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Subject: Consultation on proposed changes to strengthen the Air Passenger Protection Regulations

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Statement of concern of the effect of passenger compensation increase and reduction in exclusions on aviation safety. The author is a recognized world-wide aviation safety expert. NCAA reached out to Captain Cox to provide opinion, which he did and was compensated for his time. The opinions express are solely those of Captain Cox.

Safety Operating Systems Opinions and Concerns Proposed Changes to Air Passenger Protection Regulations

Captain John M. Cox, MBA, FRAeS

August 10, 2023

Executive Summary

The Canadian Transportation Agency (CTA) is considering amending rules and increasing passenger compensation and further restricting the exceptional circumstances under which no compensation is due. This decision will have safety risk implications as airlines find themselves making decisions on flight operations that may not be based primarily on safety but on the financial implications.

In this report are real world examples of times a flight could have been operated within the appropriate regulations but there were other considerations. Having the additional financial burden of increased passenger compensation could cause such decisions in the future to be different.

Aviation is the safest form of public transportation. From 1914 to today the dramatic increase in passenger demand has been met with ever increasing levels of safety. This year over 4.5 billion passengers will fly on airliners, with 117 million flying in Canada. They have never been safer than they are today, but the expectation is that safety will continue to improve. Any action, rule, regulation, or law that conflicts with that expectation is detrimental and goes against the passenger primary concern…flight safety.

Background and Qualifications

Having been in aviation for over 53 years in multiple roles, I am a recognized expert in aviation safety with a specialty in aircraft operations. I am a veteran pilot with over 14,000 flight hours and over 10,000 hours in command of airline jets. I received an Aviation Safety Certificate from the University of Southern California in 1996. For the last 12 years, I have been an instructor at the University of Southern California teaching aviation safety.

Additionally, I am a trained aircraft accident investigator having participated in over 20 aircraft accident investigations, including some of the most challenging in aviation history.

I have been awarded the FAA Wright Brothers Master Pilot Award and the Guild of Air Pilots Master Pilot Award

I am a certified Maintenance, Flight Operations (Fixed and Rotor wing), and Advanced Safety Management System auditor by the International Business Aviation Council.

I am a Fellow of the Royal Aeronautical Society and an active member of the Flight Operations Group.

I have testified before the US House Transportation Subcommittee and the National Transportation Safety Board on aviation safety matters.

As a longstanding member of the International Society of Air Safety Investigators, an International Certified Registered Safety Professional, and a member of the Flight Safety Foundation, I have demonstrated qualifications as an air safety investigator and aviation expert.

I hold a Masters of Business Administration from Daniel Webster College, where I was an adjunct professor in Aviation Safety and Security from 2010 to 2011.

I am frequently quoted or interviewed by media worldwide, and I am an NBC Aviation Analyst. I regularly provide interviews for Canadian print, electronic and social media about aviation matters.

Current Air Passenger Protection Regulation

The current Canadian Air Passenger Protection Regulation (APPR) came in effect in 2019, then amended in 2022. Within the regulations are requirements for airlines to assist passengers when flight disruptions occur, including in some cases to compensate the passenger.

There are various causes of flight disruptions, some of which are beyond an airline's control such as weather, air traffic delays, or technical issues with the aircraft. While others are operational decisions. These different causes are addressed in the regulations.

Regulations require differing levels of airline assistance and compensation depending on the cause of the flight disruption. This variance in assistance is consistent with regulation in other parts of the world. However, there is a lack of uniformity in the regulation requirement between countries. Europe having one of the stricter set of regulations, known as EU261.

All the APPRs have exceptions for circumstances over which the airline has no control. The list of these circumstances varies and have significant implication to the airline.

Airline Safety

In the post Covid environment air travel has returned to pre-Covid levels resulting in approximately 35 million flights occurring yearly (IATA). This number is expected to continue to grow and surpass the previous record, set in 2019, of 38 million flights.

The latest available data for accidents is 2022, which showed worldwide an accident rate of 0.26 per million flights, and a fatality rate of 0.04 per million flights[1]. As shown in the Bureau of Transportation Statistics, airline flying is the safest form of public transportation. Safety has evolved over the 109 years of airline flying.

Safety improvements are due to many factors, such as better designed aircraft, improved pilot training, better maintenance, the jet engine, and technology. Canada's leading role in the implementation of Safety Management Systems resulted in a quantifiable improvement in airline safety. Airlines today operate with safety as the primary consideration, and consistently evaluate flights to ensure a high level of safety is maintained.

As airliners improved, they became more complex. This complexity required more extensive maintenance and flight crew procedures. Redundancy in systems and components became more common to not only improve safety, but also improve reliability. Airliner safety and reliability both improved, as redundancy could allow safe operation with some components inoperative. An example is if one of the two air-conditioning systems is inoperative the flight may continue to operate at a lower altitude. The list of allowed inoperative components, and the time limit until it must be repaired is approved by the regulator, in Canada this is Transport Canada.

Airlines frequently schedule repairs on inoperative components faster than required. Not only does the early repair improve reliability it maintains the aircraft to a higher standard than required by the regulator. Because airliners fly to many different stations and the maintenance capability of stations vary substantially, decisions of where and when to repair a component are part of daily operations. These decisions require consideration of many factors, and often require operational experience in addition to training on the specific type of aircraft.

Delays or cancelations are only considered when there is a question about the safety of a flight or the ability to operate within the regulations. The decision to delay or cancel a flight can be complex, and difficult. While the captain is ultimately responsible for the safe conduct of the flight, flight dispatchers, maintenance technicians and others are critical parts of the decision process. Safety is paramount, operational considerations and timing are also elements in the decision.

[1] Airbus Statistical Analysis of Commercial Aviation Accidents 1958 - 2022

Examples of Complex Operational Decisions

As an airline pilot for over 25 years there were many times when complex operational decisions were necessary. Of the 25 years of airline flying, I was a captain for 22 of those years, meaning I was one of the decision makers in operational decisions.

It will be beneficial for policy makers when considering passenger assistance and compensation requirements to have some real-world examples of decisions that airlines must make regularly.

Pittsburgh – Phoenix

I was scheduled to fly a Boeing 737-300 from our hub in Greater Pittsburgh International Airport (PIT) to Phoenix, Skyharbor International Airport (PHX). In the summer of 1995, which was an unusually hot summer in the southwestern US. The airplane assigned to the flight arrived with a mechanical issue. One of the two air-conditioning systems, known as a pack, had failed multiple times on the inbound flight. The inbound crew reset it, but it kept tripping off. As the outbound captain, I was in contact with maintenance control, local maintenance technicians and crew scheduling all of whom were part of the decision-making process.

We read the Minimum Equipment List (MEL) and we could fly the flight with one pack inoperative and the valve wired closed. The length of time that the aircraft could operate in this condition was 10 days, making it a C category MEL item. We would be restricted to 25,000 feet causing us to burn more fuel. A 737-300 is capable of making the flight at 25,000 feet, with the necessary fuel reserves.

The flight was to arrive in PHX sit for 2 hours and return to PIT. Both flights were full or nearly full. Our options were to fly the flights knowing that the ability to cool the airplane in PHX would be severely limited, attempt to fix the pack in PIT taking a significant delay, attempt to substitute another airplane, or cancel the flights. Furthering the complexity of our decision was our crew duty day, we only had around 90 minutes of delay before we would be forecast to exceed our duty time limitation. If we exceeded our duty time limitation another crew would have to fly the flight.

Maintenance did not believe they could fix the pack within the 90-minute time limitation, so delaying the flight and fixing it was not a viable option. There were no available crews to relieve us so getting another crew was not possible. Nor a spare airplane, due to earlier needs.

It came down to canceling the flight or flying it, complying with all applicable regulations, into sweltering heat which would be a major problem for the return flight with a very limited ability to cool the aircraft. Do we upset the travel plans of over 200 passengers or do we subject over 100 people to sweltering heat? We considered flying to PHX and leaving the airplane there until late night but that put the airplane and crew out of position, affecting next-day scheduling causing more disruption for even more people.

It came down to “What do you want to do captain?” The flight can be conducted legally, complying with all applicable regulations, but the consideration of the effect on the PHX return flight was significant. I called PHX and asked operations how aircraft were coping with the heat and was told that many aircraft were struggling to keep the cabin temperature at a reasonable level. That finalized the decision, we would cancel both flights, give maintenance time to fix the aircraft, have the flight crew in the proper position but disrupt over 200 travel plans. in addition to safety of flight considerations, we could not guarantee that we would be able to provide a cabin environment that would not lead to the potential of heat stress or worse for passengers, which is also a safety consideration from the perspective of a captain’s decision.

We made the operational decision to rebook the passengers on both flights. Would consideration of having to pay passenger compensation on top of the required passenger assistance the decision? Perhaps, but certainly there would have been pressure to make the flights and have the reduced level of safety for the PHX-PIT passengers. This type of added operational pressure conflicts with the safety efforts that airlines, worldwide, have taken since 1914 and the aviation safety lessons learned as applicable to human factors and human performance.

Baltimore – Oil Leak

After settling into my seat in a 737-300 the First Officer entered the flight deck. He said you need to come look at the right engine. I replied “Ok, what’s wrong” he said “there is a puddle of fluid under the engine, I think it is oil”. I followed him to the right side of the airplane and there was a pool of fluid several inches in diameter and a dripping from the underside of the engine. Maintenance would need to look at it.

I entered the observation into the aircraft logbook and awaited the arrival of the maintenance technicians. They arrived and confirmed that there was an oil leak, it initially appears to be a seal in an oil line. The airplane was not airworthy until it was fixed. They did not have the oil line or seal in stock, those items were only found at an engine shop.

The flight was canceled. The consequence was the passengers’ plans were disrupted, the flight crew would not be where they were scheduled to be affecting flights later in the day and the following day, the airplane would not be available to fly it’s remaining flights that day or the following day.

While aircraft reliability is very high, on occasion an unexpected mechanical problem happens that grounds the airplane. When that occurs, and the proper maintenance has been performed, there is nothing an operator can do. The cancelation requires rebooking passengers onto other flights where seats can be found. Flight crews are flown to a location to pick up their flights, the airplane is repaired, and returned to service. This certainly takes hours and sometimes days to accomplish.

Any machine operated in a hostile environment as often as an airliner flys, no matter how well maintained, has the potential to have a mechanical fault arise that results in it being unable to fly. This is beyond the airline's control, or ability to predict. With no ability to prevent such a fault it is unreasonable and unfair to force passenger compensation beyond rebooking passengers on flights with available seats.

Charlotte – Montego Bay, Jamaica

I was scheduled to fly an evening flight from Charlotte, North Carolina (CLT) to Montego Bay, Jamaica (MBJ). The first officer asked me to come look at the right wheel well. During his preflight inspection he noticed that there was jet fuel dripping very slowly near the wheel well. I followed him observed the dripping and we agreed that maintenance technicians needed to evaluate it. We called for maintenance and entered our observation into the aircraft maintenance logbook.

Maintenance technicians found that there was a slow dripping from the right-wing tank in an access panel. They timed rate of the drip, finding it to be within the acceptable drip rate according to the Boeing maintenance manual. They could release the aircraft for flight but warned if the drip rate increased the airplane would be grounded.

We looked back to previous flights, finding no drips reported. Something was different on the inbound flight to CLT. Would it get worse during the flight to MBJ? If it did the airplane would be trapped in MBJ with no company maintenance technicians. Any repair would take hours and potentially require flying company maintenance technicians to MBJ to repair the leak. If the leak increased the airplane would be out of service for at least a day causing disruption of hundreds of passengers. Additionally, the flight crew would be forced to overnight in MBJ resulting in them not being able to fly their scheduled flight, which would result in disruption of hundreds of passengers. Only when the airplane arrived in MBJ would it be possible to know if the leak rate had increased and was beyond the limit.

A conference call including me, as the captain, the flight dispatcher, maintenance control, and crew scheduling resulted in the decision to cancel the CLT-MBJ flight and the return MBJ-CLT flight. Maintenance would work on the airplane overnight, repairing the access panel so that the leak would be stopped, and the airplane could fly its scheduled flight the following day. We overnighted in CLT and proceeded to operate our flights once the aircraft was repaired and back in service.

While 200+ passengers were disrupted the potential for disruption of hundreds more was averted. We could have flown the flights in conformity with all applicable regulations, it was an operational decision to cancel the flights. Our primary concern was safety, the next concern was to disrupt the travel plans of as few passengers as possible.

Our customer service agents rebooked the passengers attempting to minimize the effect on their travel plans. Had we had to consider paying passenger compensation for this safety decision would it have been a different decision? Potentially it would have. Given human factors and operational pressures, some pilots may well be put in place to make different decisions if the safety and/or unforeseen mechanical exemptions are removed from the APPR.

Irregular Operations

One of the most challenging times for airline operations is weather caused disruption. It is known as Irregular Operations within the industry. Disturbances to the schedule can be caused by thunderstorms, hurricanes, blizzards, wildfires, volcanos or other natural phenomenon. Once operating to the planned schedule is no longer possible minimizing the effect on the ongoing operation, and the passenger, the airline's valued customer is the focus of the highly experienced professionals in flight dispatch, crew scheduling and maintenance.

When a wide geographic area is affected by weather there will be hundreds or thousands of passengers affected. Rerouting those passengers is difficult as airplanes are heavily booked resulting in few open seats to accommodate these rerouted passengers. Other than major hub airports there are limited flights available making rebooking, in some cases, very difficult.

In weather related irregular operations all airlines are affected, making booking passengers on other airlines impossible. This becomes especially true at small or medium airports throughout Canada's regions that have very limited flights.

Once the schedule is disrupted, it is difficult to return to normal operations as airplanes are out of place, as are flight crews. Scheduled maintenance must be performed on airplanes, but when they are not in the location where maintenance can be done alternative plans must be made. Flight crews have duty time that must be respected, causing them to be out of position.

The time required to return to normal operations can be days. I have seen conditions where over 3 days was required to have the airline operating normally, getting the passengers to their destination can take even longer. Frequently frustration grows at the time given it leads to overflows and passengers demanding seat availability that simply does not exist. The airline customer service agents work diligently to rebook passengers on the first available flights, which can be days away. At times, there is nothing any airline can do to expedite this process.

Extra airplanes and extra crews are sometimes cited by policy makers as the solution to irregular operations. While this seems like a simple solution to a complex problem, it is not. Aircraft are incredibly expensive assets. To park a jet worth hundreds of millions of dollars just on the possibility you might need it, is a major decision. Yet despite the cost airlines regularly have spare airplanes that have come out of maintenance but are not in service for a few days. This rotating pool of airplanes provides spares that can be utilized when there is a mechanical issue that grounds an airplane, or when weather causes a flight cancelation the spare can be substituted. This system works well, unless the magnitude of the problem grows with further unforeseen events.

In a major storm event, the spare airplanes and spare (reserve) crews are utilized to keep the operation as close to schedule as possible, preventing disruption to hundreds or thousands of passengers. Once the spare airplanes and reserve flight crews are depleted the only assets

available are out of position, many require routine maintenance, and flight crews are out of position. This has a "domino effect", sometimes referred to as "knock-on" effect. The out of position airplane cannot fly tomorrow's scheduled flights, same is true of the flight crew (pilots and flight attendants). Due to the number of flights scheduled to be flown and the limited number of assets (airplanes and flight crew) disrupting one airplane or flight crew causes multiple flights to be interrupted. It is not uncommon for airplanes to fly eight or ten flights a day and flight crew to fly six or eight flights in a day (as applicable to flight duty time regulations).

Additionally, a major storm event is not always predictable. Flight dispatchers and system operation control managers proactively assess meteoritical conditions throughout the world to devise irregular operation plans to move the airplanes and flight crew throughout the airline's network. If the storm moves as forecast and the airport has not sustained damage and its ground crews are able to keep up with weather as applicable (winter operations or red alerts), and the airport is equipped with modern infrastructure supporting airline operations in weather that could support for example conducting approaches in low visibility, then flights can be resumed. However, if the storm does not move as forecast or intensifies more than forecast the plans must be revised. As example is "*Super Storm Sandy" (2012)* and its effect on the New York flights. It took days for flights to resume at their normal rate, during that time passengers that wanted to leave New York simply could not, while inbound passengers were forced to spend days in alternate airports. Another example would be Hurricane Hugo's (1989) effect on the Charlotte, North Carolina airline hub. It was weeks before it returned to full operations. In Canada, the loss of the power grid in Quebec during an ice storm (1998) cause major disruption for days to all eastern Canadian airports. Irregular Operations are difficult, frustrating, for passengers and expensive for airlines.

The consequence of irregular operations is that thousands of passengers have their travel plans disrupted, and in the short term there is little or nothing the airline can do other than book those affected passengers into the available seats, use the spare airplanes and flight crews as efficiently to move the most passengers in the shortest time. Most carriers now offer pre-weather event rebooking flexibility to passengers who are scheduled to travel on days where predicted and significant weather event conditions could affect the system and/or the airports in the airlines network. This requires thousands of decisions to be made in a short time airline decision makers problem solve out of irregular operations back towards normal operations. To cite the airline as being at fault and due to pay passenger compensation would be unfairly penalizing the airlines as they do their best to get the passengers to their destination in the shortest time possible.

Summary

Aviation by its very nature is dynamic, fast moving, ever changing with vast numbers of variables affecting the schedule. Four and a half billion passengers fly annually, 117 million in Canada. They expect a safe flight, and the aviation industry provides safe transportation unmatched by any other form of transportation.

Airline operations are affected by issues beyond the airline's control that affect flight and impact travel plans. Restoring the flights can take days, open seats are limited as are reserve aircraft and flight crew. Assisting passengers during irregular operations is an essential component of restoring normal flight operation.

Policy makers are rightfully concerned about the impact of disruption on passengers and in Canada the CTA has already clearly defined the passengers' rights. Clearly there must be a balance between the needs of the passengers and the needs of the airline, and at the core of it must remain aviation safety. What can never be compromised in that balance is flight safety. When there is financial incentive to fly a flight because a delay or cancelation is very costly, it can have the unintended consequence of reducing the safety margin. Reducing safety margins is contrary to the foundation of the airline industry since 1914.

As shown in these real-world examples, a flight can be conducted within the regulations does not mean that operating it is the best action for the airline or the passengers. The airlines are in an intensely competitive business, yet they make decisions that are based on safety above any other reason. To change the passenger compensation rules to further penalize airlines and incentivize them to fly every flight possible, even when there are safety considerations is contrary to the primary concern of passengers…safety.

As a safety professional who has dedicated over a half century career to promoting and improving aviation safety, I strongly urge the CTA not to change the passenger compensation rules to monetize delays or cancellations due to safety decisions and unforeseen mechanical issues. Let the continuing pursuit of flight safety remain the foundation of airline operations.

Captain John M. Cox

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Aviation Safety Experience

President/Chief Executive Officer, Safety Operating Systems, LLC (SOS)
December 2004 to Present

- Provide clients with comprehensive, customized, efficient, and operationally effective aviation safety services.
- Conduct ISBAO and ACSF preparation, crisis management plans, media contacts and interviews, legal expert research and testimony, accident or incident investigation, technical support, creation and maintenance of confidential reporting systems, governmental interface and other services.
- Maintain an international client list that includes airlines, civil aviation authorities, business/corporate flight operators and manufacturers, public utilities (gas and electric), and the world's largest oil company.
- In addition to aviation, SOS has expanded Safety Management Systems into public utilities. ***John is a member of a Quality Review Board for a large natural gas and electric provider.***

Executive Air Safety Chairman, Air Line Pilots Association (ALPA) International
February 2001 to December 2004

- As the top safety official for ALPA, managed over six hundred air safety representatives -- the largest non-governmental air safety organization in the world.
- Responsible for ALPA's domestic and international positions regarding aviation safety and managed an annual budget of more than $3M.
- Served as point of contact between the ALPA safety structure government, industry, and media on aviation safety matters and one of only seven Executive Air Safety Chairmen in ALSP history.
- Led the team that determined the ALPA air safety position following September 11, 2001terrorist attack.
- Paved the path for improved safety practices and better accountability in Safety Management Systems.

Aviation and Audit Affiliations

- Member of the Royal Aeronautical Society Flight Operations Group
- Member of the High Altitude Upset Recovery Steering Team
- Member of the Communications, Navigation and Surveillance Task Force, the All Weather Operations Harmonization Working Group
- Qualified as an Air Charter Safety Foundation and International Standard of Business Aircraft Operations (IS-BAO) auditor

Professional Affiliations

- International Society of Safety Professionals *(2016)*
- Royal Aeronautical Society *(Fellow 2004)*
- Guild of Air Pilots and Air Navigators/Honourable Company of Air Pilots Liveryman *(2004)*
- President North American Region *(2015/2016)*
- Professional Aviation Board of Certification *(President 2005-2016, Member since 2004)*
- International Society of Air Safety Investigators *(Member 1991 – Present)*

Aviation Safety Experience (cont.)

Executive Air Safety Vice-Chairman, Air Line Pilots Association (ALPA) International

March 2000 to February 2001

- As second-in-command of the ALPA air safety structure, developed budgeting and planning process for the air safety structure.
- Implemented many of the air safety structure's annual events, including the week-long Air Safety Forum.
- Made frequent public appearances for the then Chairman and maintained managerial oversight of more than six hundred air safety representatives.
- In collaboration with the Chairman, implemented a complete restructuring of the safety committee to better match the International Air Line Pilots Associations structure.

Central Air Safety Chairman, ALPA US Airways

May 1995 to March 2000

- Primary point of contact by the airline and ALPA on safety matters at US Airways.
- Managerial responsibility for over thirty air safety representatives and oversight for the positions taken by ALPA on air safety matters at US Airways.
- During my role as Air Safety Chairman, US Airways became one of the most effective air safety committees within ALPA and many of the committee members rose to senior positions at the national level,
- Helped develop ALPA's national and international positions on safety matters.
- Heavily involved in the investigation of the USAir 427 accident as a NTSB Systems Group member during my time of employment.

Flight Experience

- Airline Transport Pilot/Airplane Multi-Engine Land: A320, B737, FK28, CE500 (Total ~ 14,000 hours)
- Pilot in Command ~10,000,
- Jet ~10,000

No Accidents or Investigations

Awards

- FAA Wright Brothers Master Pilot Award *(2020, FAA)*
- Flight Operations Group Silver Medal *(2020, Royal Aeronautical Society, only American to receive this award)*
- Edward R. Murrow Award *(2020, Radio Television Digital News Association)*
- Laura Taber Barbour Award *(2011, Flight Safety Foundation)*
- Outstanding MBA Graduate *(2010, Daniel Webster College)*
- Sir James Martin Award *(2007, Guild of Air Pilots and Air Navigators) - only American to receive this award*
- Master Air Pilot *(2004, Guild of Air Pilots and Air Navigators)*
- Presidential Leadership Award *(2004, Air Line Pilots Association)*
- Steering and Oversight Leadership Award *(2004, Air Line Pilots Association)*
- Safety Achievement Award *(2000, US Airways)*
- Annual Air Safety Award *(1998, Air Line Pilots Association)*

Auditor

- ACSF Auditor (2023 to present)
- IS-BAO auditor (2005 to present)
- IOSA auditor (2004 to 2008)
- LOSA auditor (1996)

Employment History

January 2023 - present

- Co-founder and CEO Aviation Safety Compliance, LLC

December 2004 to Present

- CEO Safety Operating Systems

February 1980 to December2004

- US Airways/US Air/Piedmont Airlines
- Captain A319/A320/A321
- Boeing 737- 200,300,400
- Captain, Instructor and test pilot Fokker F-28
- First Officer YS-11A

November 1979 – February 1980

- McWane Inc: Captain IAI Westwind, Cessna Citation

April 1979 – November 1979

- Hillenbrand Industries: Pilot Grumman, Gulfstream I, Lear 24D

December 1977 - April 1979

- Bright Star Mining:Chief Pilot Beechcraft King Air

December 1973 – December 1977

- Connor Steel Company: Pilot Beechcraft King Air

Aviation Safety Training

- University of Southern California, Aviation Safety Certificate (1996)
- US Navy, Aviation Safety Command (1998)
- Airline Pilot Association, multiple safety schools (1988 – 1994)

Safety Management Systems

Involved in implementing and assessing these Safety Management Systems (SMS):

- Pacific Gas and Electric (2021)
- Novictor Helicopters (2019 to present)
- NiSource QRB (2019 to present)
- Tennessee Valley Authority (2016 to 2019)
- Saudi Aramco (2012 to 2017)

Accident Investigation Experience

- NTSB Group Member, US Air 5050, 405, 1493, 1016 , and 427
  - Technical Advisor Bell 407 Helicopter accident
  - Technical Advisor UK Air Accident Branch - Embraer Phenom 300 accident
- Technical Advisor Boeing 737 accidents
- Numerous other investigations (10+), details available upon request

Media Appearances

- NBC Aviation Analyst – 2006 to present
- USA Today Columnist – Ask the Captain – 2006 to 2022
- Interviews in every major outlet in the world, including:

ABC News, BBC, NBC News, CBC,CBS News, CNN, PBS Nova, Discovery Channel, Travel Channel, National Geographic, MSNBC, CSPAN, CBN, Sky4, NPR, TimeMagazine, Aviation Week & Space Technology, Air Safety Week, USA Today, Associated Press, Reuters News, United Press International, Washington Post, Wall Street Journal, New York Times, Los Angeles Times, Tampa Bay Times, Dallas Morning Star, Atlanta Constitution, Miami Herald, Seattle Times, Pittsburgh Post Gazette, Orlando Sentinel, Toronto Globe and Mail, Conde Naste Traveler, Russian Television Network, The Weather Channel, and Flight International.

Education

- Masters Business Administration – Aviation Management (July 2010)
- Daniel Webster College - Outstanding MBA Graduate (3.93 GPA)

Academia

- University of Southern California, *Instructor*
- Daniel Webster College, *Adjunct Professor*