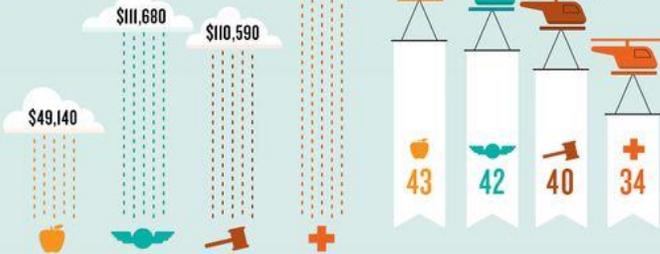


TOTAL COST TO OBTAIN
REQUIRED EDUCATION

MEDIAN ANNUAL SALARY

\$186,044

CAREER EARNING YEARS



Plugging the numbers above into the ROI equation, we can determine that
FOR EVERY \$1 INVESTED IN EDUCATION YOU WOULD MAKE...



Pilot Compensation

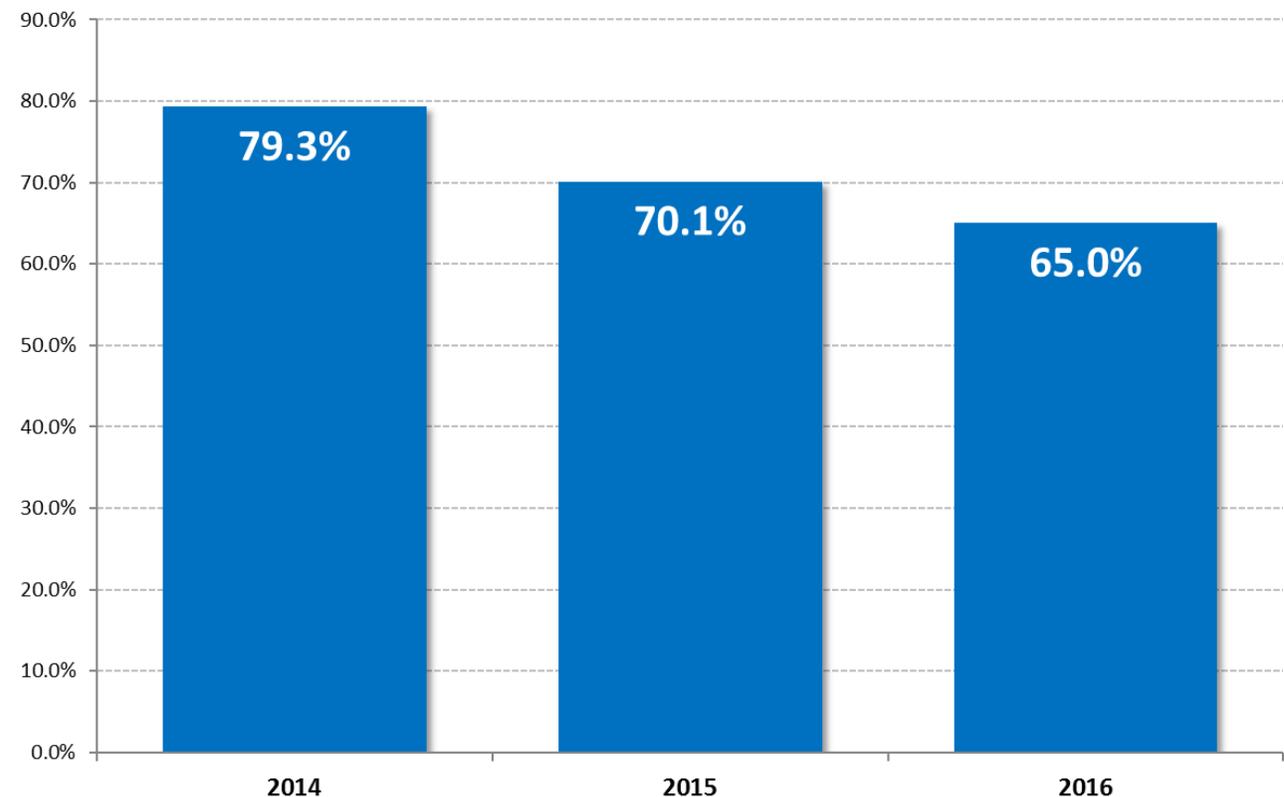
- A pilot's ROI is better than these high-prestige fields.
- For every \$1 invested in education:
 - Doctors earn \$19
 - Teachers earn \$23
 - Lawyers earn \$30
 - Pilots earn \$33

Market Response Alone Won't Fix Policy Problem Underlying Issue is Career Path Inaccessibility

- RAA member airline first year, First Officer average compensation rose more than 150 percent between 2014 and 2016.
- Overall recruiting success *declined* during the same period.
- Higher pay won't resolve shortage until sufficient pilots can afford and access the career path.



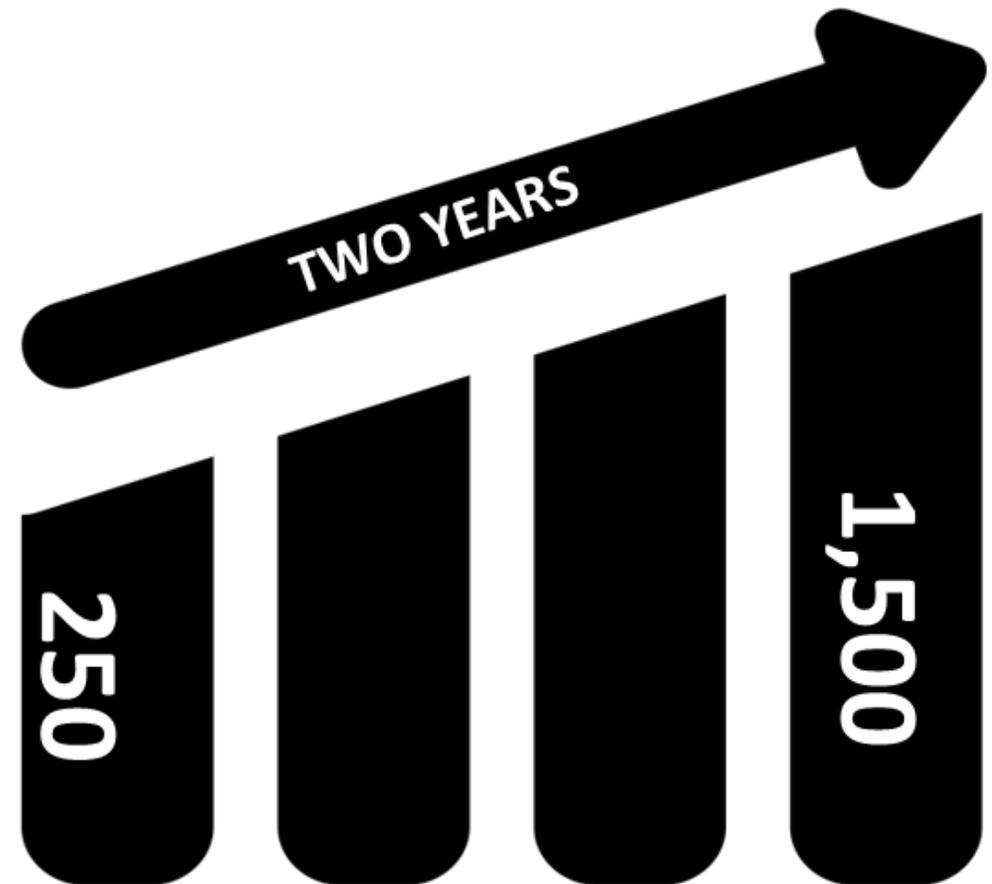
New Hires in Class vs. Desired New Hire Pilots
Count of Actual NHs / Count of Desired NHs



2013 FOQ rule
impacted pilot supply
& changed pilot
demographics

Pilot Shortage + Policy = Crisis

- The 2013 First Officer Qualifications (FOQ) Rule elongated the pilot career path and increased pilot qualification costs.
- The Rule required Part 121 First Officers to hold ATP certificates, formerly required for Captain upgrades. An unrestricted ATP certificate requires 1,500 hours in flight.
- Historically, pilots attained flight hour experience as First Officers *in commercial operations* before upgrading. Requiring these hours at the outset of a pilot's career changed the nature of the experience gained.
- Pilots graduate training with around 250 hours. On average, it now takes approximately two more years for student pilots to earn the additional time required to reach 1,500 hours.
- Pilots typically complete these flight hours in environments in non-complex aircraft that bear little resemblance to commercial operations and where they have little opportunity to practice certain critical skills.
- **Pilots do not receive any additional training during this time. This time away from training has had a negative effect on pilot proficiency.**



FOQ Rule also Increased Pilot Costs

- The added cost of getting additional flight hours boosted the price tag for becoming a commercial airline pilot to about **\$200,000**.
- Most pilot qualification costs, such as flight training or gaining additional hours in flight, are not covered by student loans.
- It is becoming financially impossible for all but the wealthiest students to become pilots.



FOQ Rule Impacted Pilot Supply

According to a study of over 800 students enrolled in 49 different training institutions, 36% of aspiring aviators already enrolled in flight training “thought twice about” or “decided against” becoming a commercial pilot because of The Rule.

55% of aspiring pilots were “likely” or “very likely” to consider relocating overseas to gain a flight position sooner than the pilot would be eligible in the US.

Source: Lutte, Rebecca and Lovelace, Kent (2016) "Airline Pilot Supply in the US: Factors Influencing the Collegiate Pilot Pipeline," Journal of Aviation Technology and Engineering: Vol. 6: Iss. 1, Article 8.



Safety Experts Challenge an Hours-based Qualification Standard

“With the perspective of more than 70 years spent focused on aviation safety–related research, education and advocacy, Flight Safety Foundation believes that a pragmatic, data-driven approach to pilot training is essential to the continued improvement of the industry’s safety performance. The industry needs to embrace, and national civil aviation authorities need to have the flexibility to adopt, competency- or evidence-based training methods that target real-world risk and ensure a progressive and satisfactory performance standard. It cannot be assumed that critical skills and knowledge will be obtained only through hours in the air.”

-- **Flight Safety Foundation** Position Paper: *Pilot Training and Competency*, March 2018



Safety Experts Challenge an Hours-based Qualification Standard

“It's not always about the hours because we see very experienced pilots with tens of thousands of hours making mistakes. In fact, in the Colgan accident, those pilots had more than 1,500 hours, but they still made mistakes.”

- **Former NTSB Chair Deborah Hersman**, “5 years after N.Y. crash, some airline safety progress,” USATODAY Published Feb. 11, 2014

“I know some people are suggesting that simply increasing the minimum number of hours required for a pilot to fly in commercial aviation is appropriate. As I have stated repeatedly, I do not believe that simply raising quantity – the total number of hours of flying time or experience – without regard to the quality and nature of that time and experience – is an appropriate method by which to improve a pilot’s proficiency in commercial operations.”

- **Former FAA Administrator Randy Babbitt**, House Transportation & Infrastructure Committee hearing on Aviation Safety and Airline Pilot Training, February 4, 2010

Structured training
pathways enhance
safety

Structured Training Compliance Pathways

Congress authorized Alternate (R-ATP) Pathways to replace a portion of the unsupervised flight hours with *additional* structured training.



Military & Academic Institutions
are
already approved
for these R-ATP Pathways



FAA approves these alternate pathways only when they offer a *higher level of safety* than other qualification methods.

Empirical Data Shows Training-based Qualification Superior to Hours-based Qualification

The Pilot Source Study 2015, an independent, peer-reviewed population study of 7000 pilot training records conducted by six aviation universities, showed:

- Pilots hired after the rule required more extra training and failed to complete training than those before the rule.
- Pilots with lower hours in flight performed better than pilots with higher hours in flight.
- The longer the span between graduation and hire, the worse a pilot performed in training.
- ***Pilots with structured training credit toward flight hours had the best outcomes.***

Source: Bjerke, Elizabeth; Smith, Guy; Smith, MaryJo; Christensen, Cody; Carney, Thomas; Craig, Paul; and Niemczyk, Mary (2016) "Pilot Source Study 2015: US Regional Airline Pilot Hiring Background Characteristic Changes Consequent to Public Law 111-216 and the FAA First Officer Qualifications Rule," *Journal of Aviation Technology and Engineering*: Vol. 5: Iss. 2, Article 1.

Structured Training Pathways

- Airlines propose to offer additional, comprehensive structured training programs that FAA could approve when they *enhance safety*.
- Bridge gap between pilot training and qualification, providing *additional* structured training before a pilot is released to line flying.
- Incorporate rigorous screening, testing, academics, checks, audits & more.
- Use high-quality simulators to prepare pilots for scenarios they don't usually encounter when building flight hours, like an engine fire, passenger medical emergency or icing on the wing.

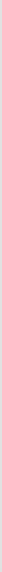




More Pathways Needed

- Some pilot unions have exerted political pressure to block additional pathways, a position that directly contradicts their earlier [support](#) for pathways.
- High barriers of career entry, which limit pilot supply, can serve as a collective bargaining [advantage](#).
- To date, FAA has approved only three types of structured training pathways, despite their [proven](#) safety advantages.

Aviation safety regulations must be based on facts and empirical evidence. Not economics. Not politics.



Washington's Role in Recovery



Requested of Congress: Pilot Workforce Actions

- Encourage FAA to approve structured training pathways offered by certificated air carriers for credit toward a R-ATP certificate in cases where they *enhance safety*.
- Encourage FAA to evaluate new R-ATP pathways and provide credit for scenario-based structured training methods, such as high-fidelity flight simulators.
- Open financial avenues to support pilot training: expand student loan coverage, establish loan forgiveness programs; ensure GI bill funding; and create tax incentives for employer-based programs.

What You Can Do:

Communicate

Communicate to lawmakers that the pilot shortage is real and is harming communities – sound policy is required to help replenish supply of well-trained pilots.

Encourage

Encourage lawmakers to tell FAA to use their existing authority to improve pilot training and to create financial aid programs for pilots.

Engage

Engage with the media – the pilot career path must be made more accessible and safety-centered solutions are available to do just that.



Thank you.

Please learn more at www.raa.org