

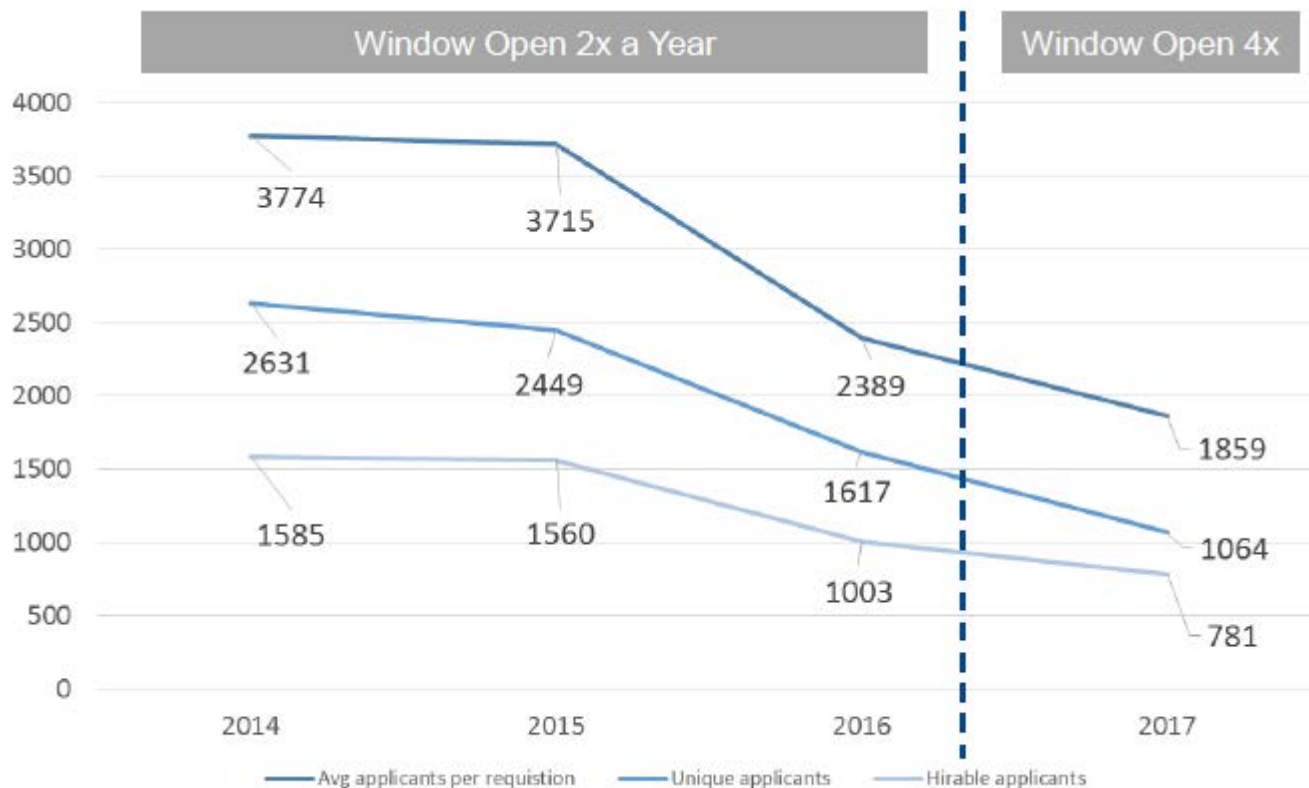
Remove Barriers to Access: Rethinking Talent Sourcing

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The Problem: Decreased Pilot Applicant Volume

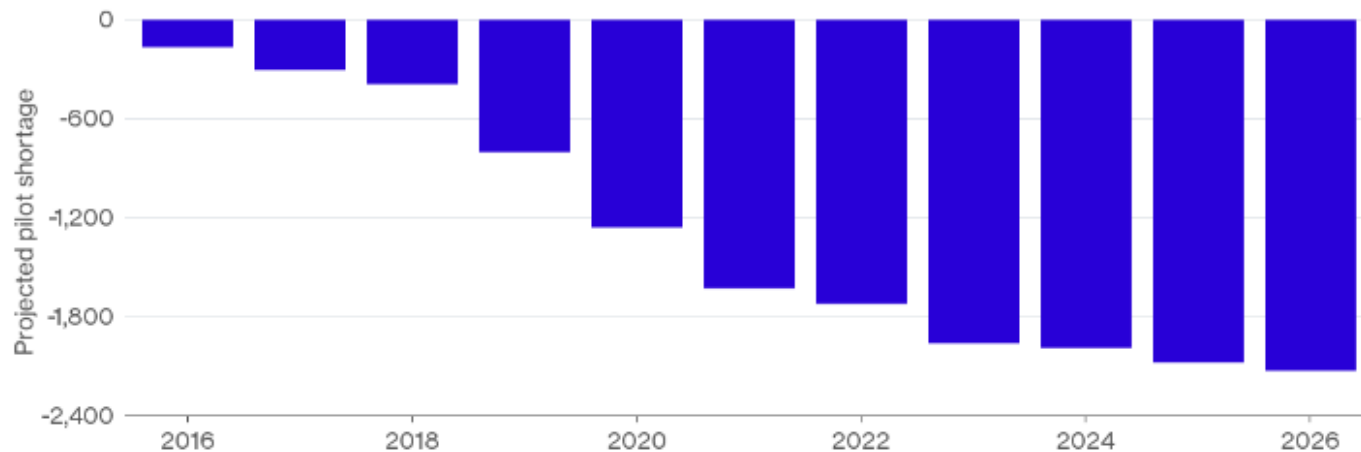


Pilot Shortage: Why Now?

- More certainty around the pilot shortage:
 - 30,000 out of the 60,222 pilots at the 10 largest US airlines will reach the mandatory retirement age by 2026
 - Not enough pilot trainees are in the pipeline to meet demand

Help Wanted in the Cockpit

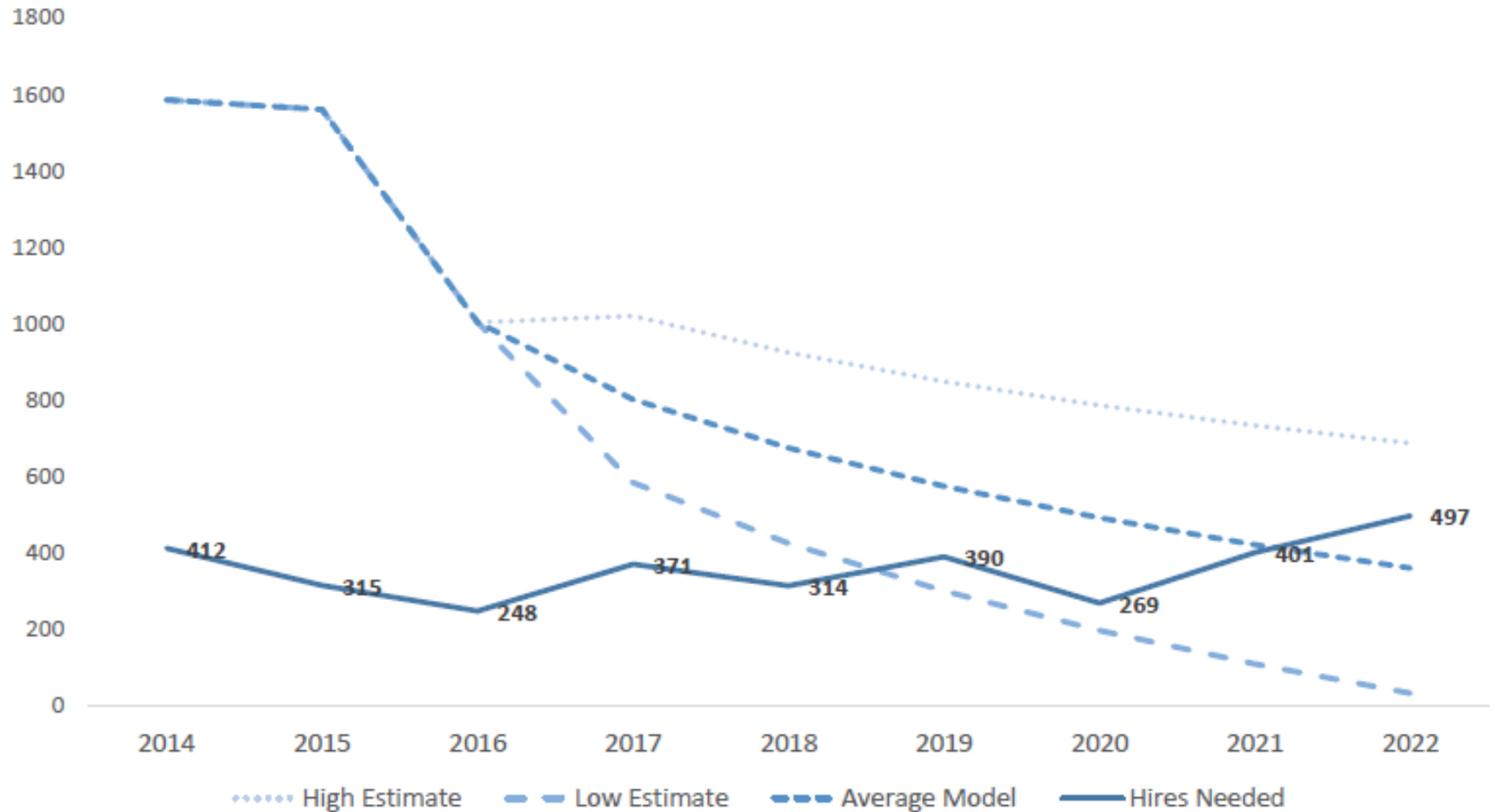
Annual shortages are expected to add up to 15,000 pilots in 10 years



Source: University of North Dakota

Bloomberg 

Projected JetBlue Hiring Yield vs. Need



Why a Shortage? Barriers to entry are high

- Lucrative profession, but hard to enter
- Typical path (with rare exceptions)
 - Flight school or college = $-\$250,000$ over 4 years
 - Work as a Flight Instructor = $+\$25,000$ over 2 years
 - Work as Regional Pilot = $+\$30,000$ over 4+ years
 - *Net until Major Carrier* = $-\$80,000$ over 10 years
- How many of you would switch to this career right now, knowing the cost and time? Or tell your kids to do this?
 - We're too late

Gateway Select

Gateway Select Pilot Training Program

- Reducing barriers:
 - -\$120,000 over 13 months; full financing provided
 - +\$30,000 as Flight instructor for ~2 years
 - Total to transition: -\$60,000 & 3.5 years
- Minimum Requirements for Gateway Select
 - 19 years old
 - High School diploma or GED
 - Legally eligible to work in the US, and travel in and out of the US
 - First Class Medical Certificate
 - ...that's it!

Zero Hour Pilots? But how!?!?!

- Limited minimum qualifications screened out only 7% of applicants
 - Most were underage or international
- Focus switches to potential
 - Who is most likely to successfully complete this rigorous training program?
 - Quality of data & analysis is critical to success

Top Characteristics in Research

- Job analysis relies on decades of military, and limited commercial, research

Characteristics	Definition
Spatial orientation	Ability to understand direction in relation to the surrounding environment at rest and during motion
Psychomotor ability	Relationship between cognitive functions and physical movement
Short-term memory	Capacity for holding information in mind in an active, readily available state
Math/Arithmetic skills	Understanding of the properties and manipulation of numbers; mental calculations
Technical knowledge	Understanding of basic aviation-related physics, mechanics.
Attention	Ability to selectively concentrate on information, while ignoring other information
Perceptual speed	Ability to quickly and accurately compare letters, numbers, objects, pictures, or patterns
Personality	Job relevant behavioral tendencies
Multi-tasking	Performing multiple of the above simultaneously

Tying Potential to Performance

- Reviewed global market of potential vendors with an assessment solution
 - None met our standards of rigor for validation
 - ... unfortunately no examples for how to effectively validate for this role



Our Data

- Predictors – 45 vars

- Personality, Values, Attitudes
- Cognitive ability
- Conflict Management
- Multi-tasking
- Hand-eye Coordination
- Interview
- Group activities
- Application of Procedures

- Criteria – 80 vars

- Initial Training Data
- Recurrent Training Data
- Customer feedback

- Heavy on database management & analysis

- Had to develop own tool to make analyses manageable
- 12243 t-tests to identify scoring
- Replicated on subsamples of validation sample
- Series of models to reduce AI

Scoring Analyses – Shiny (for R)

The screenshot displays the 'PAA Scoring Interface' with three tabs: 'Import Data', 'Cutpoints', and 'Yields & Impact'. The 'Yields & Impact' tab is active, showing a 'Yields Output' bar chart and an 'Impact Analysis Output' table. The interface is configured for 'FASTPhys - CQ_NULL_67'.

Configuration Panel (Left):

- Scale Variable/s: FASTPhys, FASTOverall, FASTLearn
- Criterion Variable/s: CQ_NULL_67, CQ_LOE_67, CQ_SPV_67
- Buttons: Generate Cutpoints, Export Tables
- FASTPhys Cutoffs: 35 (highlighted with a blue circle and a green arrow pointing to a text box: "Significant cutpoint based on p.value (right column)")
- FASTOverall Cutoffs: 20, 80, 90
- FASTLearn Cutoffs: 10, 75
- Which analysis?: Yields, Impact
- Buttons: Simulate Yields, Export Yield Tables
- Checkbox: Show Advanced Scoring

Yields Output Panel (Right):

Percent Yields by Band

Band	Yield (%)	N
Red	10%	27
Yellow	57.6%	156
Green	32.5%	88

Impact Analysis Output Panel (Bottom Right):

Criterion	p.value	F.value
CQ_LOE_67	0.413	0.892
CQ_SPV_67	0.577	0.552
CQ_FL_1234	0.313	1.174
CQ_LC_1234	0.942	0.060
CQ_MV_1234	0.768	0.264
CQ_NULL_67	0.624	0.476
CQ_LOE_1234	0.418	0.880

<https://github.com/samuelkaminsky/SKTools>