

THE CLOCK IS TICKING  
U.S. AIR CARRIERS' SAFETY RECORD IS IN JEOPARDY  
COMMON DENOMINATORS MUST BE ADDRESSED TO AVOID DISASTER

CAPTAIN WILL RONDEAU (RET.)

President  
Rondeau & Associates  
Aviation Safety Consultants

---

It has been more than 14 years since the last major airline disaster in the United States and the past several decades has seen marked improvement in the statistics related to U.S. air carriers' safety records. This increasing level of safety has in part been achieved through changes known throughout the industry as "safety culture."

Created over decades by the cooperation of the airline industry, the FAA and the U.S. government, the nation's airlines and the traveling public have been the true beneficiaries of this safety culture.

Aviation safety has been the focus of my work throughout my career as a commercial airline pilot and in the years I have spent in academia following my retirement. I am the recipient of the FAA's highest flight honor—the Wright Brothers Master Pilot Award—which acknowledges my fifty-plus years of flying without an incident, violation, or accident. In addition, I hold a Master's Degree in Aerospace Safety Management and I am an FAA Safety Team Representative.

Today, I find I am seriously concerned about our commercial aviation system. The system as we know it is changing—rapidly, dramatically and not, I fear, in a positive way. I believe that a strong warning needs to be provided regarding the dangers emerging within the industry.

We don't have enough pilots. We don't have enough maintenance people, and we don't have enough air traffic controllers.

Senator Tammy Duckworth (D)  
Chair of the Senate Commerce Aviation Subcommittee.<sup>1</sup>

For commercial aviation's future and the safety of our traveling public there are questions needing to be answered. Will we take these answers and make the changes necessary for guaranteed safety of flight and will we be able to do this before a catastrophic accident occurs? My ongoing research shows there are COMMON DENOMINATORS to be acknowledged: areas where I believe the industry can become more PRO-ACTIVE rather than RE-ACTIVE.

Research for this paper has been gathered to present facts in support of my findings regarding what I view as the two major common denominators currently creating danger in the industry:

1. The paradigm shift in hiring practices that are changing our aviation system.
2. The short staffing of our air traffic control system.

---

1. David Shepardson, "US Must Boost Air Traffic Control Staff as Travel Demand Rises." Reuters, March 16, 2023.

I have included referenced sources and added additional insight provided by conversations with flight crews flying within the aviation system today. It should be noted that prior to my interviews with line pilots, training pilots, and other aviation professionals, anonymity was guaranteed so they could offer information to me without the fear of reprisal from their employers.

## THE RIGHT STUFF

Flying an aircraft requires a certain ability. This ability is not just the “I want to fly” mindset: a pilot needs to have a feel for the aircraft and possess the ability to learn the systems, airspace rules and the varied abundance of knowledge relating to flight.

Pilot recruitment is changing. The airlines (beginning with Delta) have removed the requirement for a college education. The benefits of higher education are multifold: the personal growth and maturity as well as gaining a grasp of the tools necessary to learn more complicated concepts and skill sets cannot be overstated. Post-secondary learning leads to improved study habits.

United Airlines has chosen flight candidates solely on the basis that they are picked from women and minority groups.<sup>2</sup> In the past, Southwest required that for a pilot to get hired the candidate had to be rated as a captain on Boeing 737 aircraft, prior to being considered. This requirement has also been eliminated. Each air carrier has been forced to lower their standards for flight officers.

---

2. Pilar Wolfsteller, “United will Train 5,000 pilots by 2030, half to be women or minorities. 6 April 2021. ([www.flightglobal.com/strategy/united-wii-train-5000-pilots-by-2030-half-to-be-women-or-minorities/143185.article](http://www.flightglobal.com/strategy/united-wii-train-5000-pilots-by-2030-half-to-be-women-or-minorities/143185.article))

The Bureau of Labor Statistics projects about 18,000 job openings for airline and commercial pilots each year through 2031. While many aspiring major airline pilots still take the traditional route, including getting a four-year undergraduate degree in aviation or a related field, a growing number of airlines and aviation groups are working to expand the pipeline of potential pilots. These efforts also aim to diversity a profession that is about 92% male and 96% white, according to the BLS.<sup>3</sup>

## APTITUDE vs. FEAR FACTOR

Flying an aircraft—whether it be the oldest plane or the most modern jet used today—requires AIRMANSHIP, i.e. a skill set learned that teaches the feeling of how to fly. Just as important as airmanship is not having a fear of commanding a multimillion-dollar, heavy flying machine and being responsible for the lives of passengers and crew. This is a balancing act of tremendous responsibility. Changes in hiring practices have seriously eroded the standards for choosing flight officers to fly commercial aircraft.

A pilot MUST have the ability to land on a strip of concrete 150 feet wide and over a mile in length. They must be able to take off, fly and land in the harshest weather conditions (such as low visibility, heavy snow, rainstorms, gusty winds or icy runways). The pilots must possess a personality trait to remain CALM and make decisions that require a high level of flight experience. These personality characteristics may be missing from our cockpits very soon.

---

3. Jennifer Seter Wagner, “How to Become a Pilot,” *U.S. News & World Report*, May. 5, 2023.

## COMMON DENOMINATORS: PILOTS—ATC—MANAGEMENT

The airline industry—if not aviation as a whole—has a shortfall of experienced candidates to fill the openings for personnel. Like much of the rest of the world, airline management was caught off guard by the Covid-19 pandemic. Airlines (being for profit businesses first) looked at the bottom line and saw **RED**. The most expensive line items in an airline's budget are:

- Employee salaries
- Fuel prices
- Lease agreements on equipment
- Management compensation

The airlines had to make drastic cuts, first offering senior pilots, flight attendants, and mechanics large sums of money to retire immediately. These cuts in turn trickle down to parking airplanes, cutting route structures, and even employee benefits.

Now that aviation has returned to near pre-pandemic business levels, most (if not all) retired employees did not return. The filling of slots is now underway at full steam. The research clearly shows at least one COMMON DENOMINATOR occurs in at least two areas of hiring and training new employees.

The airline business is very complicated and requires a great deal of planning and experience in just about all aspects of operation. The hiring of employees (and most specifically pilots) has changed. Experienced aviators are not available to hire, so young, inexperienced pilots are becoming available in larger numbers, which in turn sees airlines lowering their hiring requirements.

TRAINING has not changed for the newcomers choosing a career in aviation—this includes potential pilots and air traffic controllers. The training curriculum should be adjusted to take into consideration the lack of experience of new hires. The current standard of training (or “footprint”) must be expanded to include new ways of educating employees who have minimal experience in aviation.

## COMMON DENOMINATOR ONE PILOTS—EXPERIENCE MATTERS

From the earliest years of commercial aviation, safety concerns were in part addressed by the premise that the senior (more experienced) pilots would guide younger aviators. This system worked: senior pilots taught their less experienced co-pilots how to fly safely. In my own career, I learned from my early captains and then I had the opportunity to pass along knowledge and share valuable experiences with my flight crews.

What has changed? The air carriers today do not have the luxury of finding experienced pilots to teach and/or mentor the newer pilots because there are simply not enough experienced pilots in the world today. As discussed earlier in the paper:

United and JP Morgan will each provide \$1.2 million in scholarships this year for pilot training for candidates that struggle to afford the education. United Aviate Academy (United’s pilot training and school) will train 5,000 new pilots in the next ten years with at least half of those to be women and people of color.<sup>4</sup>

---

4. Wolfsteller, *Ibid.*

In addition, as shown in this chart, the retirement rate at the largest US airlines is rapidly increasing. According to a 2017 article, “By the end of 2026, 42% of the active pilot work force at the five largest airlines will retire.”<sup>5</sup>

Peak Pilot Retirements According to Plane and Pilot Magazine (2020)

Mandatory Retirements						
	Alaska Air	American	Delta	Southwest	United	Total
2017	46	409	267	146	398	1,266
2018	43	545	377	110	398	1,473
2019	49	656	471	135	411	1,722
2020	55	782	566	164	420	1,987
2021	57	853	772	206	509	2,397
2022	56	873	830	195	466	2,420
2023	50	960	790	239	550	2,589
2024	60	933	791	289	491	2,564
2025	57	954	711	313	606	2,641
2026	52	905	608	378	652	2,595
<b>Total Retirements</b>	<b>525</b>	<b>7,870</b>	<b>6,183</b>	<b>2,175</b>	<b>4,901</b>	<b>21,654</b>
<b>Avg. Annual Retirements</b>	<b>53</b>	<b>787</b>	<b>618</b>	<b>218</b>	<b>490</b>	<b>2,165</b>
<b>Active Pilots</b>	<b>1,875</b>	<b>14,503</b>	<b>13,658</b>	<b>8,600</b>	<b>12,712</b>	<b>51,348</b>
<b>Pct of Active</b>	<b>28.0%</b>	<b>54.3%</b>	<b>45.3%</b>	<b>25.3%</b>	<b>38.6%</b>	<b>42.2%</b>
<b>Peak Year</b>	<b>2024</b>	<b>2023</b>	<b>2022</b>	<b>2026</b>	<b>2026</b>	<b>2025</b>

5. “Pilot Retirements Accelerate Beginning in 2021, Peak in 2025,” Jon Ostrower, CNN Business, July 31, 2017

As of Summer 2023, it appears Congress may approve legislation raising the retirement age for commercial pilots from 65 to 67 (or maybe older). The age requirement was last changed in 2007 when the mandatory retirement age was raised from 60 to 65. On March 21, 2023, Senators Graham, Manchin and others introduced the “Let Experienced Pilots Fly” Act to stem the tide of retirements.

It is difficult to forecast with any certainty how many experienced pilots will be able to fly for two additional years. However, anecdotally, professional pilots’ history has shown that approximately 50% of pilots over 60 years of age will fail their FAA medical examinations, removing them from continued employment.

Here is just one example of the result of pilot inexperience and lack of training and checking by the airline:

[Air France Flight 447, June 1, 2009, Airbus A330](#)

Two first officers were flying the aircraft while the captain was resting. The flight encountered a thunderstorm enroute, causing the AUTO-Flight systems to disengage. The first officer flying allowed the aircraft to stall and descend from 35,000 feet to crash into the Atlantic Ocean. Caused by Inexperience and lack of knowledge of the aircraft systems.<sup>6</sup>

---

6. [www.wikipedia.org/wiki/Air\\_France\\_Flight\\_447](http://www.wikipedia.org/wiki/Air_France_Flight_447)



## COMMON DENOMINATOR TWO: AIR TRAFFIC CONTROL

Air Traffic Control (ATC) is also experiencing problems with new hires. According to my research, in the last year alone there have been several near misses occurring at or near airports.<sup>7</sup>

In a March 2023 article, David Spero, President of the Professional Aviation Safety Specialists (PASS), a union representing 11,000 FAA technical employees and inspectors, addressed part of the ATC's growth problems by berating the FAA for ". . . failing to commit to improving its staffing models." Spero continued by saying he was ". . . extremely concerned about FAA's failure to maintain adequate staffing for its inspector workforce."<sup>8</sup>

"We have a staffing issue," NATCA President Rich Santa said at a FAA safety forum on May 2, 2023, noting there are 1,200 fewer certified air traffic controllers now than a decade ago. He went on to comment "It's time for us to accurately and adequately staff the facilities."<sup>9</sup>

A shortage of air traffic controllers has major airlines considering schedule cuts to prevent delays. The FAA has initiated a scaling back of service at the three major New York City airports after warning that air traffic control staffing shortfalls could amplify delays by up to 45%.<sup>10</sup>

---

7. Please see Appendix A for detailed information.

8. Eric Katz, "FAA is Facing a Looming Staffing Crisis as Post-Pandemic Needs Growth." Government Executive. March 16, 2023).

9. Speech, NATCA Annual Gathering, May 2, 2023.

10. Pete Muntean, Gregory Wallace, CNN Travel, April 6, 2023.

According to FAA guidelines, the initial hiring requirements for air traffic controllers includes the following:

- Candidates must be less than 31 years of age at the time of selection.
- Candidates must pass an FAA medical examination.
- Candidates must have acquired some secondary education, certification or licensing.
- Candidates must possess a knowledge of mathematics and they must speak-read-and write the English language.

In addition, applicants need to exhibit personality traits such as good memory, self-control and the ability to remain calm when encountering difficult situations. After hiring/acceptance, training can take up to 12 months before a controller can fully operate within the system unsupervised.

## RECENT NEAR MISSES

For this paper, I have gathered information about some of the most recent incidents and near accidents (near misses). Included is a compilation of interviews that I have conducted with active airline pilots. Each pilot I have interviewed flies for a commercial airline as either captain, first officer, or check (training) pilot. I consider each interview to be straight forward and truthful.

As stated earlier, each aviation professional I interviewed will remain anonymous in this report. I will, however, mention the airlines for whom these men and women are employed when there is verifying information to present. Other information is gathered from aviation sources and published articles. The information I have determined useful for this report will be properly cited for each article or on-line source of airline incidences (see Appendices B and C).

Recently, Federal Air Surgeon Dr. Susan Northrup commented that she would “. . . get pilots who are grounded because of mental health issues, back in the air.” Northrup spoke about the FAA’s intentions “to ease aeromedical rules for mental health.” Currently 30 to 40 percent of applicants reviewed by the FAA have a mental health issue.<sup>11</sup>

It is impossible to ignore the history of mental illness in pilots and the outcome of their continuing to fly:

- Germanwings Flight 9525, 24 March 2015. Murder-Suicide by Pilot Lubitz. Hospitalized in 2008, Severe Episode of Depression. (Wikipedia-Germanwings Flight 9525)
- FedEx Flight 705, April 7, 1994. Murder-Suicide attempt by FedEx pilot. (Wikipedia-Federal Express Flight 705)

## MY CRYSTALL BALL

My years of involvement in private and commercial aviation and my formal education has given me insight into the future of airline safety and the study of accidents and the probability of future accidents. Here, I will look in my “crystal ball” to forecast the types of aircraft accidents we may soon be reading about.

### Accidents on or near airports

- Inexperienced pilots will have difficulties in handling strong crosswind landings. This will cause runway incursions, aircraft to land short and/or land long and perhaps even departing the runways.
- Making decisions to take-off into difficult weather conditions such as: heavy snow or rainstorms, wet or icy runways.

---

11. Lillian Geil, AOPA on-line. [https://www.aopa.org/news-and-media/all-news/2023/may/18/faa-easing-mental-health-barriers-for-pilots?utm\\_source=NewsFAA Easing Mental Health Barriers](https://www.aopa.org/news-and-media/all-news/2023/may/18/faa-easing-mental-health-barriers-for-pilots?utm_source=NewsFAA+Easing+Mental+Health+Barriers)).

- Handling mechanical failures such as engine failures, blown tires and many other possible emergencies.
- Making decisions on when to depart near or into thunderstorms.
- Tail strikes (can occur on both takeoffs and landings) damaging the aircraft structure.

#### Accidents Occurring Enroute

- Crossing strong weather fronts, at altitudes that are difficult to pass through even for the most experienced pilots. Knowing when to deviate or when to penetrate weather.
- Mountain Waves and other atmospheric anomalies.
- Routings around this weather will take longer and cost more for the airlines.

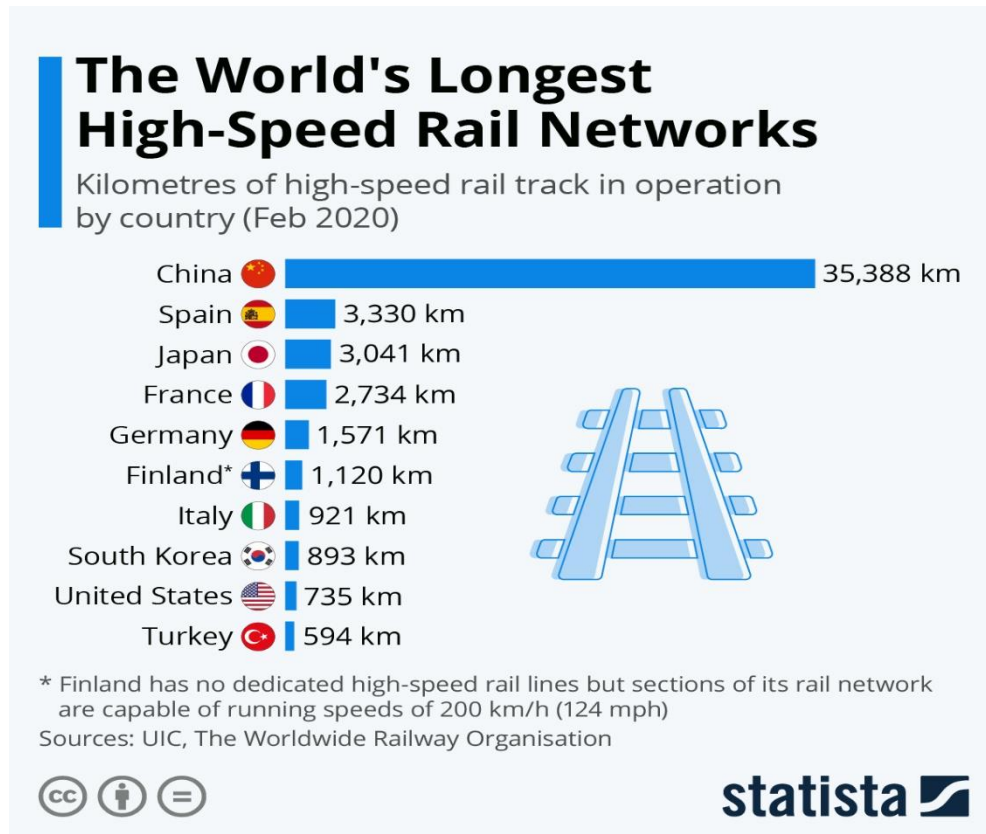
### I HOPE WHAT I SEE IN MY CRYSTALL BALL IS WRONG!

What are some of the possible answers in the short term to avoid serious and fatal mistakes?

- The airlines can modify their flight schedules and cut down on the number of flights. The FAA has already asked airlines to decrease the number of flights transiting through the New York airports or connecting throughout the system.
- Continue to follow pilots' training records and eliminate pilots with poor training results.
- Airlines and Unions should insist on more flight line check rides to monitor flight crew performance.

## ANSWERS: ALTERNATIVES TO AIR TRAVEL

Transportation systems in other developed countries use trains, normal commuter as well as high speed Bullet Trains. They have been proven to be safe, on time, efficient travel, cost effective and friendly to our planet. The United States remains hesitant to adopt this method of travel.<sup>12</sup> Shown here in a graph from Statista:



Political support is a must to develop this system in the United States and soon!

EESI (Environmental Energy Study Institute)

<https://www.eesi.org/papers/view/fact-sheet-high-speed-rail-development-worldwide>

12. “High speed trains are racing across the world. But not in America.” Ben Jones, CNN Updated 10:39 PM EDT, Tue April 18, 2023

## **APPENDIX A**

### **ATC NEAR MISSES**

In this section is a record of some of the most recent problems which affect the safety net that was developed for commercial aviation. Incidents are listed by airline, and probable causes listed as reported by the NTSB.

#### JFK, New York, January 16, 2023

A Delta Airlines B-737 was cleared for takeoff when the controller noticed an American Airlines aircraft crossing the runway.

#### Austin, TX, February 4, 2023

A Southwest Airlines aircraft was cleared for takeoff, as a FedEx flight was cleared to land on the same runway. FedEx performed a go-around and the SWA flight took-off. The two aircraft nearly missed each other during the maneuvers.

#### Burbank, CA, February 15, 2023

Mesa Airlines flight #5826, was on final approach and cleared to land, when the tower controller cleared SkyWest for takeoff. Mesa flight was 1.3 miles from landing, performed a go-around.

#### Sarasota, FL, MARCH 16, 2023

Air Canada flight Airbus 321 was cleared to takeoff on runway 14. American Airlines flight Boeing 737 was cleared to land by ATC. The aircraft missed an accident by 3000' horizontally and 100' vertically. (Giacomo Amati, Published Mar 18, 2023. Simple Flying).

Charleston SC, March 31, 2023

Jet Blue performing flight #2468 was cleared for takeoff and on takeoff roll. An American airline B-737, was cleared to land. On short final approach the American flight went around and turned left. The Jet Blue flight missed the American by 4/10ths on a mile.

Minneapolis/St. Paul, MN, June 14, 2023

American Airlines and Delta Airlines, Near Collision on takeoff and Go Around. (Aviation Herald, [www.avherald.com](http://www.avherald.com)).

New Orleans. LA, March 31, 2023

Delta Airlines, flight 142 during takeoff roll aborted takeoff at 125 kts., as another aircraft (Lear Jet) entered the runway safety zone.

## **APPENDIX B**

### **AIRLINE INCIDENTS**

United Airlines: December 18, 2022. Flight #1722, Boeing 777-200, Maui Hawaii

After takeoff, the flight climbing through 2,200 ft, violently pitched nose down and lost 1,425 ft and pulled out at 775 ft over the ocean. The flight then continued to San Francisco. United Airlines DID NOT REPORT THE INCIDENT. The captain was new to the aircraft and the first officer (FO) new to the airline. Possible cause: when captain, after takeoff, called for the “gear up” and the FO retracted the flaps. Pilot error, lack of experience.

Delta Airlines: January 12, 2023. Flight #134, Airbus 330-900ER

Plane landed short of the runway 22. Delta Airlines is dramatically lowering seniority requirements for captain roles. “Simple Flying” reports Delta pilots with as little as 4.5 months seniority to become captains of Boeing 757 and 767 planes.”.

American Airlines: January 13, 2023. Flight #106, Boeing 777

Crossed runway 4L at JFK without clearance. Delts flight #1943, Boeing 737 was taking off. ATC notified Delta, “Abort Takeoff”, Delta stopped 100’ short of a collision. (Jonathan E. Hendry, Published Feb 11, 2023, “Simple Flying”).

United Airlines: January 23, 2023. Flight #348, Boeing 777-200, Honolulu, Hawaii

After landing on runway 4R, was instructed to hold short of parallel runways. The flight continued across an active runway with a aircraft landing on that runway. Possible cause: pilot error, and fatigue. (Curt Lewis and Associates, Newsletter, 2-16-2023 #33, Flight Safety Information FSINFO.ORG).

Jet Blue: March 27, 2023. Flight #206, Airbus 320, Cleared to land at Boston

On short final approach a private Lear Jet started takeoff roll, on same runway, without clearance. A near miss of 531’. (Flughtradar24.com/blog/faa-inves...).



## **APPENDIX C**

### **INTERVIEWS**

Appendix C is a record of the major commercial airlines pilot employees that I have interviewed. The identities of each of the airline employees, will remain anonymous.

From my experience as well as the recent history of near accidents occurring in commercial aviation. It is of paramount importance for BOTH pilots, while the taxiing the aircraft to be visually aware of what is occurring around their airplane. For this reason, I know that while taxiing an airplane, with only one engine operating is a SERIOUS MISTAKE! Here is what I am hearing of what is occurring today.

The captain is the sole person, responsible for the safe operation of the aircraft, as per FAR 91.3, "the pilot in command, is directly responsible for, and is the final authority as to, the operation of the aircraft. (CFR, 14, FAR 91.3).

#### American Airlines

Single engine taxiing is occurring regularly, the company prefers the crews, save as much fuel (money) as they can.

#### Delta

Single engine taxiing is also occurring. It is not a procedural operation (checklist procedure), but some captains use this method.

#### Jet Blue

Is INSISTING that their flight crews' taxi on one engine, but also that the auxiliary power unit (APU) is also shut down. Their recommended procedure is to taxi on the left engine. When nearing the runway, the first officer, adds power to the left engine, to obtain enough air flow to start the right engine. The captain is taxiing, and looking outside the

aircraft, the first officer is having his/her head down (inside the cockpit). This is counter as to how their aircrafts should be operated.

Some of the pilots I interviewed feel under what they call “operational Pressure” to operate under this procedure.

#### Southwest

Prefers that both engines are started prior to taxiing out. A special check list is provided when a delayed or long taxiing procedure is used.

#### All Airlines

Have hired very INEXPERIENCED EMPLOYEES in all areas of airline departments. Employees are hopping from one carrier to another, making training and operational continuity very difficult.