

Presented & Researched By
Allegiant Travel Company

2024

Pilots still adding pressure?

Updated Industry Forecast On

Pilot Scarcity

Forecast Presenters

Pilot Scarcity

Our forecast provides perspective on the aviation industry, offering insights derived from an internal airline perspective and utilizing proprietary data sources. Our forecast takes a more granular approach, considering internal airline dynamics, operational intricacies, and specific market conditions. This allows us to provide a tailored forecast that reflects the unique challenges and opportunities faced by airlines. **Updated on a yearly basis, our forecast incorporates the latest data, industry trends, and internal insights** to provide stakeholders with actionable intelligence for strategic decision-making and planning.

Connect with us



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Manger Corporate Development
Allegiant Travel Company

Presentation Overview

Agenda



Industry
Recovery



Industry
Tailwinds



Industry
Headwinds



Commercial
Pilot Forecast

Survey Reveals Industry Concerns

Aviation Industry's Top Pressures

Pilots
#3

~40
Participants

WHAT ARE THE MOST PRESSING CHALLENGES FOR THE AIRLINE INDUSTRY?



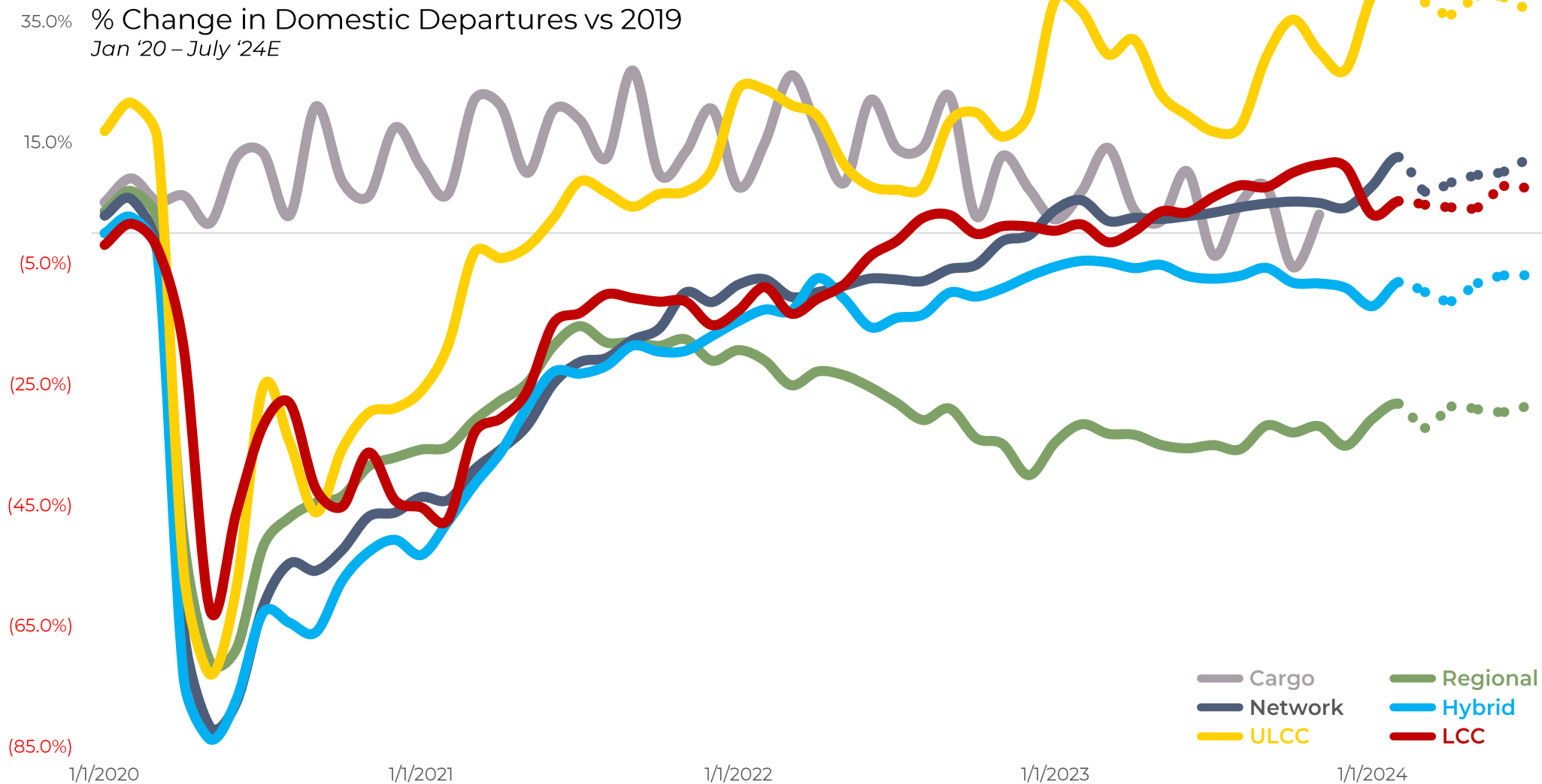


Demand of Today's Travelers

Industry Recovery

Increasing consumer demand for air travel and its impact on the need for pilots

Domestic Aviation Recovery: Plateaued Above 2019 Levels



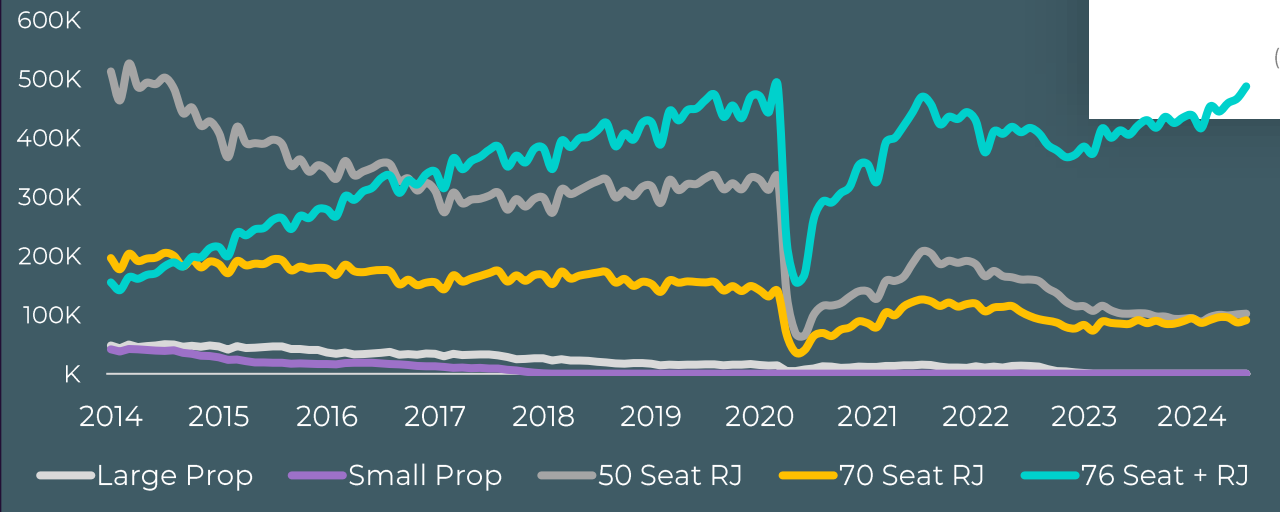
Industry growth has reached a plateau for the lower cost airlines, while mainline network hours continue to grow to replace regional flying

Regional Struggles

Maximizing Efficiency

Regional Block Hours per Day by Type

2014 – July '24E



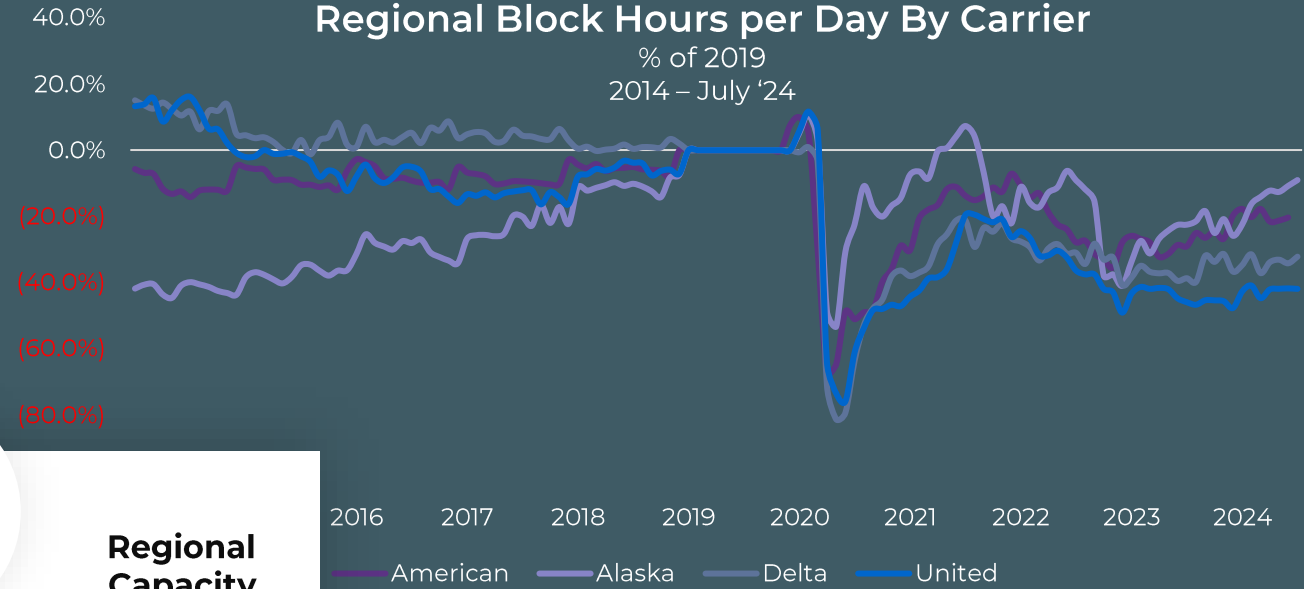
(30%)

Regional Capacity

Regional airline sector remains 30% **below** 2019 levels (July '19 vs July '24)

Regional Block Hours per Day By Carrier

% of 2019
2014 – July '24



Market Dynamics:

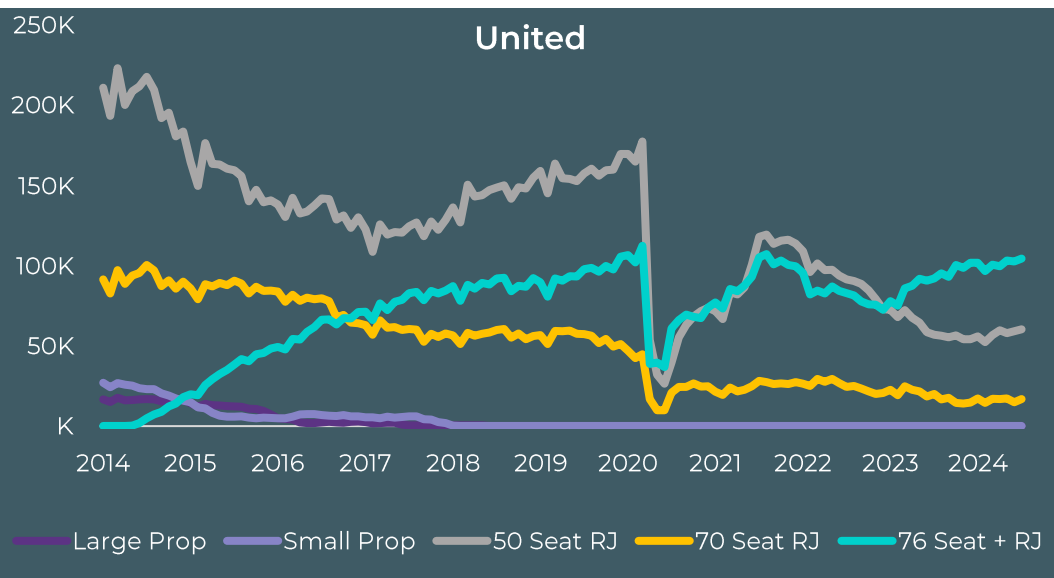
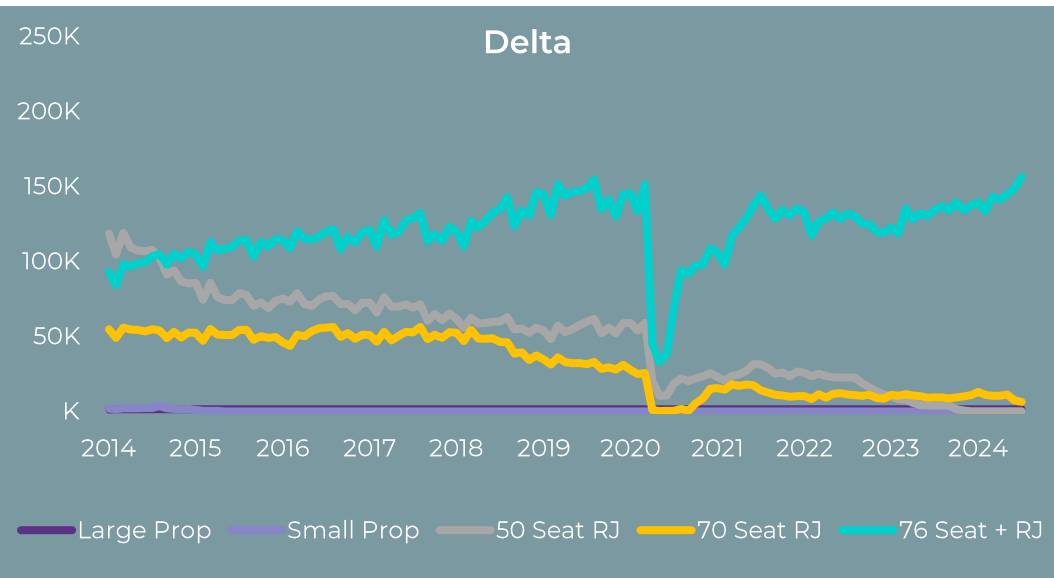
Recovery Efforts: While the industry is on a path to recovery, challenges such as crew shortages, supply chain disruptions, lack of scope relief and regulatory changes continue to affect operations.



Regional Block Hours Per Day by Aircraft Type

2014 – July '24

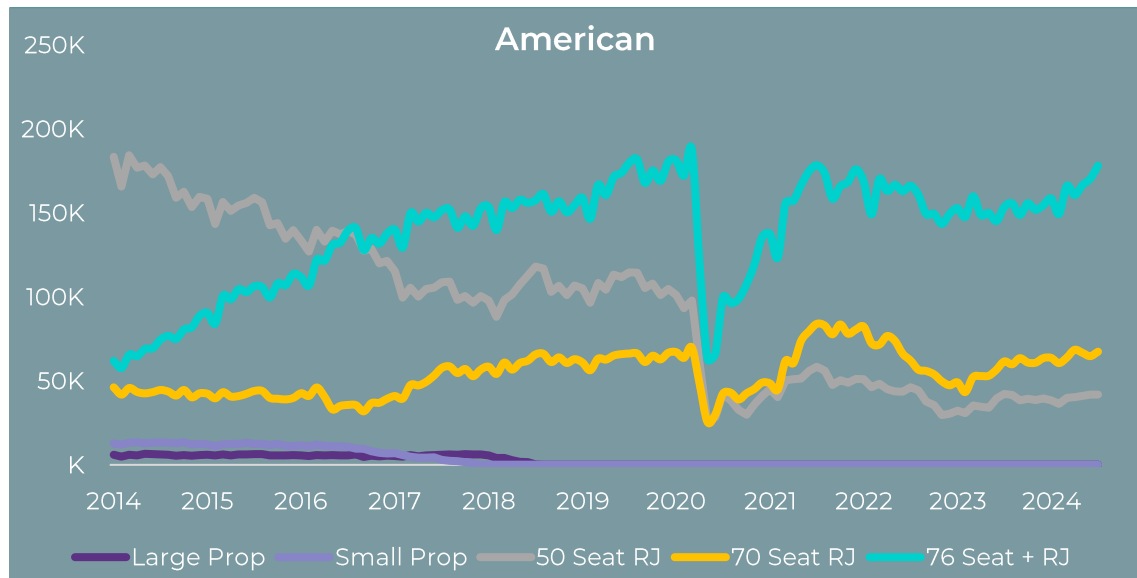
Source: Schedules from Diio



Navigating Regional Realities: Strategies of Network Carriers

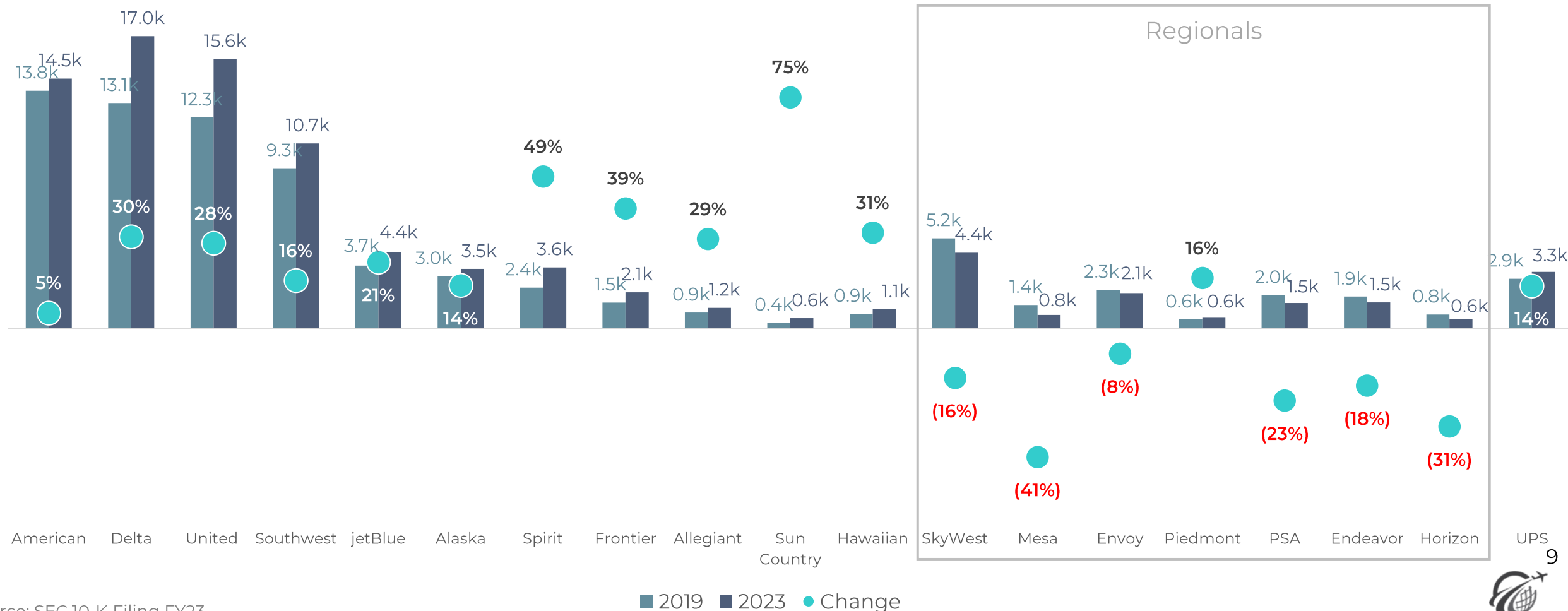
Network Carrier Approaches

The COVID-19 pandemic and higher pilot cost accelerated the **trend favoring larger regional aircraft over smaller types** in the aviation industry. Even before the pandemic, airlines were gradually shifting towards larger regional aircraft due to their cost efficiency and flexibility



Mainline Pilot Targets Hit, Regionals Still Lag

Net New Pilots by Carrier
SEC 10-k Filing FY23





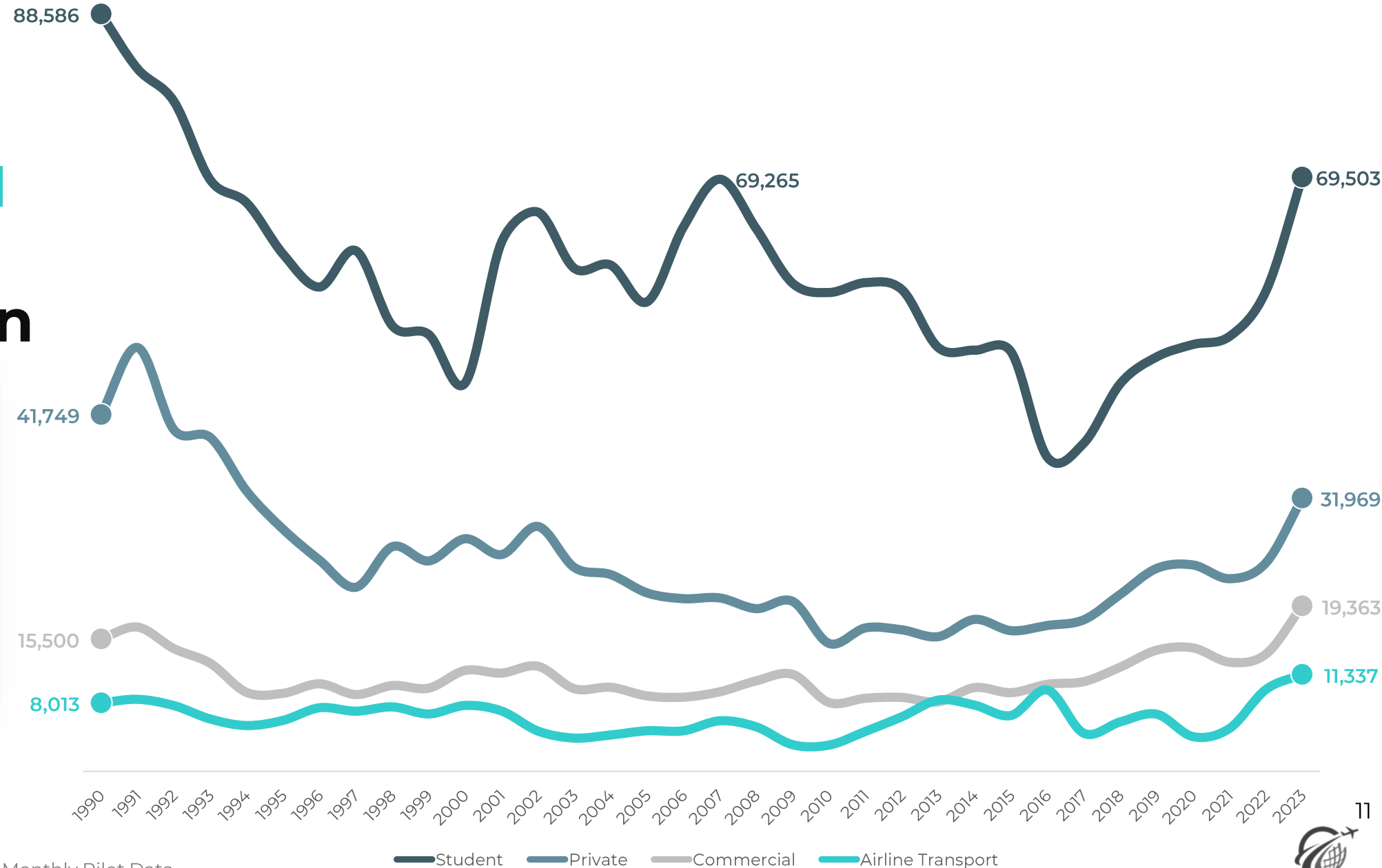
Riding the Tailwinds

Industry Tailwinds

Positive developments that could help alleviate the pilot scarcity in **the near term**

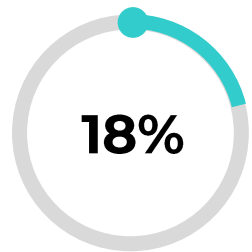
Original Airmen Certificates Issued

1990 - 2023



The Pipeline

Uptick in Production

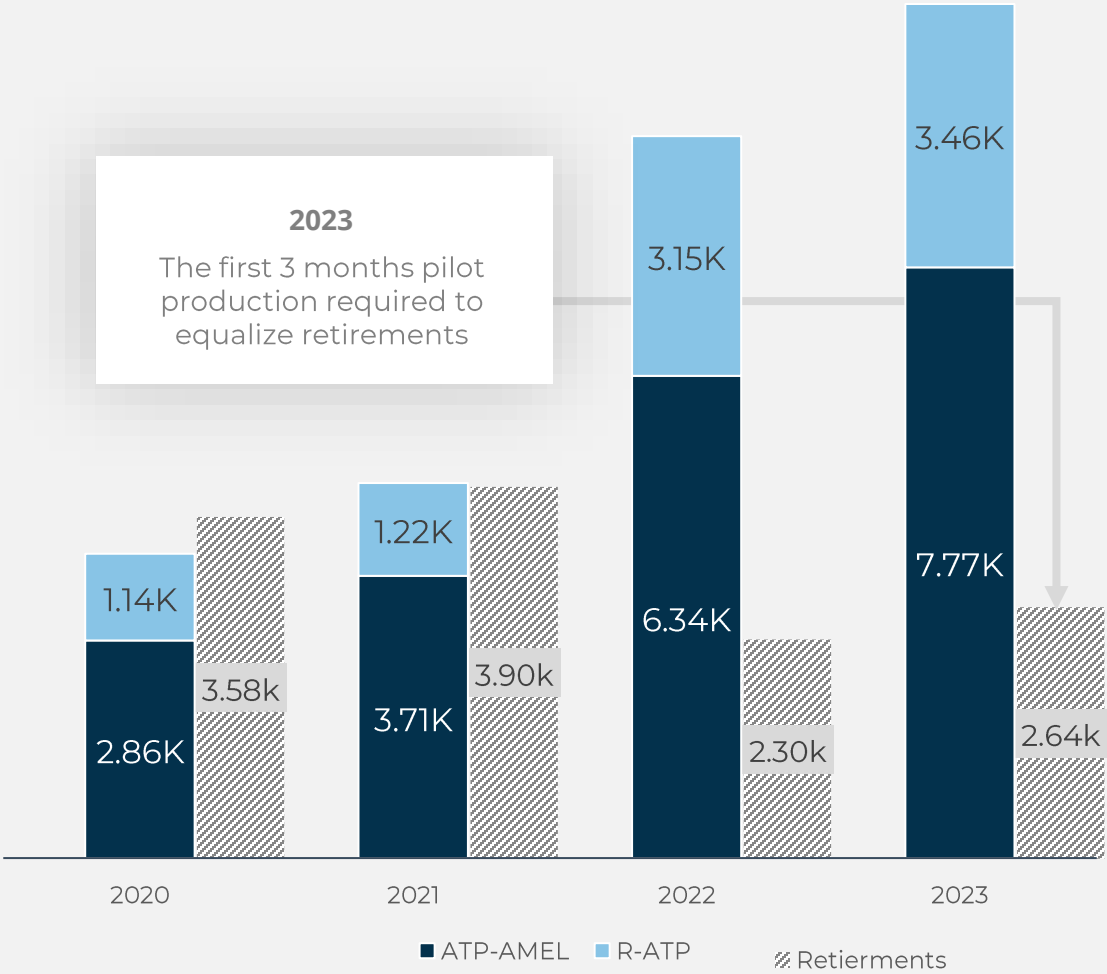


Increase ATP
2022 vs 2023



ATP Production & Industry Retirements

2020 – April 2023



Dynamics of Aviation Education and Training

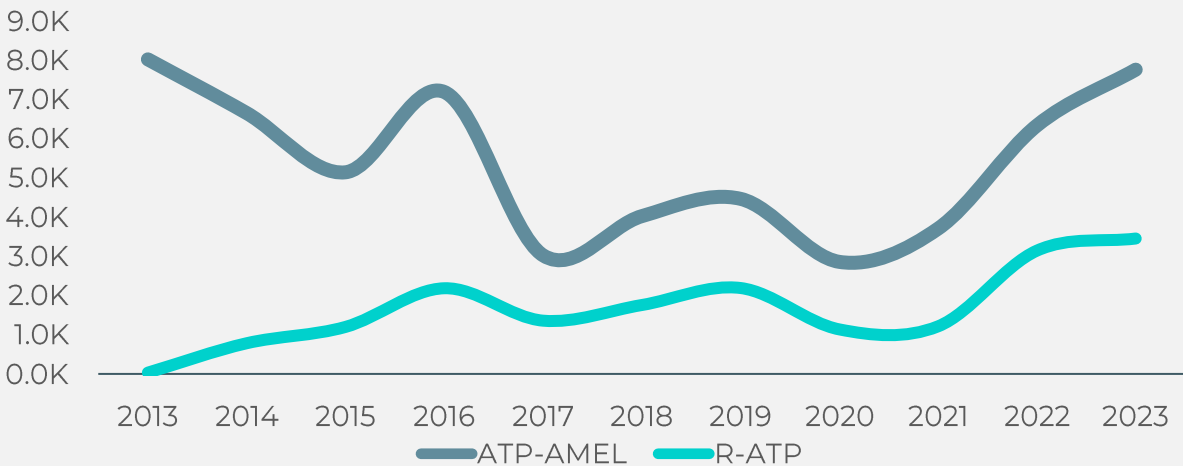
Pilot Enrollment Trends

ATP-AMEL (Airline Transport Pilot - Airplane Multi-Engine Land)
Requirements:
Total Flight Time: **1,500 hours**

R-ATP (Restricted Airline Transport Pilot)
Requirements:
Total Flight Time: **1,000 hours**

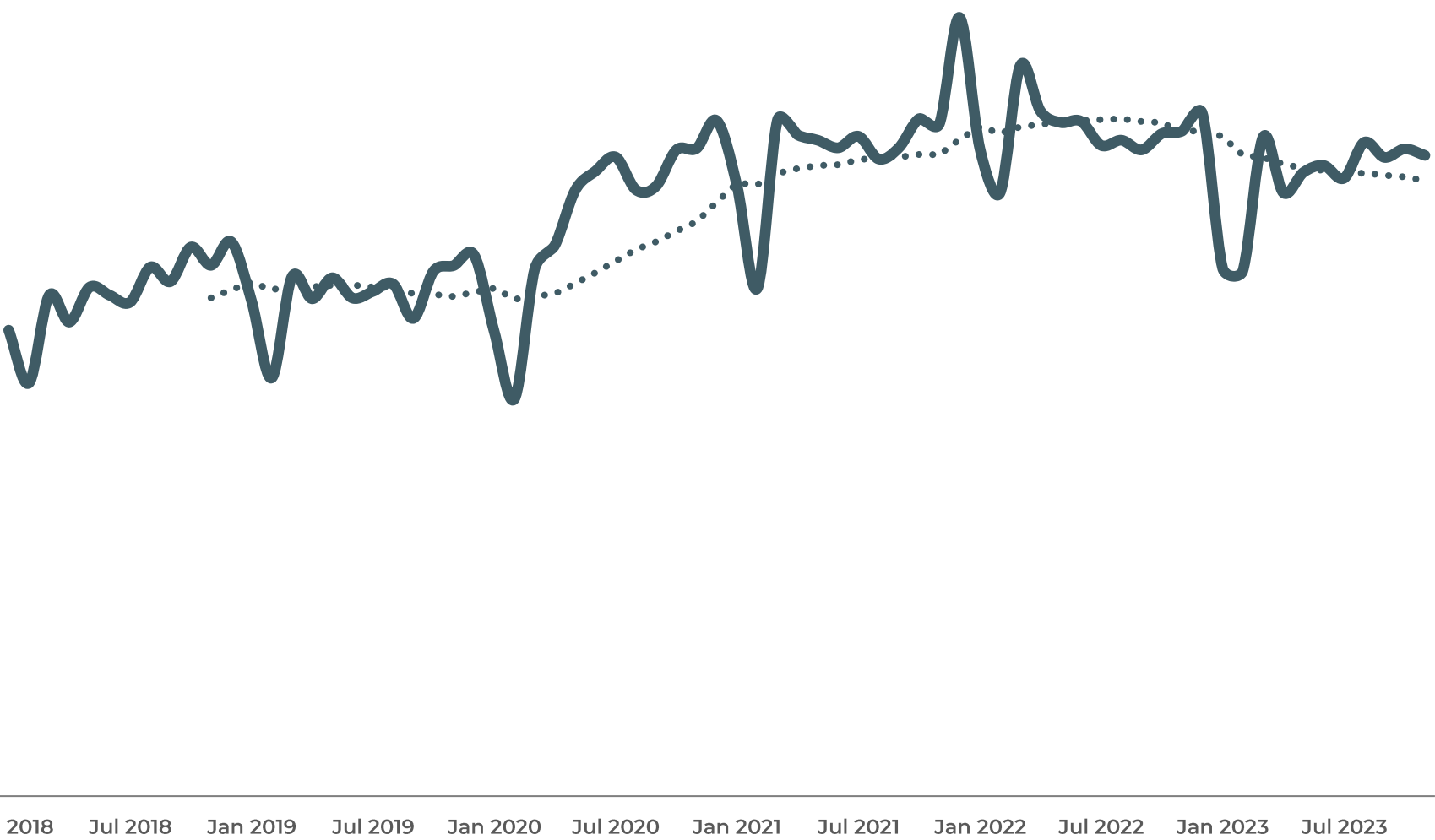
Certificates Issued by Year

2013 - 2023



Source: Retirements – NACU, AirlinePilotCentral; ATP – FAA Civil Airmen Stats

Cargo RTM Trend by Tons of Freight
Jan. 2018 – July 2023



Softness in the Space

Cargo Slow Down



800+
Reductions

UPS and Fedex
(8K+ combined pilot lists).

Aircraft Not Being Delivered

Impacts on Pilot Demand



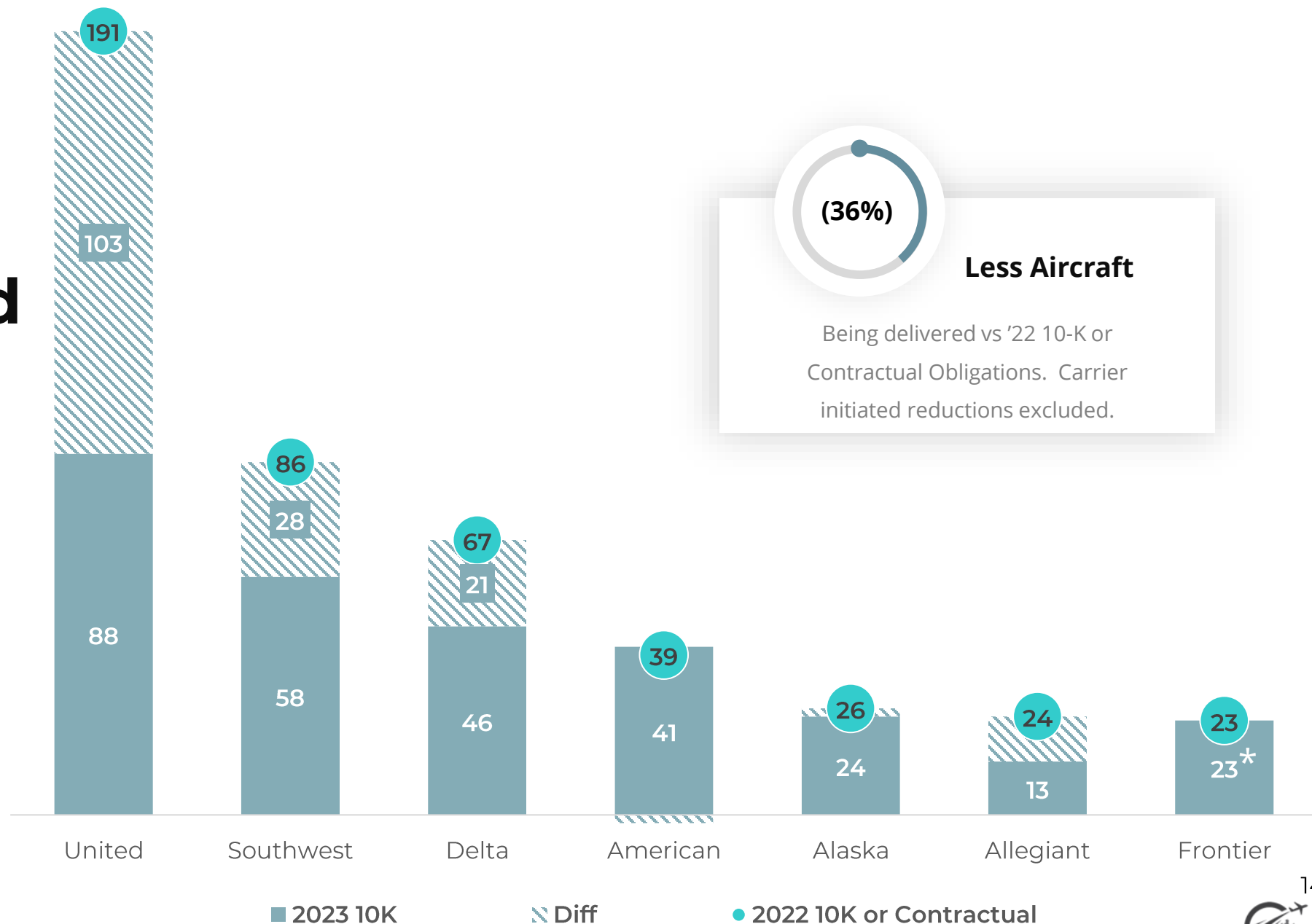
2022 10k or Contractual Obligations

456



2023 10-K

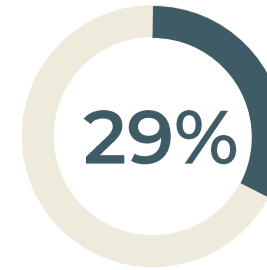
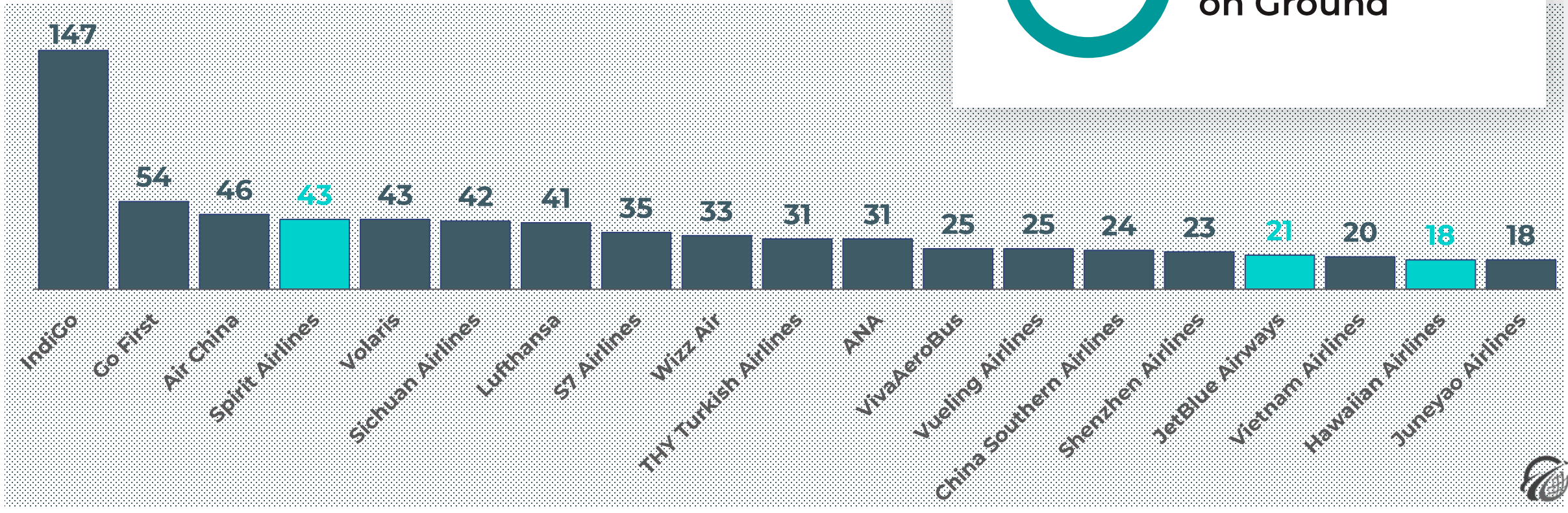
293



P&W Engine Groundings – Who's Effected?

Airlines Effected by Pratt & Whitney Engine Issues

As of November 2023



Of all
A32XNEO
Aircraft



Average Days
on Ground



For Qualified CL-65
Experienced Pilots

PSA
AIRLINES

Up to
\$200K
in bonuses for a limited time

Facing Turbulence

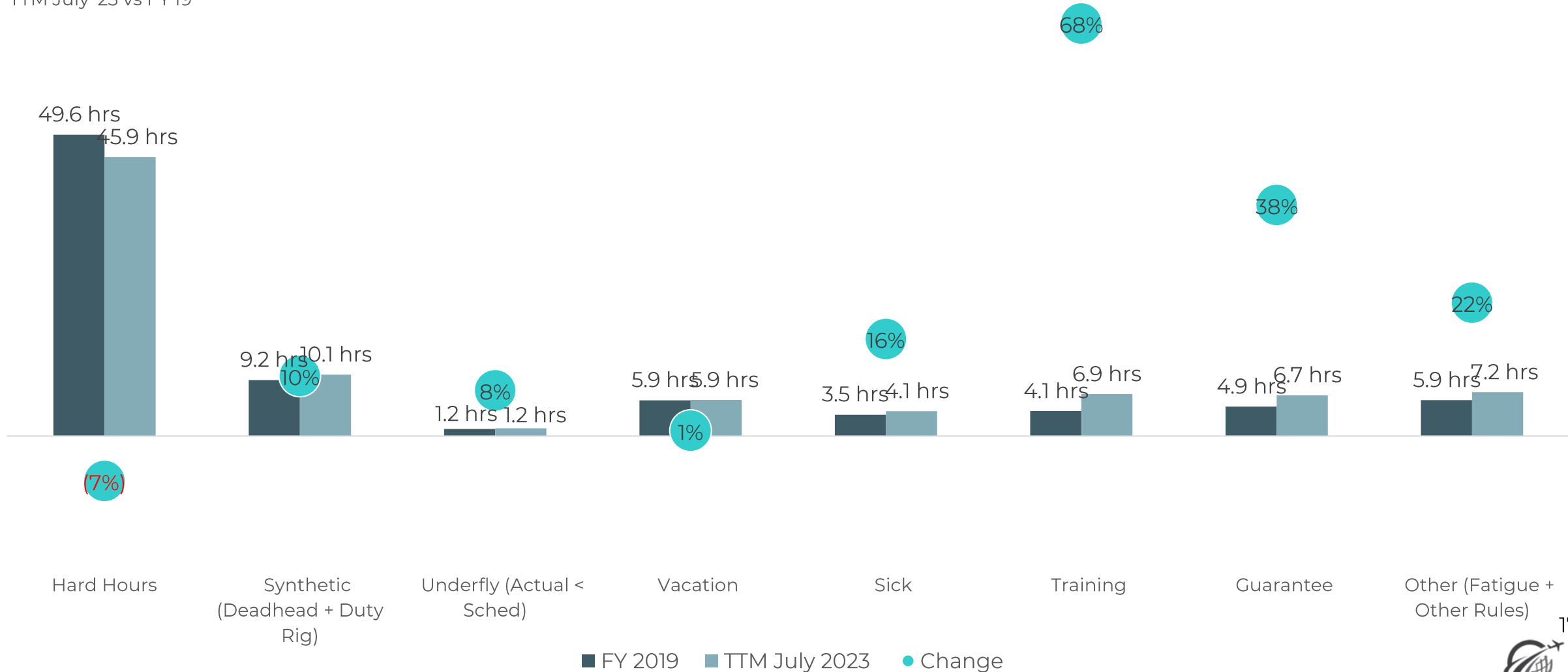
Industry Headwinds

Challenges and obstacles
faced by the aviation
industry in addressing the
pilot scarcity

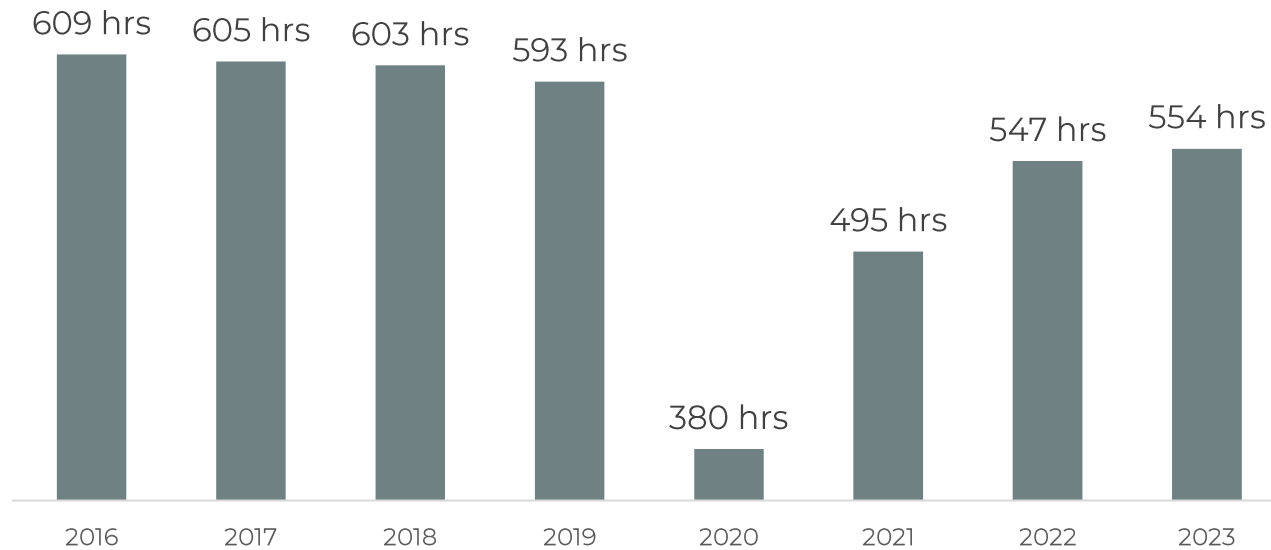
Pilot Productivity Not Coming Back

Change in Pilot Productivity Buckets – Monthly Average

TTM July '23 vs FY'19



Hard Hours Per Year



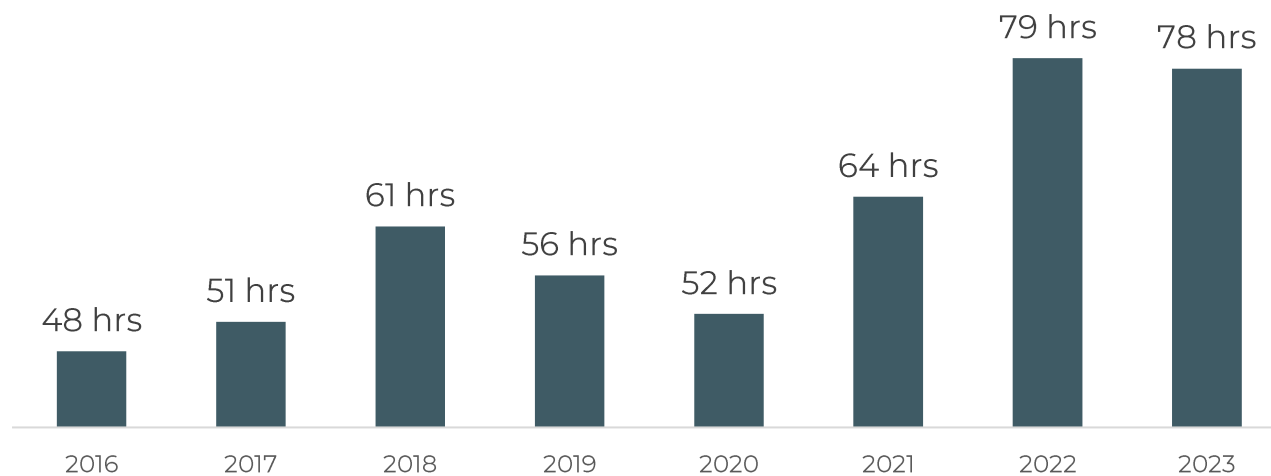
Closer Look

Flying & Training

(39 hrs)

Decrease in the number of hard hours flown per pilot vs '19

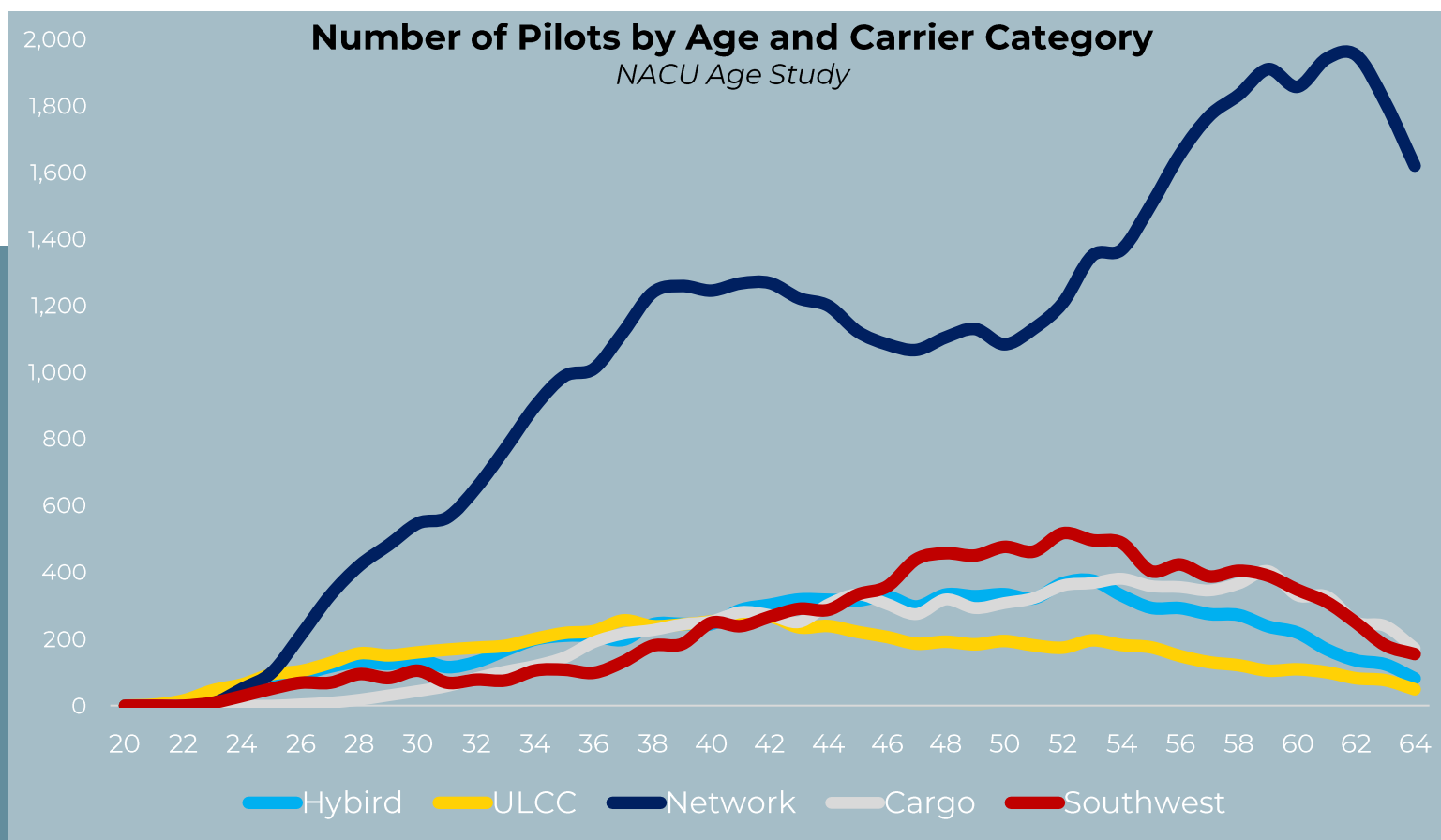
Training Hours Per Year



22 hrs

Increase in the number of training hours utilized per pilot vs '19

Bubbles in the Retirements



65

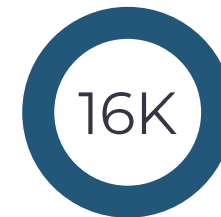
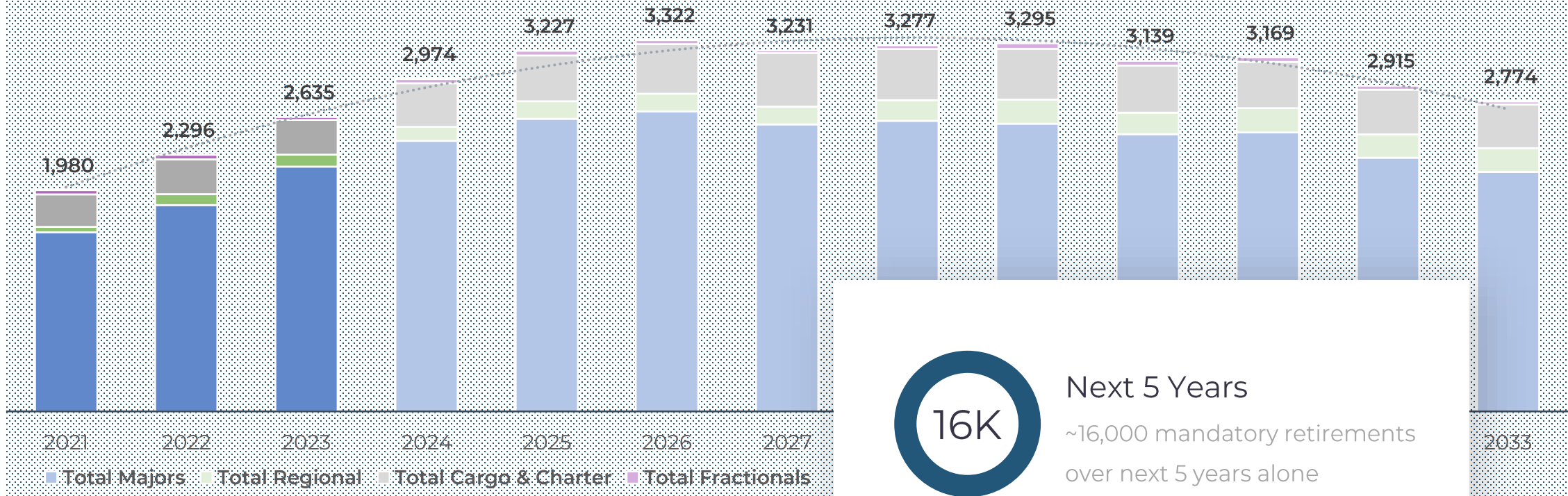
Mandatory Retirement

16%

**Mandatory Retirements
Over the next 5 years***

*Based on May 1, 2022 - April 30, 2023
total number of pilots 82,748 of
those 12,902 are 60 or older

Retirements By Sector 2021–2033E



Next 5 Years

~16,000 mandatory retirements
over next 5 years alone

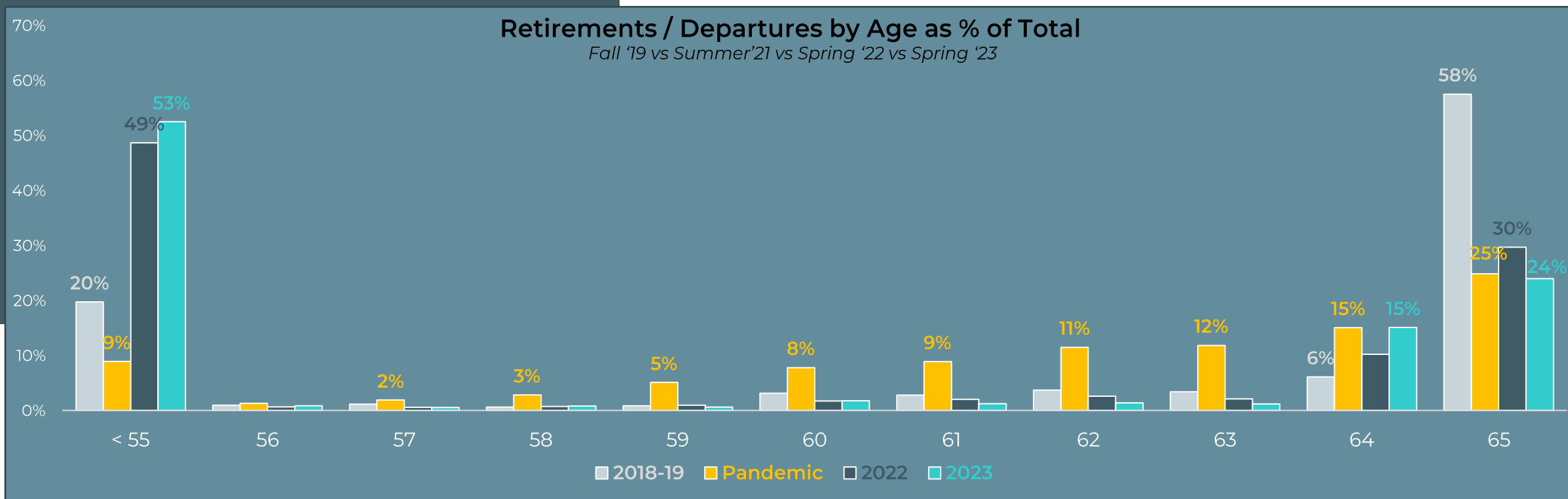


Next Decade

~31,000 mandatory retirements for
the next decade

The Bubble Looms

Navigating the Pilot Retirements



Pilot Dynamics

Post-Pandemic Resume Washing

- 3,200 early retirements during COVID
- 2022 & 2023 increase in “departures” by younger pilots moving from carrier to carrier is adding to the ripple effect of the pilot shortage across the industry

Source: NACU pilot age data. Carriers that provided data included.

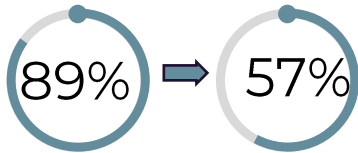
Fall '19 – Retire/Depart 09/01/18 - 08/31/19; **Summer '21** – Retire/Depart s >=01Jan2020 & <=01Jun2021);

Spring '22 – Retire / Depart between June 1, 2021-April 1, 2022; **Spring '23** – Retire / Depart in May 1, 2022 - April 30, 2023



Wage Dynamics

First Officer Pay



Mainline Spread

2013 vs 2024

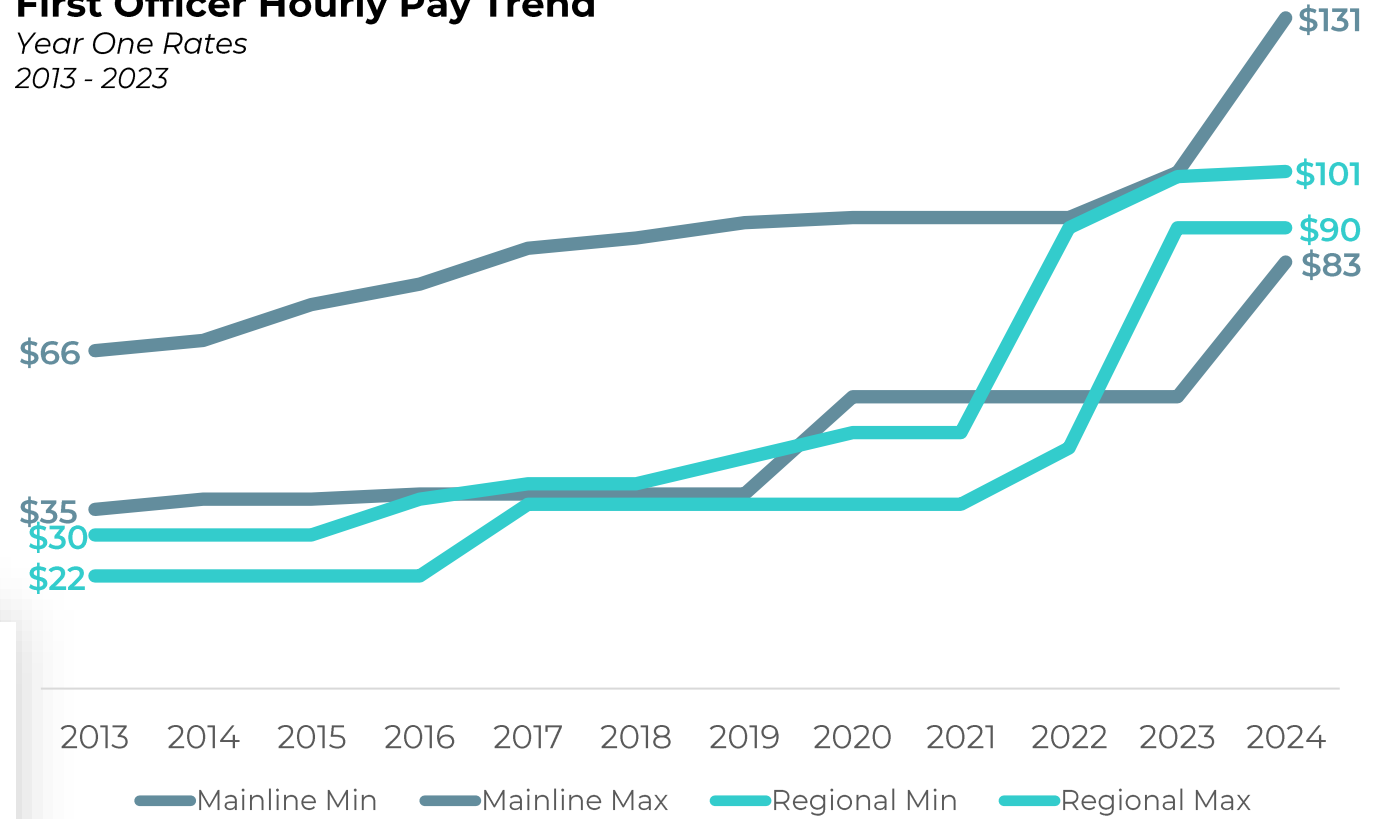


Regional Spread

2013 vs 2024

First Officer Hourly Pay Trend

Year One Rates
2013 - 2023



Current Open CBA Negotiations (Amendable Dates):

Allegiant (Jul '21), Southwest (Sept. '20), Frontier (Jan. '24) and Breeze (First CBA) are in open contract negotiations



**EARN UP TO
\$100K
PAID ON DAY 0**

**\$100K > 950 121 hrs
\$75K 500 – 949 121 hrs**

LEARN MORE

American Airlines Group

Direct Entry Captain
Bonuses up to
\$200K

NEW
121 Captain experience
OR CL-65 Type Rating

New Pilot Pay Rates!
Captain pay up to \$216/hour

LEARN MORE

**+1,000
SIC/PIC**

Growing Concern

Captain Qualifications

- (1) Holds an airline transport pilot certificate not subject to the limitations in § 61.167 of this chapter;
- (2) Holds an appropriate aircraft type rating for the aircraft being flown; and
- (3) If serving as pilot in command in part 121 operations, has 1,000 hours as:
 - (i) Second in command in operations under this part;
 - (ii) Pilot in command in operations under § 91.1053(a)(2)(i).
 - (iii) Pilot in command in operations under § 135.243(a)(1).
 - (iv) Pilot in command in eligible on-demand operations that require the pilot to satisfy § 135.4(a)(2)(ii)(A) ; or
 - (v) Any combination thereof.

**NEW
CAPTAIN
WAGES**
CAPTAIN WAGES FROM
\$150-\$217.50/HR

**NO-CONTRACT
\$200,000
CAPTAIN QUALIFIED
NEW HIRE BONUS**

**\$100K
FIRST
PAYDAY**

APPLY TODAY >

ELEVATE YOUR CAREER
WWW.AIRWIS.COM

Wage Dynamics

Captain Pay



22% for contracts negotiated post Jan 2022

Mainline Spread

2006 vs 2024

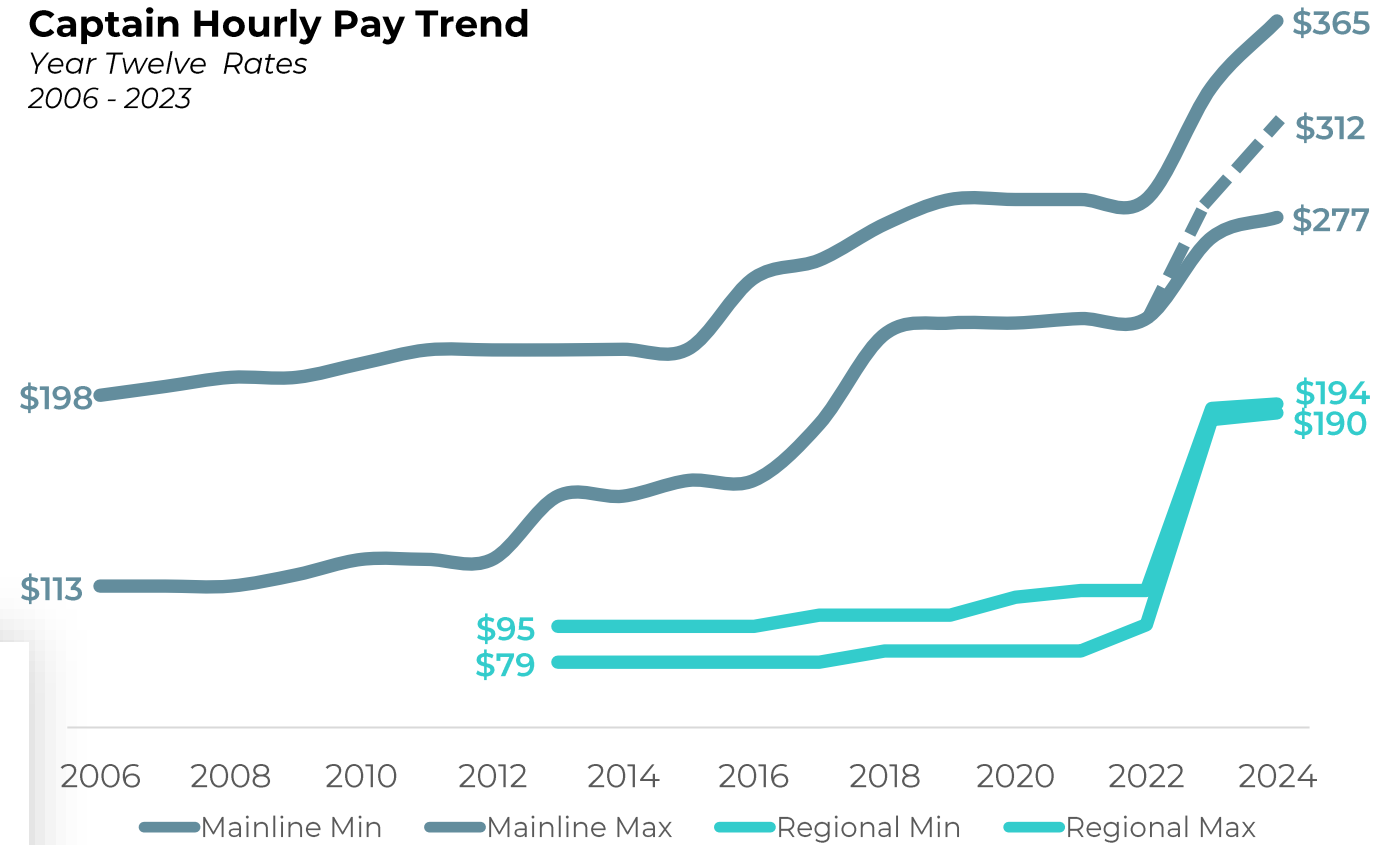


Regional Spread

2013 vs 2024

Captain Hourly Pay Trend

Year Twelve Rates
2006 - 2023



Current Open CBA Negotiations (Amendable Dates):

Allegiant (Jul '21), Southwest (Sept. '20), Frontier (Jan. '24) and Breeze (First CBA) are in open contract negotiations





Navigating the Path Ahead

Commercial Pilot Forecast

Forecasts and projections for
the future demand of
commercial pilots

Changes in Demand

- Block hour growth for '24 based on first 7 months of schedules for '24
- **Block hour growth pushed** to the right with Boeing / GTF issues
- Retirements put floor on demand
- **Cargo growth significantly slower** with recovery period
- **Fractional growth higher** matching NetJets order book
- Absent GTF / Boeing / Cargo demand forecast from last year was right
- **Not assuming any increase or decrease in productivity**, new contracts will probably be less productive
- RJ replacement now begins in earnest in '28



Demand Change from Previous Forecast
(6K)

Changes in Supply

- Not constant function over decade, more peak and drop
- **ATP production this year is 85% of last year**, past bubble from covid, and matches FAA data so far this year
- Industry sees peak student starts this year, then news of slower hiring begins to impact student starts
- Normalization back to decade average students starts by '26
- Assumes reduction in student start to ATP license
- Higher conversion rate of student starts to ATPs



Supply Change from Previous Forecast
21K

The Details

Changes in the Environment

Analyzing the forecast from the pervious year, some changes in overall demand and supply assumptions have **resulted in a (6K) decrease in demand and a 21K increase in supply.**

85% of 2023, recent ATP trends

The Forecast

Industry Pilot Outlook

86K

Demand over the next decade

(2024 – 2033)

81K – 63K

Supply over the next decade

(2024 – 2033)

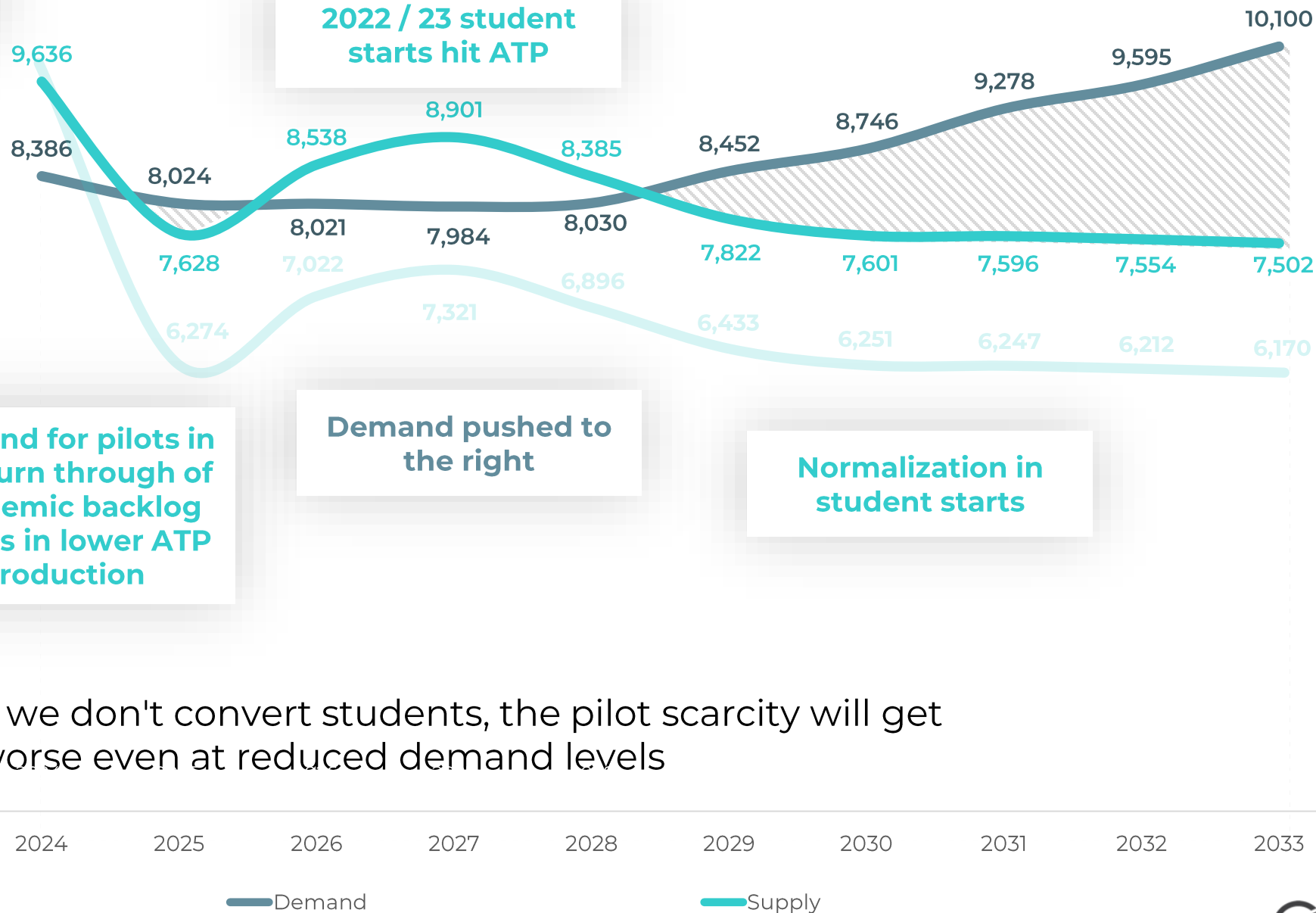
2022 / 23 student starts hit ATP

Demand for pilots in 25 / burn through of pandemic backlog results in lower ATP production

Demand pushed to the right

Normalization in student starts

If we don't convert students, the pilot scarcity will get worse even at reduced demand levels



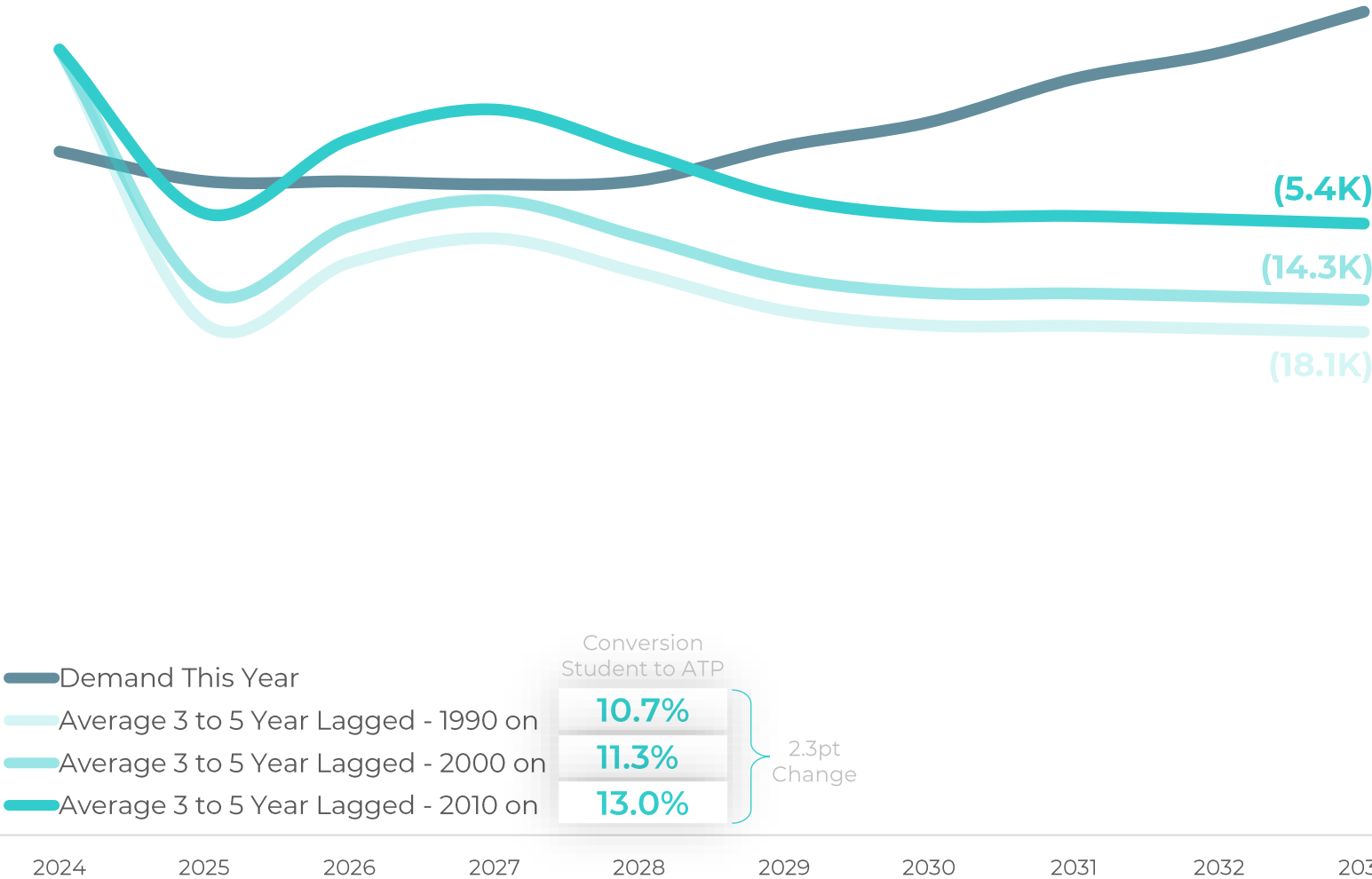
Industry Supply Outlook
With three student/ATP ratios

The Forecast

Sensitivity On Supply




Pilot Deficit over the next decade
(2024 – 2033)




How Close?

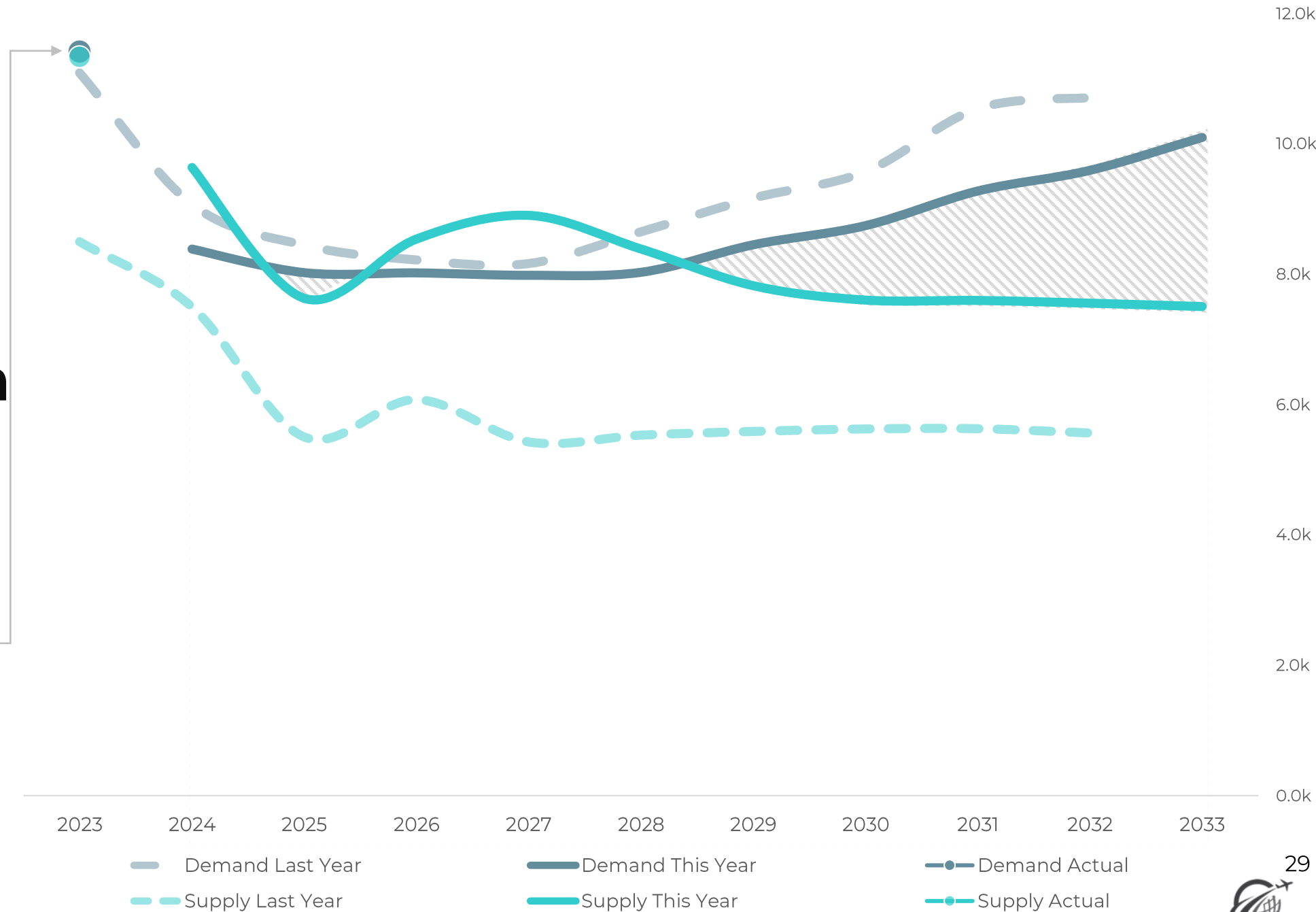
Forecast Comparison



Spot on Demand



Under shot on Supply



Impacts



US Impacts

- Wage Convergence
- Scope Relief (Regional)
- Barriers to Entry (1,500hr)
- FAA Reauthorization (Extension again)



Global Impacts

- Visa Programs
- Cost Pressure
- Slowed Growth (US - International Route Expansion)

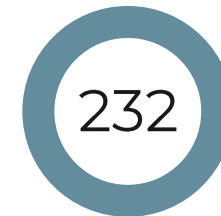
Fading Connections

Shifting Landscape of Airport Connectivity

Airports with Lost Service
1Q2024 vs 1Q2019

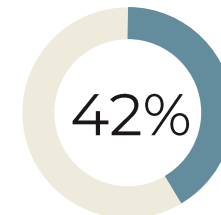
Source: Airline Schedules from DII/O

(100%)  (0%)
Frequency Reduction



Airports

Have lost service compared to 2019



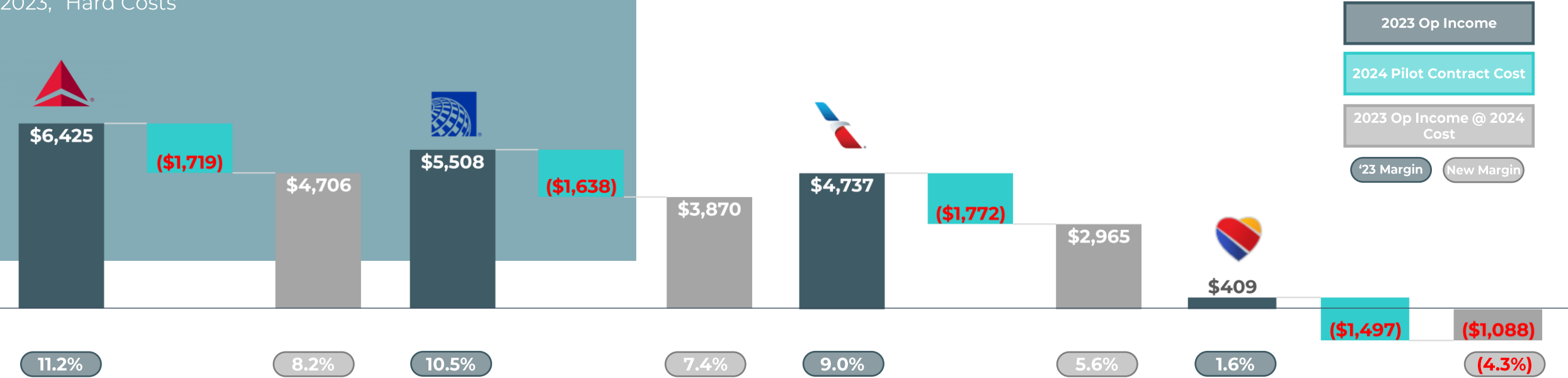
Of those Airports

Have lost 25% or more of their service vs. 2019



Pilot Contract Impact on Operating Income

2023, "Hard Costs"

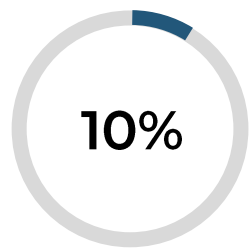


Fare Impacts

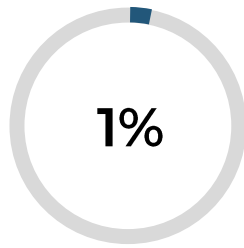
Analyzing Fare Adjustments to Meet Pilot Contract Costs

Sky High Changes

Fare Fluctuations & Passenger Load



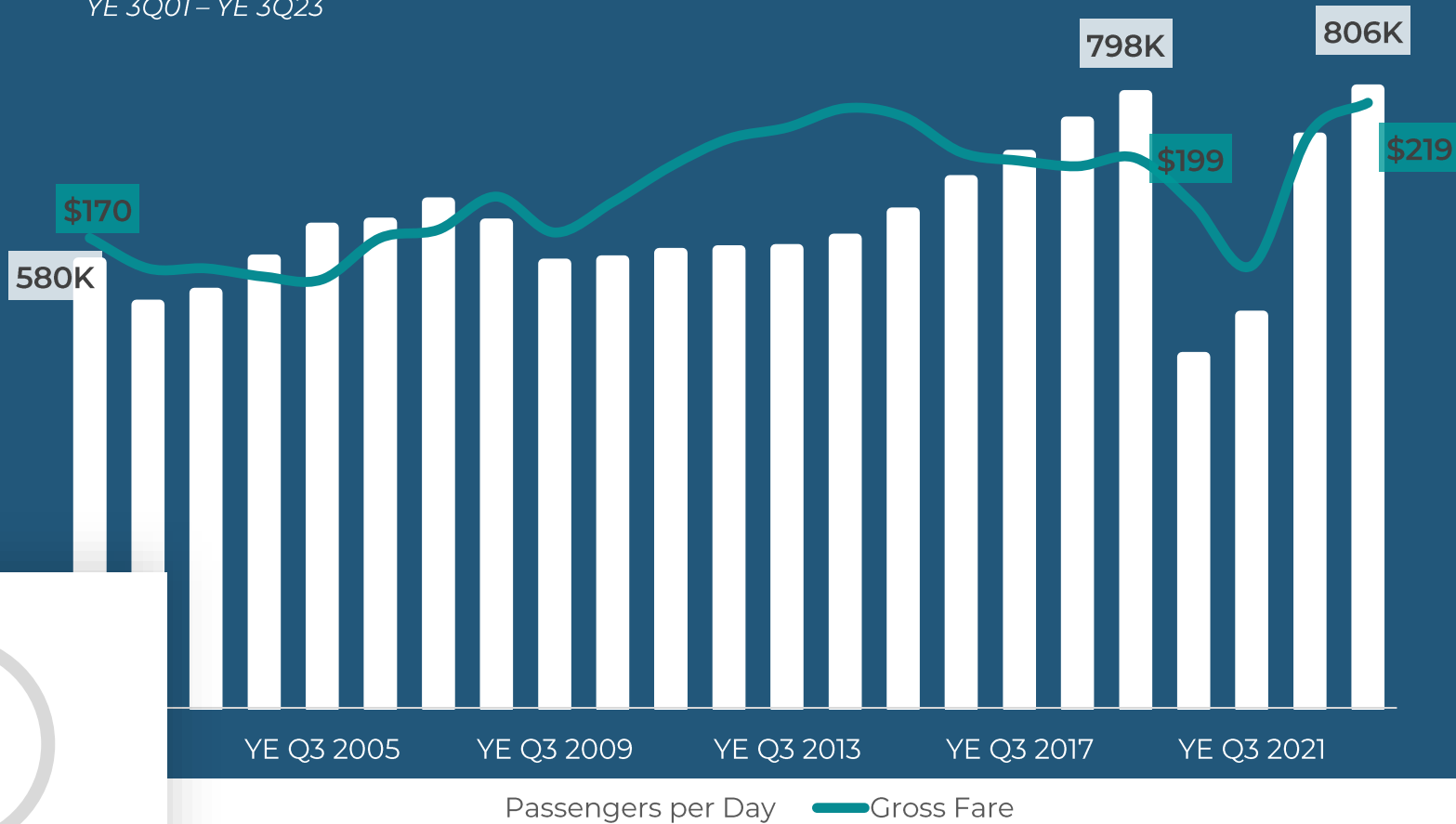
Increase in Fares
vs 2019



Increase in Capacity
vs 2019

Fare and Passengers

YE 3Q01 – YE 3Q23



The interplay of pilot scarcity, rising costs, and market dynamics directly impacts airfares. Passengers experience the effects of these industry challenges when booking their flights. These fare will only rise as the cost of the new contracts are passed on to the consumer.



FAA Approval?

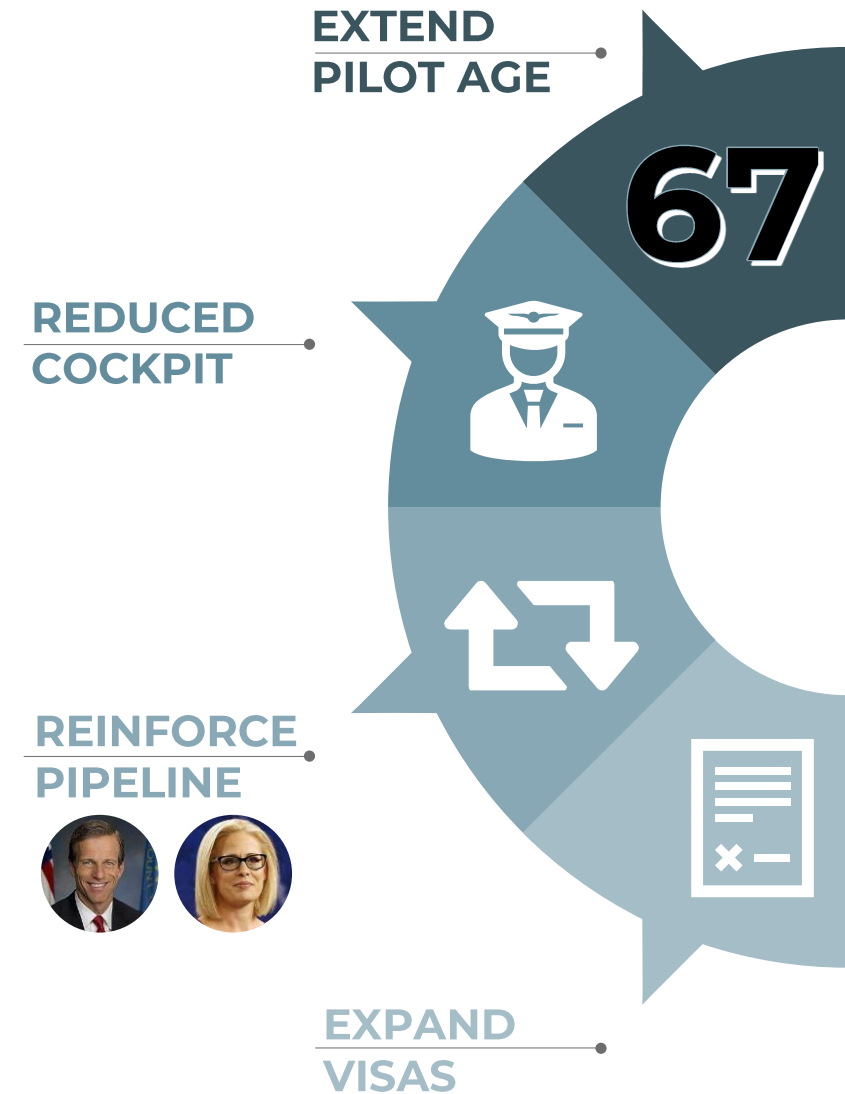
Alternative means of compliance

Extend Pilot Use: Consideration of raising retirement age lacks a long-term solution, merely postponing scarcity by three years.

Reduce Pilot Demand: Exploring single-pilot cockpit operations could optimize productivity and cut pilot requirements, though widespread adoption is distant, offering a future opportunity.

Reinforce Pipeline: Airlines can invest in training and recruitment now, leveraging simulator technology for innovative programs to support aspiring pilots. **Supporting the Thune – Sinema amendment will help.**

Expand Visas: Model after successful international programs like Australia's E-3 visa, offering a pathway to permanent residency to attract global talent and supplement domestic effort

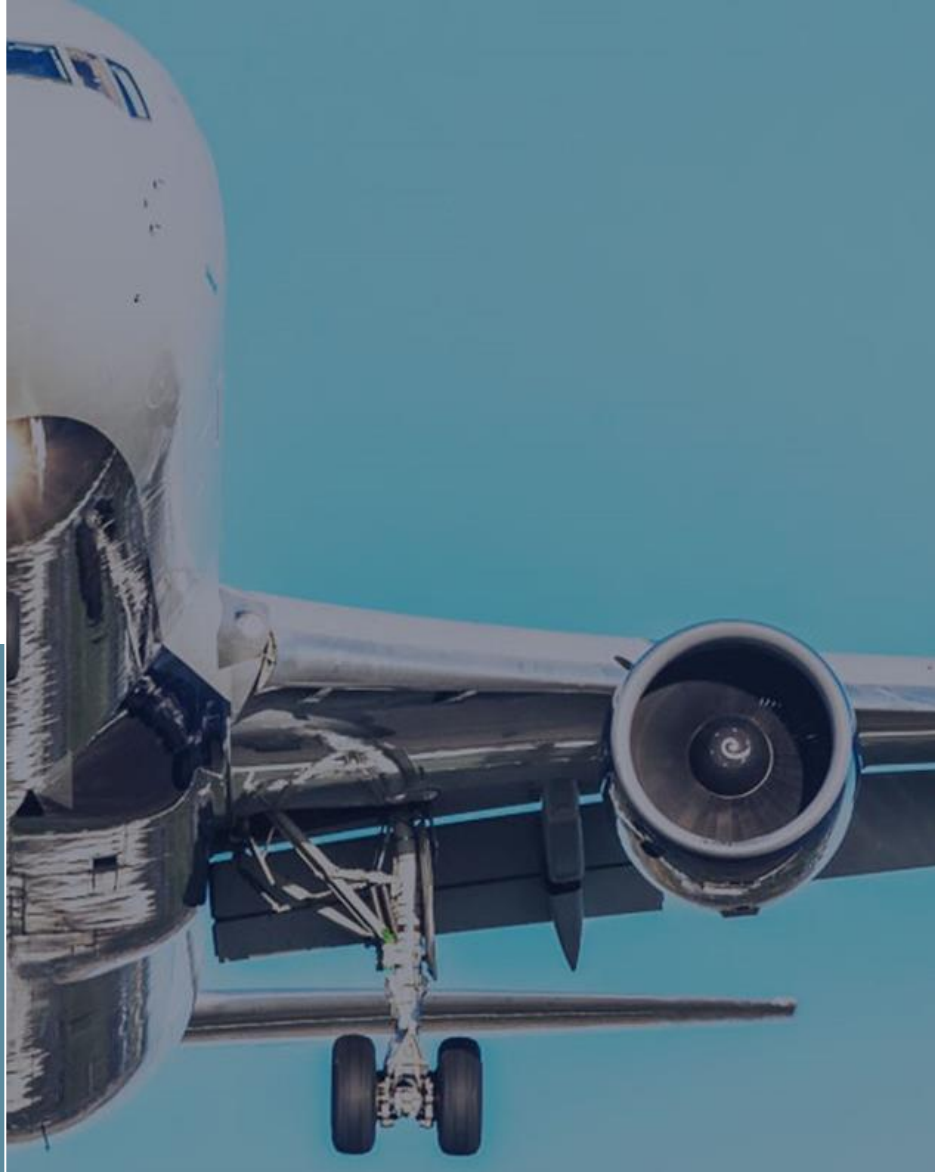


Thank You

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Next Appendix Section





More Data & Charts

Appendix

Welcome to the Appendix section, where you'll find additional information, data, and resources to complement the main content of this presentation

Before and After
FAA Act 2010

Post-9/11 Era

United States 2001 – 2013

The minimum experience threshold was a significant barrier for aspiring pilots

Post-Pandemic Era

United States 2020s

Recently, major airlines have moved away from strictly requiring four-year degrees

Multi-Pilot
License (MPL)
ICAO '06



Commercial Pilot
License (CPL)



Airline Transport
Pilot Certificate
(ATP)



Post Colgan Air Flight 3407
'13

0 Hrs

500 Hrs

1,000 Hrs

1,500 Hrs

■ Certificate

■ Practice (Build Time)

Constraints

Hours Disconnect

500%

Increase in required hours post
Colgan Air Flight 3407

Financial and Time Constraints:

- Accumulating 1,500 hours can be financially burdensome for aspiring pilots.
- Flight hours are expensive, especially for those not in military or university programs.
- The cost and time required can discourage potential aviators.



Original Airmen Certificates Issued

1990 - 2023

Zooming in

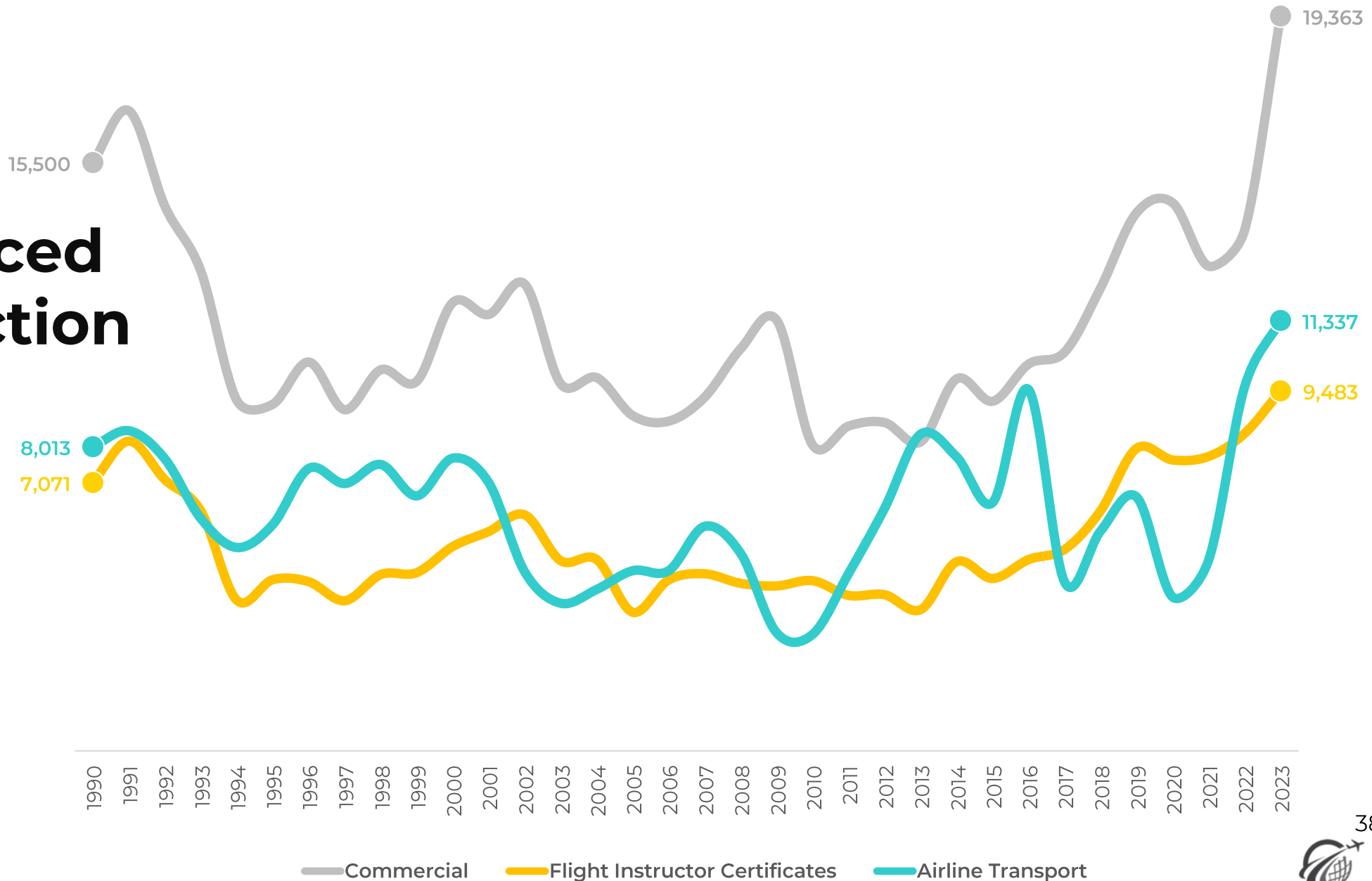
ATP outpaced CFI Production

41%

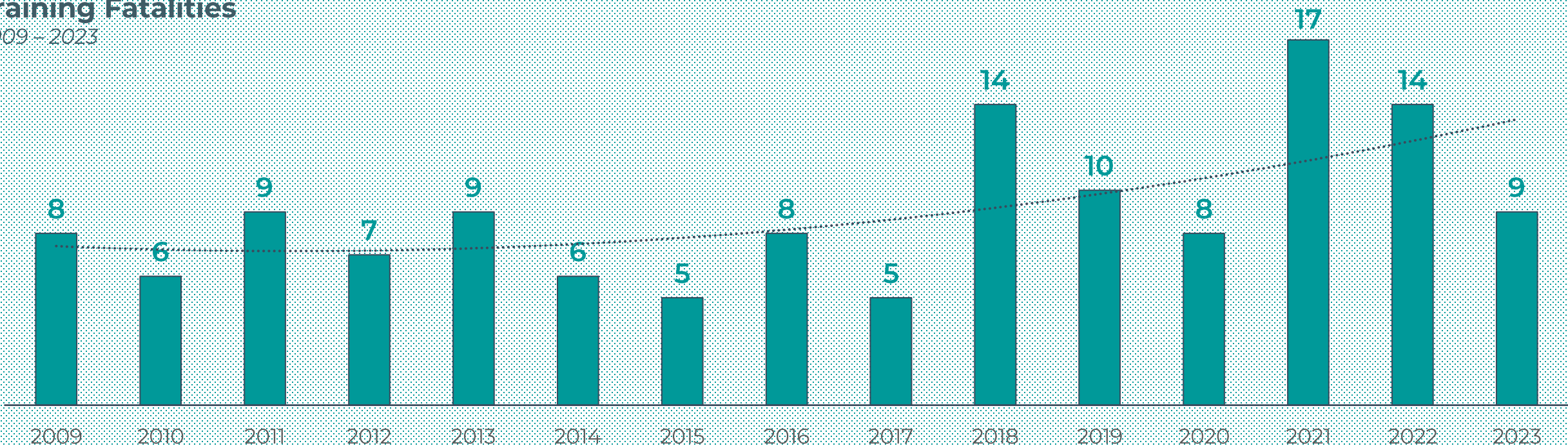
Increase in Commercial
2022 vs 2023

13%

Increase in CFI's
2022 vs 2023



Training Fatalities
2009 – 2023



Experience Builds Airmen

**Sims – reduce
training fatalities &
CO2 emissions**

135
Flight Training
Fatalities Since
2009

Source: aviation-safety.net, includes fatalities reported in their database involving flight instruction in common training aircraft types

Clear Skies, Cloudy Factories

Connection Between Manufacturing Woes & Pilot Demand

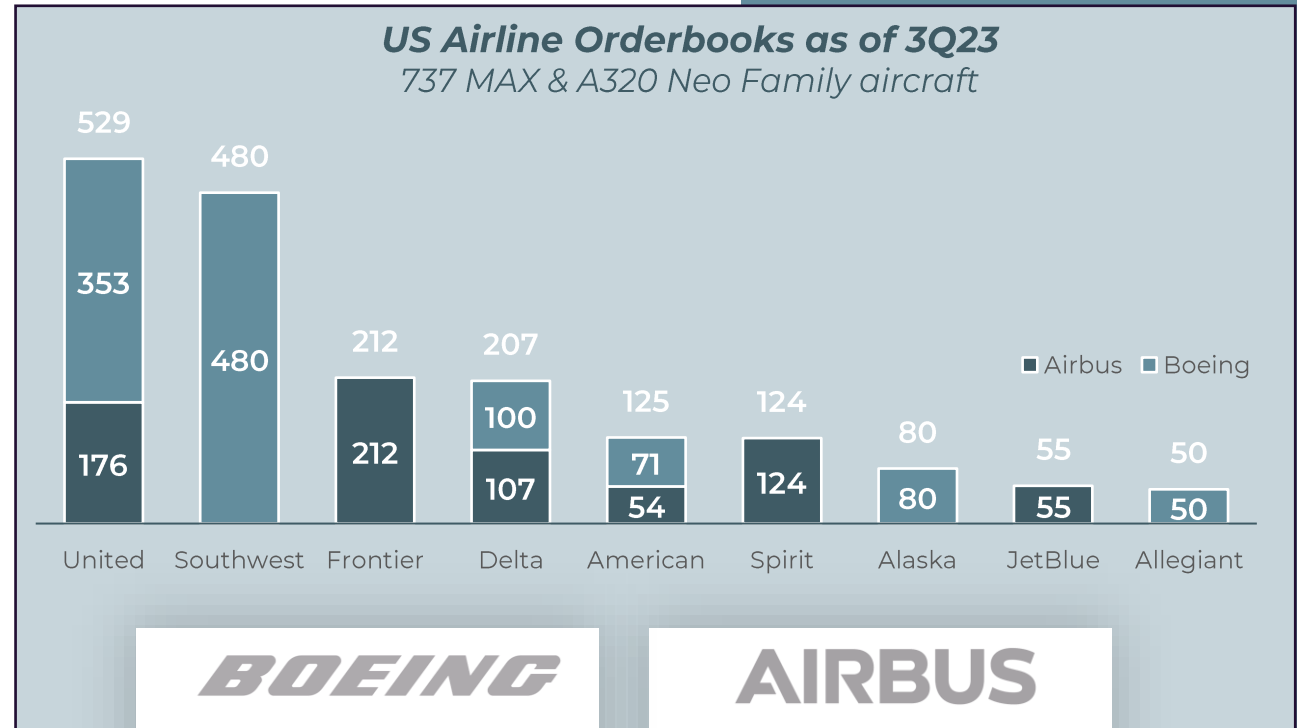
Boeing vs. Airbus

Boeing has been grappling with significant manufacturing issues, particularly related to its 737 Max aircraft. These problems have arisen due to various factors, including design flaws, production errors, and quality control lapses.

Production Target – 38 per month by YE23

Airbus has been working to stabilize its aircraft deliveries.

Production Target – 45-48 per month by YE23



BOEING

1,134

Total US Orders

4,780

Total OEM Backlog

2029

Earliest Availability

AIRBUS

728

Total US Orders

7,218

Total OEM Backlog

2030

Earliest Availability

Details

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March 2024 – Volume 3



Allegiant's Pilot Outlook Analysis



Updated

March 2024

Our forecast update is based on a variety of data sources including number of pilots hired/produced in 2023 and forward looking schedules and investor analysis.

We further included two long term economic assumptions – fuel and GDP. We believe every dollar of fuel price is worth about 1% of industry growth and created a Low (\$1 per gallon), Baseline (\$2 per gallon) and High (\$3 per gallon) input model manipulation ability. Further we believe every point in GDP growth is worth ~2% of industry capacity growth and created a Low (1.3%), Baseline (2.3%) and High (3.3%) GDP input model manipulation ability.

44

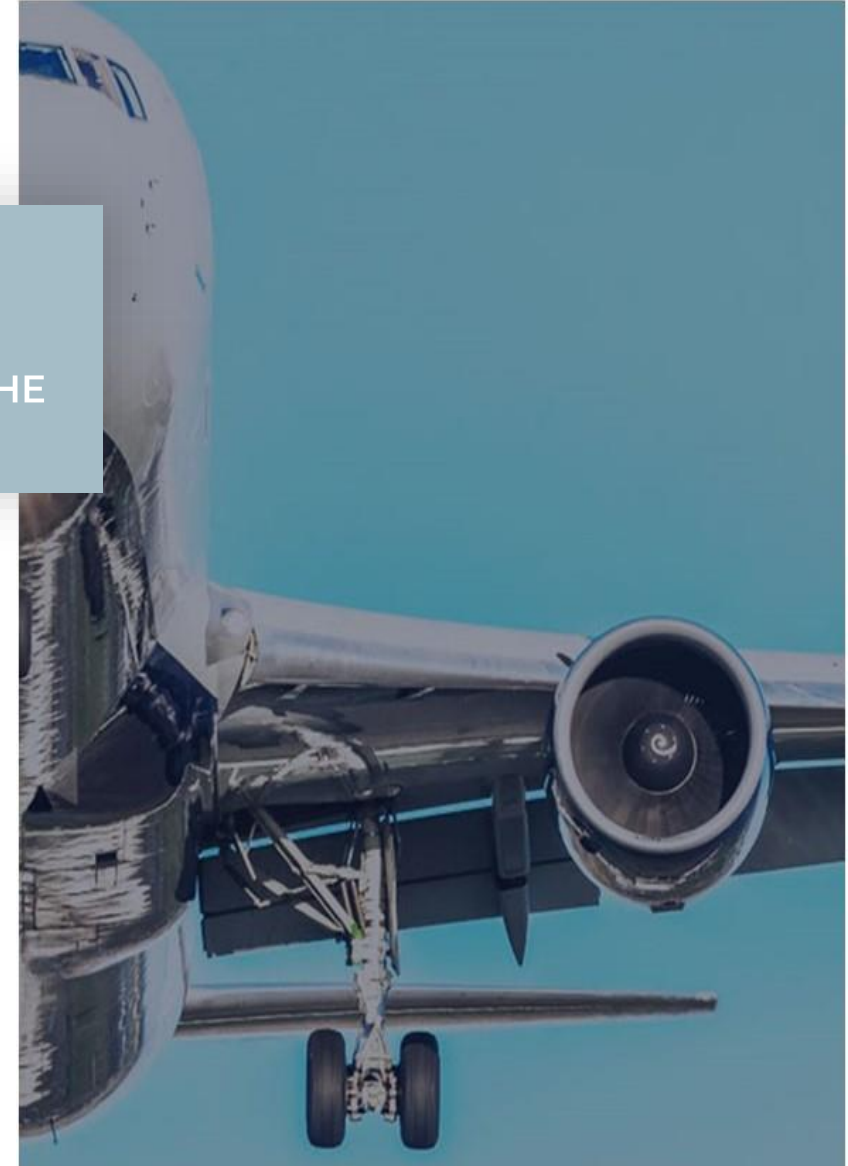
CARRIERS INCLUDED IN THE
ANALYSIS

Majors (13) – American, United, Delta, Hawaiian, Alaska, JetBlue, Spirit, Allegiant, Frontier, Sun Country, Avelo, Breeze

Regionals (11) – GoJet, Endeavor, Enovy, SkyWest, Republic, CommutAir, PAS Airline, Air Wisconsin, Horizon Air, Mesa Airlines, Piedmont Airlines

Cargo & Charters (16) – Air Transport International, Amerijet, Atlas Air, Everts Air, GlobalX, iAero Airways, Kalitta Air, Lynden Air, Miami International, Northern Air, Omni Air International, USA Jet Airlines, Western Global Airlines, World Atlantic Airlines, FedEx, UPS

Fractional (4) – NetJets, Airshare, FlexJet, PlaneSense



The graphs and charts in this presentation use baseline assumptions for Fuel and GDP.



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March 2024 – Volume 3

