
Request for Comments

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) Docket No. FAA-2022-1001
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**COMMENTS OF AMERICAN ECONOMIC LIBERTIES PROJECT, CONSUMER ACTION,
CONSUMER FEDERATION OF AMERICA, ED PERKINS ON TRAVEL, NATIONAL
CONSUMERS LEAGUE, AND U.S. PIRG**

REGARDING

**MINIMUM SEAT DIMENSIONS NECESSARY FOR SAFETY OF AIR PASSENGERS
(EMEGENCY EVACUATION)**

NOVEMBER 1, 2022

Executive Summary

Minimum seat dimensions based on the Federal Aviation Administration's ("FAA" or "the Administration") inadequate and outdated emergency evacuation testing procedures will allow air carriers to cram increasing numbers of passengers into unsafe seating arrangements. This is likely to lead to a greater number of emergency evacuations that fail to comply with the required 90-second time limit.

The Civil Aerospace Medical Institute ("CAMI") report that the FAA cites prominently in this proceeding is based on a participant group that is not representative of the flying public. This, combined with the Administration's failure to publish the data from its evacuation tests, undermines the CAMI study's conclusion that seat sizes do not impact evacuation speeds.

Shrinking seat sizes allow air carriers to increase the maximum number of passengers on an aircraft. In an emergency situation, a greater number of passengers onboard is likely to increase the amount of time necessary to evacuate the aircraft. Smaller seat dimensions are also likely to increase the time necessary for passengers with mobility limitations to egress from their seats. Real-world evacuations that took significantly longer than 90 seconds to complete support our contention that current testing standards have not accounted for higher load factors and decreased maneuverability on modern aircraft.

Additionally, being confined to ever-shrinking seats is contrary to medical guidance and increases the likelihood of injury via deep vein thrombosis and pressure sores. This danger is magnified for consumers with impaired motor functions and individuals who are too large to safely fit into current airline seats. Limited mobility in these seats increases the chance of developing these injuries and increases the danger of collision with nearby surfaces, such as the back of the seat in front of the passenger as well as objects and persons travelling through the aisles. Again, shrinking seat sizes will only amplify these

dangers for travelers with impaired motor functions and passengers too large to safely fit into the reduced seat sizes.

To address this growing safety concern, the undersigned consumer and traveler rights organizations recommend the following steps:

First, the FAA should place an immediate moratorium on air carriers installing smaller seats on airlines. This will prevent air carriers from continuing to place additional seats on airplanes while the FAA updates its emergency evacuation testing standards.

Second, the Administration should update its emergency evacuation testing standards to reflect current conditions faced by passengers and retest emergency evacuations for current air carrier seating arrangements. Only after this is complete should the FAA create minimum seat dimensions.

Finally, should the FAA determine that setting a minimum seat dimension is urgently needed due to statutory requirements, the FAA should establish, on a provisional basis, a minimum of 32 inches in pitch and 20 inches in width for passenger seat dimensions on aircraft.

Setting provisional minimum seat dimensions of 32 inches in pitch and 20 inches in width would ensure that no air carrier is transporting passengers with seat sizes smaller than the average minimum seat dimensions that were in operation in the early 1990's. This time period is critical as the latest aircraft accident that the FAA considered when updating federal evacuation standards occurred in 1991. Consumer group commenters also support minimum dimensions greater than 32 inches in pitch and 20 inches in width should the FAA or health experts determine that expanded dimensions beyond 32-inch pitches and 20-inch widths are necessary for the health and safety of passengers.

I. Introduction

The 115th Congress' directive to the FAA to set minimum seat dimensions came as air carriers continued their decades-long drive to reduce seat sizes in the name of cheaper fares. The widest basic economy seats currently available on the four largest domestic airlines are thinner than the smallest seats offered by the same carriers 30 years ago.¹

The FAA Reauthorization Act of 2018 required the Administration to promulgate minimum seat size regulations no later than October 5, 2019. The FAA is more than three years delinquent in fulfilling this statutory requirement.² The Administration's belated Request for Comments on minimum passenger seat dimensions still does not satisfy the FAA's statutory obligation. To do so, the Administration would need to publish an Advanced Notice of Proposed Rulemaking ("ANPRM"), which is the first step in the rulemaking process.³

Each of the undersigned organizations advocates for the rights of travelers flying by air. Many consumer group commenters worked to secure the provision within the 2018 FAA Reauthorization Act that mandated the FAA to promulgate regulations that establish minimum aircraft seat pitch, width, and length within one year of its enactment.

The American Economic Liberties Project works to ensure America's system of commerce is structured to advance, rather than undermine, economic liberty, fair commerce, and a secure, inclusive democracy. Economic Liberties believes true economic liberty means entrepreneurs and businesses large and small succeed on the merits of their ideas and hard work; commerce empowers consumers, workers, farmers, and engineers

¹ McGee, Bill. "Think airline seats have gotten smaller? They have," *USA Today*. September 24, 2014. <https://www.usatoday.com/story/travel/columnist/mcgee/2014/09/24/airplane-reclining-seat-pitch-width/16105491/>

² "FAA Reauthorization Act of 2018," *U.S. Government Publishing Office*. October 5, 2018. <https://www.congress.gov/115/plaws/publ254/PLAW-115publ254.pdf>

³ "Part 11 – General Rulemaking Procedures," *Code of Federal Regulations*. October 12, 2022. <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-B/part-11>

instead of subjecting them to discrimination and abuse from financiers and monopolists; foreign trade arrangements support domestic security and democracy; and wealth is broadly distributed to support equitable political power.

Consumer Action has been a champion of underrepresented consumers nationwide since 1971. A 501(c)(3) nonprofit organization, Consumer Action focuses on consumer education that empowers low- and moderate-income and limited-English-speaking consumers to financially prosper. It also advocates for consumers in the media and before lawmakers to advance consumer rights and promote industry-wide change.

The Consumer Federation of America is an association of non-profit consumer organizations that was established in 1968 to advance the consumer interest through research, advocacy, and education. Today, more than 250 of these groups participate in the federation and govern it through their representatives on the organization's Board of Directors.

Ed Perkins on Travel is the successor to EdonTravel.com, the first organization to feature seat width as a consumer issue. A longtime travel expert, Ed Perkins helps consumers get the most from their travel dollar. His feature and Q&A columns give readers up-to-the-minute advice on everything from planning an itinerary for a European rail trip to booking flights, renting cars and buying travel insurance. Perkins also peppers his columns with valuable tips to avoid travel hassles.

The National Consumers League ("NCL" or "the League") was founded in 1899 to protect and promote social and economic justice for consumers and workers in the United States and abroad. As the nation's oldest consumer rights organization, NCL has represented the public interest in matters concerning safety, access, and privacy across many sectors, including transportation. NCL currently serves as the consumer representative on the U.S. Department of Transportation's ("DOT") Aviation Consumer Protection Advisory Committee.

U.S. Public Interest Research Group (“U.S. PIRG”) is an independent, non-partisan group that works for consumers and the public interest. Through research, public education and outreach, they serve as counterweights to the influence of powerful special interests that threaten our health, safety or well-being.

II. Minimum Seat Dimensions Based on Outdated Testing Standards Would Be Unsafe

When conducting aircraft evacuation tests to demonstrate evacuation speeds below 90 seconds, air carriers must comply with federal testing standards.⁴ These standards are intended to ensure that the simulated evacuations accurately resemble the real-world flying experience. Unfortunately, the federal government has not updated these evacuation standards to reflect the changes in passenger demographics, higher average load factors, and cabin environments that have taken place over the past thirty years. An incomplete listing of such changes that should be accounted for includes the proliferation of portable electronic devices (“PEDs”), the presence of emotional support animals, empirical carry-on baggage retrieval habits, assisting passengers with disabilities, increased passenger weights and sizes, and smaller seat dimensions.

Additionally, simulated evacuations often fail to fully capture the severity of an incident. These simulations do not account for a wide range of environments in which an evacuation may occur, such as extreme cold, extreme heat, or on a body of water. Furthermore, passengers may experience psychological shock as well as physical injuries, all of which are likely to slow an evacuation. Some of these injuries may be worsened by current seating arrangements, which these comments expand upon later in this document.

⁴ “Appendix J to Part 25 – Emergency Evacuation,” *Code of Federal Regulations*. October 12, 2022. <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-25/appendix-Appendix%20J%20to%20Part%2025>

Each of these unaddressed phenomena pose serious safety risks and require FAA attention. A minimum seat size standard based on testing that does not account for these factors is unrealistic and likely to lead to reduced passenger safety in the event of an emergency evacuation.

III. The FAA Should Not Rely on CAMI's Flawed Seat Size Study

In the supporting documents of this proceeding, the FAA cites prominently a 2020 CAMI study that examined the impact of seat dimensions on evacuations.⁵ The CAMI study concluded that there was “no discernable difference in evacuation times due to seat dimensions.” The testing criteria used in the CAMI study were flawed in multiple ways and seriously undermine its reliability in setting minimum seat size standards.

A central failure of the CAMI seat size study is that researchers did not account for the overall impact on evacuation that results from fitting more passengers onto an aircraft that has smaller seat sizes. It appears that CAMI's evacuation tests did not increase the number of participants in simulated cabin environments when researchers reduced seat sizes. A significant reason why air carriers reduce seat dimensions is to enable them to fit additional passengers on airplanes. Failing to simulate this marketplace dynamic is a significant flaw in the study's testing design. Had more passengers been added to simulate the larger capacity of aircraft with smaller seat sizes, it is likely that egress times would have increased beyond what the study found.

A second flaw in the CAMI study is that it excluded significant portions of the flying public in its participant samples. In particular, the study did not include, or attempt to simulate the presence of, passengers older than age 60, passengers with disabilities, individuals deemed too large to fit in the test seats, passengers with children seated in their

⁵ Weed, David B. “Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress,” *Federal Aviation Administration*. January 2021. https://www.faa.gov/data_research/research/med_humanfacs/oamtechreports/2020s/media/Effects_of_Airplane_Cabin_Interiors_on_Egress_I.pdf

laps, or individuals seated at a distance from their minor children (who would be likely to egress more slowly as they sought their children).

The exclusion of age 60+ participants is noteworthy. The report itself highlights the fact that there was a direct correlation between female age and speed of evacuation (older women participants exited the airplane at slower speeds compared to younger women participants).⁶ The CAMI study did not account for (or simulate the presence of) the 75 million Americans who are over the age of 60⁷, and yet broadly concludes that smaller seat sizes “do not impede egress for 99% of the American population.”⁸

By omitting individuals with disabilities from the testing pool, CAMI excluded another significant portion of the flying public who experience unique challenges during an evacuation. The Center for Disease Control and Prevention (“CDC”) estimates that 26% of adults in the United States have some type of disability, including impaired mobility, cognitive, visual, and auditory functions.⁹ In this study, CAMI did not account for (or simulate the presence of) the 61 million Americans adults with disabilities. The Air Carrier Access Act requires additional protections and accommodations for this population of the flying public.¹⁰ The FAA’s reliance on a commissioned study to ascertain “safety” that excludes this population entirely is alarmingly problematic.

⁶ Weed, David B. “Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress,” *Federal Aviation Administration*. “Seat Dimensions and Egress” – page 42. January 2021.

https://www.faa.gov/data_research/research/med_humanfacs/oamtechreports/2020s/media/Effects_of_Airplane_Cabin_Interiors_on_Egress_I.pdf

⁷ “2020 Profile of Older Americans,” *Administration for Community Living*. May 2021.

<https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final.pdf>

⁸ Weed, David B. “Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress,” *Federal Aviation Administration*. “Abstract” – page ii. January 2021.

https://www.faa.gov/data_research/research/med_humanfacs/oamtechreports/2020s/media/Effects_of_Airplane_Cabin_Interiors_on_Egress_I.pdf

⁹ “Disability Impacts All of Us,” *Centers for Disease Control and Prevention*. September 16, 2020.

<https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html>

¹⁰ “Part 382 - Nondiscrimination on the Basis of Disability in Air Travel,” *Code of Federal Regulations*. October 21, 2022. <https://www.ecfr.gov/current/title-14/chapter-II/subchapter-D/part-382>

Furthermore, without incorporating the presence of minor children in the evacuation tests, the study did not account for the challenges that parents and caregivers may experience during such a crisis, such as carrying a small child. These challenges are likely to be exacerbated by air carriers' prohibitive seat choice fees that often result in minor children sitting apart from their parents and caregivers.¹¹ In this study, the CAMI researchers did not account for (or simulate the presence of) 74 million American children, many of whom would fly with an accompanying adult.¹²

Lastly, the researchers do not adequately account for the population of the flying public for whom airplane seats are prohibitively and dangerously small.¹³ The CAMI study recruited 775 participants who self-identified as "reasonably healthy" and "mobile." Researchers immediately dismissed five of the six individuals who were "completely unable to sit" in the 28-inch pitch seat sizes.¹⁴ Notably, this 28-inch seat dimension is currently being used by domestic air carriers, including Frontier Airlines and Spirit Airlines.¹⁵ Another 56 passengers were unable to participate in the second half of the study, which evaluated evacuation times from seats with a 26-inch seat pitch.

By eliminating 8% of the participants from the evacuation study, CAMI was unable to accurately record the impact of seating arrangements on larger passengers' evacuation speeds, which compromised the experiment's second research objective. In sum, CAMI significantly underrepresented the 88 million Americans over the age of 19 who have a

¹¹ "U.S. warns airlines it may issue regulations barring child seating fees," *CNBC*. July 8, 2022.

<https://www.cnbc.com/2022/07/08/us-warns-airlines-it-may-issue-regulations-barring-child-seating-fees.html>

¹² "POP1 Child population: Number of children (in millions) ages 0–17 in the United States by age, 1950–2021 and projected 2022–2050," *Federal Interagency Forum on Child and Family Statistics*.

<https://www.childstats.gov/americaschildren/tables/pop1.asp>

¹³ Negroni, Christine "Questioning Safety of Heavy Passengers on Airplanes," *N.Y. Times*, May 7, 2012, available at <https://www.nytimes.com/2012/05/08/business/scientists-ask-are-airplanes-safe-for-overweight-passengers.html>

¹⁴ Weed, David B. "Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress," *Federal Aviation Administration*. "Experimental Seating Self-Report Questionnaire/Ability to Sit in Experimental Seating" – page 33. January 2021.

https://www.faa.gov/data_research/research/med_humanfac/oamtechreports/2020s/media/Effects_of_Airplane_Cabin_Interiors_on_Egress_I.pdf

¹⁵ "Short-haul Economy Class Comparison Chart," *SeatGuru*.

https://www.seatguru.com/charts/shorthaul_economy.php

body mass index¹⁶ calculation which places them into the category of “obese” or larger.¹⁷ Instead of acknowledging that this population of the flying public should be accommodated and permitted to fly as safely as passengers with smaller bodies, the FAA instead steadfastly maintains that seat sizes do not need to be increased.

Due to these shortcomings, the test groups who participated in the CAMI study were unrepresentative of the American flying public. Consequently, the FAA’s conclusion that seat dimensions do not affect evacuation speeds is unreliable since the research design was fundamentally flawed. The summary claim that “...seat pitches using seats of similar size or smaller than those used in this project can accommodate and not impede egress for 99% of the American population” is improbable as researchers removed 62 participants who were unable to fit in the seat dimensions being tested. It is likely that the number of participants who would have been unable to fit in these seats would have been even higher if the test groups were representative of the flying public.

The unreliability of the CAMI study is further compounded by the fact that the FAA has not released the simulations’ full quantitative results or the entirety of responses from the participant surveys that recorded individuals’ subjective attitudes about the safety of shrunken seat sizes. This makes it impossible to verify the FAA’s claims about the impact of seat sizes on evacuation or that “the percentage of the flying public who would find it difficult to occupy a 28-inch seat pitch is extremely small.”¹⁸

The Administration stated that many of the demographic groups excluded from the CAMI study were rejected due to their enhanced risks of injury. Notwithstanding the fact

¹⁶ Body Mass Index, or “BMI” is a calculation of a person’s weight (pounds or kilos) divided by their height (meters or inches feet). See <https://www.cdc.gov/healthyweight/assessing/bmi/index.html>. Importantly, BMI does not diagnose a person’s health or wellbeing, and is one of many factors that medical professionals may use to ascertain a person’s measurements.

¹⁷ “Obesity and Overweight,” *Centers for Disease Control and Prevention*. September 6, 2022. <https://www.cdc.gov/nchs/fastats/obesity-overweight.htm>

¹⁸ The study released data showing that participants overwhelmingly disliked 26” pitches and felt they were dangerous, yet released no survey results on 28” seat pitches. The study makes the conclusion that only an “extremely small” percentage of the public would find 28” pitches difficult to occupy while simultaneously withholding any corroborating data to support such a claim.

that this enhanced risk of injury is precisely why these demographics require inclusion in any evacuation testing, there are alternatives to outright rejection that could have produced some data about these demographics. For example, researchers could have used life-size dolls in place of live infants to simulate the challenges of facilitating infant evacuation, a practice the FAA mandates for its federal evacuation testing standards.¹⁹ The presence of passengers with disabilities or other mobility limitations could have been simulated by requiring a test participant to wear a leg brace, use a wheelchair, or other mobility-impairing devices.

IV. Airplane Seat Sizes Impact Passenger Safety in the Event of an Evacuation

The goal of air carriers' drive to reduce seat sizes is to fit additional travelers in the limited space on airplanes. Passenger safety in an emergency evacuation scenario must not be compromised in the name of cheaper airfares. It is therefore troubling that the FAA seems determined to adopt minimum seat dimensions that allow airlines to continue to fit more passengers into airplanes. A greater volume of travelers will necessarily result in slower evacuations since there is a set number of individuals who can exit through a door at any given time.

These issues are exacerbated by higher aircraft load factors, which have soared over the past four decades. In 1975, the average domestic load factor was 54%.²⁰ In 2019, the last full year before the COVID-19 pandemic, the mean load factor was 85%. In June 2022, the average load factor reached 89%.²¹ As these statistics are averages, there were likely an unprecedented number of flights in recent years operating at effectively 100% capacity.

¹⁹ "Appendix J to Part 25 – Emergency Evacuation (h)(4)" *Code of Federal Regulations*. October 12, 2022. <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-25/appendix-Appendix%20J%20to%20Part%2025>

²⁰ "U.S. Airline Traffic and Capacity, Airlines," *Airlines for America*. March 10, 2022. <https://www.airlines.org/dataset/annual-results-u-s-airlines-2/>

²¹ "U.S. Air Carrier Traffic Statistics through July 2022," *Bureau of Transportation Statistics*. <https://www.transtats.bts.gov/traffic/>

Unfortunately, real-world evacuation speeds appear to reflect the harms caused by diminishing seat sizes, exacerbated by ballooning load factors and other contemporary problems, such as PED usage, tripping hazards caused by PED charging cables, and carry-on baggage retrieval. Personal devices and their chargers increase the number of obstacles around the cabin and they distract (and possibly slow) passengers during an emergency, as evidenced in a number of traveler-posted videos of their aircraft evacuations.²² These same videos also depict many individuals stopping to retrieve their carry-on baggage and exiting with their belongings, a practice that can impede egress speed, damage an aircraft's inflatable slides, and increase the risk of injury.²³

Although federal safety standards require airplanes to be evacuated within 90 seconds in the event of an emergency, a 2020 DOT Office of Inspector General ("OIG") report highlighted five recent airplane accidents where passenger emergency evacuations exceeded 90 seconds.²⁴ The most egregious incident in the OIG report, Delta Airlines Flight 1086 in 2015, took five minutes to vacate the cabin, 333% longer than federal standards allow. Another 2020 report that analyzed hundreds of aircraft evacuation incidents, issued

²² ABC News. "American Plane Fire | INSIDE the Plane Evacuation [RAW VIDEO]," *YouTube*. October 28, 2016. <https://www.youtube.com/watch?v=QyXfGR-D--o>; Faellaci, Jared. "Evacuation from #Delta1086 Plane after Crash Landing," *YouTube*. March 21, 2015. <https://www.youtube.com/watch?v=3mNeiwiEjW8>; Manuito. "Iberia 6250 Emergency Evacuation," *YouTube*. November 1, 2006. <https://www.youtube.com/watch?v=CTcjJoIWJQ4>; Mehdi, Ali. "Plane evacuation," *YouTube*. January 30, 2019. <https://www.youtube.com/watch?v=3o6NgA7jPVg>

²³ McGee, Bill. "Were lives lost at the cost of carry-ons in Aeroflot plane crash that killed 41?" *USA Today*. May 7, 2019. <https://www.usatoday.com/story/travel/columnist/mcgee/2019/05/07/aeroflot-crash-were-lives-lost-cost-carry-ons/1128409001/>; Newton, Jennifer. "Revealed: One third of plane passengers would take their bags with them during and emergency evacuation – and despite being told not to," *The Daily Mail*. September 12, 2018. https://www.dailymail.co.uk/travel/travel_news/article-6159211/Third-airline-passengers-say-try-retrieve-bags-emergency-evacuation.html; "British Airways blaze: 'Passengers evacuated with luggage,'" *BBC News*. September 10, 2015. <https://www.bbc.com/news/av/uk-34215283/british-airways-blaze-passengers-evacuated-with-luggage>; "Watch: Passengers Delay Evacuation to Collect Personal Items from Overhead Bins," *IAMAW 141*. October 5, 2021. <https://iam141.org/watch-passengers-delay-evacuation-to-collect-personal-items-from-overhead-bins/>

²⁴ "FAA's Process for Updating Its Aircraft Evacuation Standards Lacks Data Collection and Analysis on Current Evacuation Risks," *U.S. Department of Transportation, Office of Inspector General*. September 16, 2020. <https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Aircraft%20Evacuations%20Final%20Report%20-%2009-16-20.pdf>

by an FAA Aviation Rulemaking Committee (“ARC”), found that “[in] many of the evacuation events reviewed, the time to evacuate the airplane exceeded 90 seconds”²⁵

Many factors contribute to the speed of an emergency evacuation. Absent reliable testing that reflects the modern cabin environment, regulators must err on the side of caution and assume that variables like the number of passengers on a plane and the amount of room for maneuverability—both of which are impacted by seat sizes—do indeed negatively affect evacuation times.

V. Airplane Seat Sizes Impact Passenger Safety by Harming Passenger Health

The FAA has focused on studying evacuation speeds when assessing what is “necessary for the safety of passengers.” Diminishing seat sizes’ effect on passenger health must also be considered. Smaller seat dimensions can result in negative health effects for consumers by increasing the risk of deep vein thrombosis. This risk is increased for passengers who are medically obese and travelers with impaired motor abilities.

For passengers with disabilities that affect their motor skills, narrower seat dimensions increase the risk of collision with hard surfaces, such as the back of the seat in front of them.²⁶ Depending on the nature of their disability, passengers may have difficulty controlling their limbs or bracing themselves in the event of an impact. With less space between the traveler and other objects, they are more likely to injure themselves by slamming into these surfaces in the event of turbulence, a rough landing, or muscle spasms.

Even for able-bodied individuals, narrower seat pitches pose a danger in the event of an airplane impact due to the lack of room for passengers to assume proper bracing

²⁵ “Emergency Evacuation Standards Aviation Rulemaking Committee Final Report,” *Emergency Evacuation Standards Aviation Rulemaking Committee*. May 20, 2020 [https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/Emergency%20Evac%20Standards%20ARC%20final%20report%20final%20\(5-26-2020\).pdf](https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/Emergency%20Evac%20Standards%20ARC%20final%20report%20final%20(5-26-2020).pdf)

²⁶ Morris, Amanda. “Embarrassing, Uncomfortable and Risky: What Flying Is Like for Passengers Who Use Wheelchairs,” *New York Times*. August 8, 2022. <https://www.nytimes.com/2022/08/08/travel/air-travel-wheelchair.html>

positions. On this issue, the FAA has already conducted research and determined that a minimum of 35 inches of clearance is necessary for safety.²⁷ Currently, no “economy” fare seating pitches meet these clearance minimums, which leads to the conclusion that (according to the FAA’s own advisory) the seating arrangements actively utilized by the industry are unsafe for passengers.

Narrow seat sizes may also result in passengers’ limbs protruding into the aisles. This can lead to passenger harm when carry-on bags and other items hit the seated travelers during boarding and deplaning, create tripping hazards for the consumers walking through the aisles, or increase the risk of injury from service carts. While this is an issue that can affect anyone, passengers with motor disabilities and individuals who cannot safely fit into existing seat sizes often suffer the most. And, as seat sizes have shrunk, Americans have gotten larger. From 1999 to 2020, obesity prevalence in the U.S. increased from 30.5% to 41.9% —with the rate of severe obesity during this same period nearly doubling to 9.2%.²⁸

Diminished seat widths and pitches can also increase the likelihood of travelers developing pressure sores. Passengers with limited mobility are at heightened risk of developing these ulcers as they cannot easily change positions to redistribute pressure.²⁹ When confined to a seat that rarely allows fully mobile passengers to reposition themselves, individuals with motor disabilities and individuals diagnosed with obesity experience even greater challenges with pressure sores. In addition, smaller seat sizes often increase the number of contact points between the traveler and their seat, providing greater opportunities for pressure sores to develop.

²⁷ According to the FAA “[t]he current criteria for seat placement is to assure that an occupant’s head will not swing forward and strike an unpadding bulkhead or other hard surface. Thirty-five inches from the seat reference point has been used for a number of years as a minimum acceptable head strike radius”; “Flight Attendant Seat and Torso Restraint System Installations,” *Federal Aviation Administration*. May 11, 2010. https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_25_785-1B.pdf

²⁸ “Adult Obesity Facts,” *Centers for Disease Control and Prevention*. May 17, 2022. <https://www.cdc.gov/obesity/data/adult.html>

²⁹ “Pressure Sores,” *MedlinePlus*. <https://medlineplus.gov/pressuresores.html>

Finally, shorter seat pitches increase the risk of deep vein thrombosis and its related complications. Consumers can minimize the chance of these blood clots occurring by frequently moving their legs during long periods of sitting.³⁰ Reduced seat pitches shrink the amount of space available for individuals to move their legs, increasing the likelihood of deep vein thrombosis for passengers who may already be prone to this condition.

VI. Recommendations for Minimum Seat Dimensions

Air carriers' practice of reducing seat dimensions to increase the number of passengers on a plane is problematic. Due to the current inadequate emergency evacuation standards, air carriers' evacuation tests do not reflect the modern cabin environment. This is evidenced by the high number of real-world flight evacuations that took longer than 90 seconds.

Setting minimum seat size standards while these inadequate emergency testing standards are still in place would codify the unsafe seating arrangements that air carriers currently employ. Instead, the FAA should use the opportunity of a minimum seat size rulemaking to take the following steps:

First, the FAA should place an immediate moratorium on air carriers installing smaller seats on airlines. This will prevent air carriers from continuing to place additional seats on airplanes while the FAA updates its emergency evacuation testing standards.

Second, the Administration should update its emergency evacuation testing standards to reflect current conditions passengers experience and retest emergency evacuations for current air carrier seating arrangements. Only after this is complete should the FAA create minimum seat dimensions.

³⁰ "Blood Clots and Travel," *Centers for Disease Control and Prevention*. June 9, 2022. <https://www.cdc.gov/ncbddd/dvt/travel.html>

Finally, should the FAA determine that setting a minimum seat dimension is urgently needed due to statutory requirements, the FAA should establish on a provisional basis a minimum of 32 inches in pitch and 20 inches in width for passenger seat dimensions on aircraft. This would ensure that no air carrier is transporting passengers with seat sizes smaller than the average minimum seat dimensions that were in operation in the early 1990's.³¹ This time period is critical as the latest aircraft accident that the FAA considered when updating federal evacuation standards occurred in 1991.³² Consumer group commenters also support minimum dimensions greater than 32 inches in pitch and 20 inches in width should the FAA or health experts determine that expanded dimensions beyond 32-inch pitches and 20-inch widths are necessary for the health and safety of passengers.

Conclusion

Consumer group commenters appreciate the opportunity to provide our views to the Administration on the need for adequate minimum seat size dimensions.

Communications with respect to this document may be addressed to:

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³¹ "The Case of the Incredible Shrinking Airline Seat," *FlyersRights*. August 17, 2021.

<https://flyersrights.org/f/the-case-of-the-incredible-shrinking-airline-seat>;
<https://www.usatoday.com/story/travel/columnist/mcgee/2014/09/24/airplane-reclining-seat-pitch-width/16105491/>

³² "FAA's Process for Updating Its Aircraft Evacuation Standards Lacks Data Collection and Analysis on Current Evacuation Risks," *U.S. Department of Transportation, Office of Inspector General*. September 16, 2020.
<https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Aircraft%20Evacuations%20Final%20Report%20-%2009-16-20.pdf>

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