

Aviation Collisions: Legal Duties and Responsibilities

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On January 11, 2025, a Delta Airlines Airbus 330 flew dangerously close to a United Airlines Boeing 737 while approaching Phoenix Sky Harbor International Airport. Both aircraft landed safely but the event triggered a Federal Aviation Administration (“FAA”) investigation. The incident was the latest in a series of worrying near collision events involving passenger aircraft.

These incidents shine a spotlight on our fragile air traffic control system and are concerning for obvious reasons. Catastrophic collisions pose risks to the lives of everyone on board multiple airplanes as well as people on the ground. Indeed the deadliest aviation accident in history was the runway collision on March 27, 1977, between a departing KLM Boeing 747 and a taxiing Pan Am Boeing 747 in Tenerife. That collision took 583 lives.

The two principal safeguards against collisions are air traffic controllers and pilots. This article will discuss the legal issues that arise when these lines of defense fail.

ATC: a Brief History

Avoiding collisions is the “primary purpose” of our air traffic control (“ATC”) system. FAA Order JO 7110.65, ch, 2, §1-1. Before the system was created in 1935, aircraft only received traffic guidance from local airport controllers as they approached a runway. See Theresa L. Kraus, *Celebrating 75 Years of Federal Air Traffic Control*, at 4, [\[www.faa.gov/sites/faq/files/about/history/milestones/Celebrating_75_Years_of_Federal_Air_Traffic_Control.pdf\]\(https://www.faa.gov/sites/faq/files/about/history/milestones/Celebrating_75_Years_of_Federal_Air_Traffic_Control.pdf\).](https://www.faa.gov/sites/</p></div><div data-bbox=)

As the nation’s airspace became more congested, an urgent need to ensure separation to enroute aircraft arose. In response, a group of airlines started the first ATC station in Newark, New Jersey. The federal government later took over the rapidly growing system. *Id.* Today, the FAA manages about 45,000 flights and 2.9 million passengers per day. Federal Aviation Administration, *Air Traffic By The Numbers*, https://www.faa.gov/air_traffic/by_the_numbers.

ATC: General Duties

Not surprisingly, air traffic controllers have a legal responsibility to prevent aircraft under their control from colliding. If controllers fail in this responsibility, the United States can be sued under the Federal Tort Claims Act, 28 U.S.C. § 1346(b)(1) (“FTCA”). An FTCA claim is different from a cause of action against a private defendant in two critical respects.

First, FTCA claims against the FAA are tried to the bench. *Id.* §2402. Second, the United States has



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an affirmative “discretionary function” defense, which protects it from liability for acts involving elements of “judgment or choice.” *United States v. Gaubert*, 499 U.S. 315, 322 (1991) (internal quotation marks omitted).

FTCA liability cannot be based on policy choices made by our government, even poor ones that injure or kill people. See *Alinsky v. United States*, 415 F.3d 639, 648 (7th Cir. 2005) (FAA immune for liability for contracting ATC services out to inexperienced privately employed air traffic controller for budgetary concerns).

Rather, ATC negligence must arise from a violation of “a specific mandatory statute, regulation or policy.” *Alinsky v. United States*, 415 F.3d 639, 647 (7th Cir. 2007). For this reason, successful suits for ATC negligence are usually grounded in a violation of the FAA’s Air Traffic Control Manual, FAA Order JO 7110.65.

ATC’s Role in Preventing Ground Collisions

Because of the inherent risks of the dynamic airport environment, some of the most stringent and precise guidelines in the Air Traffic Control Manual address taxi, takeoff, and landing procedures. Local air traffic controllers “must visually scan runways to the maximum extent possible.” FAA Order JO 7110.65, ch. 3, §1-12. Directions to taxing aircraft must be clear and unambiguous and controllers must always “ensure positive control with specific instructions to proceed . . .” *Id.* ch. 7, §1(a). §1(a)(b).

Controllers must also abide by strict separation criteria for aircraft departing from the same runway. *Id.*, ch. 3, §10-3. A near disaster last year at Austin-Bergstrom International Airport underscores the potentially deadly consequences of a controller’s failure to do so. See National Transportation Safety Board, *Runway Incursion and Overflight Southwest Airlines Flight 708 and Federal Express Flight 1432* (Jun. 6, 2024), <https://www.nts.gov/investigations/AccidentReports/Reports/AIR2402.pdf> (hereinafter “NTSB Report”).

There, a Fed Ex Boeing 767 nearly landed directly on top of a departing Southwest 737 with 123

passengers. *Id.* at 28. The NTSB concluded that the tower controller failed to revoke the Southwest flight’s takeoff clearance when the aircraft began its takeoff roll while the Fed Ex flight was about a half mile away from landing on the identical runway. *Id.* at 63.

While the controller could not see the runway environment because of dense fog, it was still the controller’s responsibility to maintain an accurate “mental model” of the aircraft’s location within the airport environment. *Id.* The NTSB, however, also concluded that the Southwest crew’s lack of sufficient concern with the arriving Fed Ex flight and the FAA’s failure to install surface detection equipment at the airport contributed to the incident. *Id.* at 65.

ATC’s Role in Preventing Midair Collisions

Apart from preventing ground accidents, guarding against *midair* collisions is also a key duty of ATC. When two aircraft flying under Instrument Flight Rules (“IFR”) collide, ATC obligations are quite clear. IFR aircraft navigate by complying with discrete instructions from ATC controllers. Pilots cannot deviate from these directives absent an emergency. 14 C.F.R. §91.123(b).

The controller directing an IFR aircraft has a non-discretionary duty to keep that aircraft separated by a minimum distance from other IFR traffic. FAA Order JO 7110.65, ch. 4, §5-1. If a controller permits two IFR aircraft to collide, the controller has very likely breached this non-discretionary obligation and the United States will be legally responsible for the resulting damages. *Id.*

Not all flights are flown under IFR, however. In most airspace, aircraft can fly under “visual flight rules” (VFR) and navigate without communicating with ATC, provided there is sufficient visibility. 14 CFR §91.155.

ATC owes a duty to a VFR aircraft if the controller becomes aware of a potential collision risk and the controller’s workload permits an alert or advisory. See FAA Order JO 7110.65, ch. 2, §1-2(d) (“Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude that, in your judgment, places it in unsafe proximity to terrain,

obstructions, or other aircraft.”); §1-6 (“Provide additional services to the extent possible, contingent only upon higher priority duties and other factors including limitations of radar, volume of traffic, frequency congestion, and workload.”).

In addition, once a controller undertakes a duty to provide *any* services to a VFR pilot, the controller assumes a responsibility to safeguard that aircraft from a collision. This is consistent with common sense and the fundamental legal principle that one who undertakes a duty to perform a service for someone else has an obligation to conduct that service reasonably. Restatement (Second) of Torts §324; See *Frutin v. Dryvit Systems, Inc.*, 760 F. Supp. 234 (D. Mass. 1991) (ATC providing assistance to VFR pilot owed duty to separate that pilot from nearby VFR traffic).

A controller’s duty to a VFR aircraft will only extend so far, however. In *Hodges v. United States*, 78 F.4th 1365 (11th Cir. 2023), a tower controller gave a VFR Piper Seneca clearance to takeoff and directed it to follow an outbound Cessna. *Id.* at 1372. The controller did not provide any additional direction to the Seneca, which collided with an inbound aircraft shortly after leaving the controller’s airspace. *Id.*

The Eleventh Circuit affirmed the trial court’s holding that ATC owed no further duty to the Seneca once it left the controller’s airspace. *Id.* at 1378. Nor was the controller required to rescind its “follow” instructions to the Seneca, as the reasonable pilot would understand that the instruction no longer applied once the aircraft left the traffic pattern. *Id.* at 1381.

The appellate court noted that the Seneca could have requested “flight following,” in which ATC provides traffic alerts to VFR aircraft, but declined to do so. *Id.* at 1371. Absent flight following, ATC did not have a duty to proactively supervise the Seneca’s VFR flight. *Id.* at 1380.

Pilots’ Duties

As *Hodges* shows, air traffic controllers are not solely responsible for ensuring separation of air traffic. Pilots have concurrent legal responsibilities

to prevent collisions as well, regardless of whether they are on the ground, flying VFR, or operating IFR. A pilot-in-command is the “final authority” as to the operation of his aircraft and may even disregard ATC directives if necessary to avoid a collision. 14 C.F.R. §§91.3(a).

Prior to takeoff, pilots are advised to “scan the full length of the runway and scan for aircraft on final approach or landing rollout.” FAA Advisory Circular, No. 91-73B (Jul. 30, 2012), https://www.faa.gov/documentlibrary/media/advisory_circular/ac%2091-73b.pdf. And, weather permitting, both VFF and IFR pilots must maintain “vigilance . . . so as to see and avoid other aircraft.” *Id.* §91.113(b). Vigilant pilots “need not be super-human.” *Steering Committee v. United States*, 6 F.3d 572, 579 (9th Cir. 1993).

In some circumstances, a pilot can be exonerated from liability if it was impossible for her to see or avoid the other aircraft, but this must be *despite* her vigilance. See *id.* (holding ATC, but not airline flight crew, responsible for catastrophic midair collision involving Aeromexico airliner). Accordingly, a vigilant pilot must take active measures to assure outside situational awareness or she is negligent.

In *Rudelson v. United States*, 602 F.2d 1236 (9th Cir. 1979), for example, the fact that a student pilot’s high wing might have obstructed his view of aircraft above him did not absolve him of responsibility for a midair collision. To the contrary, the pilot had a legal duty to account for blind spots by head movement and aircraft maneuvering. *Id.* at 1330.

TCAS: a Remarkable Line of Defense

While both air traffic controllers and pilots have various forms of technology at their disposal, they still remain significantly dependent on human faculties to guard against collisions. Controllers observe a radar scope or even the physical airport environment and make contemporaneous radio transmissions to pilots. And pilots conduct external scans of the aircraft with the naked eye to exercise their “see and avoid” responsibilities.

Human beings have limitations: they can suffer from poor vision, fatigue, and distraction.

Recognizing these constraints, the law requires that large airliners utilize The Traffic Collision Avoidance System (“TCAS”) to prevent midairs. 49 U.S.C. §44716. Undoubtedly, TCAS implementation is a major reason why the United States has not seen a major midair collision involving a large passenger airliner since the 1980s.

Notably, in the Austin incident described earlier, the NTSB concluded that the Southwest crew’s proper response to a TCAS warning increased the separation between the two departing airplanes. See NTSB Report, at 63.

TCAS is electronic onboard equipment that is completely independent from the ATC system. The technology uses signals to communicate with transponders on nearby aircraft. TCAS interprets the responses and can issue traffic advisories to the pilot flying. If a midair collision is likely, it will also issue a threat resolution advisory (“RA”), advising the aircraft to maneuver and remove the conflict. See generally United States Department of Transportation, *Introduction to TCAS II Version 7.1*, https://www.faa.gov/documentlibrary/media/advisory_circular/tcas%20ii%20v7.1%20intro%20booklet.pdf.

Federal regulations require ATC and pilots to defer to TCAS advisories. ATC may not issue instructions contradictory to the RA. FAA Order JO 7110.65, ch. 2 §1-28(a). And pilots must comply with the RA “unless doing so would jeopardize the safe operation of the flight or the flightcrew can ensure separation with the help of *definitive* visual acquisition of the aircraft causing the RA.”

FAA Advisory Circular No. 120-55C CHG 1, at 8 (Mar. 18, 2013) (emphasis added). When an aircraft maneuvers in response to the RA, the controller is temporarily relieved of its separation obligations but still must issue safety alerts and traffic advisories. FAA Order JO 7110.65, ch. 2, §1-28(c).

The importance of strict compliance with TCAS resolution advisories by both controllers and pilots was made clear by the tragic crash of Bashkirian Airlines Flight 2937 in Germany in 2002. See generally Federal Aviation Administration, *Lessons Learned: Tupolev TU154M and Boeing*

757-200, https://www.faa.gov/lessons_learned/transport_airplane/accidents/RA-85816.

Immediately prior to the crash, the passenger airliner was at 36,000 feet flying on a perpendicular collision course with a DHL 757 cargo aircraft at the same altitude. Both aircraft were equipped with TCAS. As the two aircraft approached one another, Flight 2937 received a TCAS RA warning the crew to climb. The TCAS warning was quickly followed by a *contradictory* instruction from air traffic control to *descend*. Meanwhile, the DHL aircraft’s TCAS instructed the crew to descend, and it did so.

Tragically, the Flight 2937 crew disregarded TCAS and complied with the ATC directive to descend *id*. Therefore, both aircraft continued on a collision path. All onboard both aircraft were killed in the ensuing midair impact. *Id*. (In a shocking postscript to the tragedy, the responsible air traffic controller was later murdered by a man who lost his wife and two children in the crash).

Flight 2937 shows that TCAS is not invincible. Prevention of a collision or subsequent injury still ultimately depends on fallible human beings reacting appropriately. See also *Lakomy v. United States*, 70 Fed. App’x. 199, 202 (5th Cir. 2003) (flight crew’s over-aggressive reaction to a TCAS RA caused unrestrained flight attendants to suffer severe injuries).

The Phoenix Incident

Understanding the circumstances that led to the recent near midair collision in Phoenix can help illustrate the above-described principles. On Jan. 11, a clear day, a United Airlines flight and a Delta Airlines flight were preparing for landing on two parallel runways at Phoenix Sky Harbor airport, and were about twenty-two miles from the airport.

The United flight was cleared by ATC for a “visual approach” and soon lined up directly for Runway 7R. The Delta flight was north of the airport and anticipating landing on Runway 8, which was just north of United’s runway. See VASAviation, *NEAR MID-AIR MISS Between Delta and United | TCAS Saved the Day Again!*, YouTube (Jan. 13, 2025), https://www.youtube.com/watch?v=vDLdCq_kAzc.

The Delta flight was then cleared by ATC to turn left and proceed southbound on a “base” leg for Runway 8. While this placed the aircraft on a direct “T-bone” collision course with the United flight to south, the directive was entirely routine. The Delta flight was expecting to receive an *additional* instruction to turn left and proceed on a direct approach for the runway before its flight path would intersect with aircraft landing on the parallel runway.

For unknown reasons (perhaps distraction) the air traffic controller failed to timely order the Delta flight to turn towards the runway, however. The Delta flight therefore continued on a direct path towards the landing United aircraft, instead. A loss of separation followed. The two aircraft soon became vertically separated by about 875 feet, less than the minimum required distance of 1,000 feet under JO 7110.65, ch. 4, §5-1(a).

Fortunately, TCAS kicked in. As the two aircraft came closer together, both pilots received and immediately complied with contradictory resolution advisories, eliminating any risk of a collision. The two airliners then were re-sequenced by the air traffic controller and landed safely.

The Phoenix Incident: Analysis

As this event unfolded, the responsible controller and the pilots of both flights had concurrent and evolving responsibilities to avoid a midair collision. Prior to the RAs, the Air Traffic controller had a legal duty to ensure that the United and Delta retained the required minimum separation until *both* were assigned a heading to their respective runways. JO 7110.65, ch. 7 §4-5-1.

At the same time, because clear weather conditions prevailed, the pilots of the two aircraft were required to maintain vigilance and “see and avoid” a collision with other approaching aircraft under 14 C.F.R. §91.113(b).

Once the pilots received a RA, they were each required to comply with it, provided doing so would

not jeopardize the safety of their flights or they could maintain “definitive” visual separation. Advisory Circular No. 120-55C CHG 1, at 8. While the pilots were maneuvering to resolve the conflict, the controller’s obligations did not cease.

She was still expected to issue safety alerts to the responding pilots to prevent a collision with other aircraft or terrain. JO 7110.65, ch. 2, §1-28. Once the collision risk was resolved and the pilots requested to be re-sequenced for new approaches, the controller was once again directly responsible for ensuring continued separation of the two airplanes. *Id.*

This satisfactory conclusion illustrates a critical feature of aviation safety: redundancy. Controllers and pilots remain principally responsible for preventing a midair collision but they are human. Inevitably, humans will fail. Thankfully, our system accounts for human failure through mandatory and redundant layers of safety, such as TCAS.

The Future of Air Traffic Control

Given the success of TCAS and rapid advances in technology and artificial intelligence, a future in which an integrated electronic system simultaneously operates, navigates, and separates aircraft, without any human input at all, seems inevitable. Until then, for better or worse, air traffic safety will remain largely reliant on human skill, attentiveness, and budgets. An effective legal framework under the FTCA addresses aircraft collisions.

But this approach is reactive: a safety lapse is not addressed until someone is hurt. Given the law’s deference to the United States’ policy discretion, *proactive* policy measures to bolster our air traffic control system must be accomplished by political will, not litigation. Given that fact, we must all be vigilant in ensuring that this country’s outstanding safety record does not lull us into complacency.

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