**AIRLINE REGULATION REFORM**

High School policy debate topic proposal

2020-2021 School year

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### INTRODUCTION

***“Flight Attendant****: Sir, I'm going to have to ask that you turn off your cellular phone.****Toby Ziegler (White House Communication Director)****: We are flying in a Lockheed Eagle Series L-1011. Came off the line twenty months ago. Carries a Sim-5 transponder tracking system. And you're telling me I can still flummox this thing with something I bought at Radio Shack?” The West Wing S1 E1*

Time Magazine’s Anita Sharpe brings us up to date on the extent of the cell phone problem on July 18, 2019.

Today, potentially hundreds of planes worldwide are still flying with the unsafe systems cited in the FAA report. Flight-critical data including airspeed, altitude and navigation could disappear and “result in loss of airplane control at an altitude insufficient for recovery,” the FAA said in [the safety bulletin](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgad.nsf/0/c2bcf2b2a4ea336886257d64006136e5/%24FILE/2014-20-06.pdf), known as an airworthiness directive.

The FAA gave the airlines until November 2019 to install special screens, but compliance is slow. Regulation of passenger flight has undergone major changes over the years, because of economics, technology, terrorism etc. Safety is much more that whether or not a cell phone will “flummox” the plane. Regulation is more than just the rules of the TSA.

Policymakers and the airline industry have had a love-hate relationship with regulation. For many years the industry was governed by the Civil Aeronautics Board (CAB). In October of 1978 President Jimmy Carter signed the Airline Deregulation Act. Aviation Week Reported:

On Oct. 24, 1978, when President Jimmy Carter signed the Airline Deregulation Act, the airline industry changed forever, and it can be argued we’re feeling the repercussions still to this day. The Deregulation Act eventually dissolved the Civil Aeronautics Board (CAB), which regulated U.S. airlines like a public utility, setting where they could fly and what fares they could charge. Without the CAB’s guaranteed rate of return, many storied airlines – Pan Am, Eastern Air Lines, Braniff International – found they couldn’t compete in the new world of open markets and eventually were consigned to the dustbin of aviation history.

The deregulation of the airlines didn’t totally divorce airlines from the government. The Federal Aviation Administration still governs safety, the Department of Transportation also still has the mission to “…serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future.” (DOT 2019). Even with these regulatory authorities, much is left to the market forces. In 1978, when the bulk of airline regulation was turned over to the DOT, “Congress cautioned DOT to place ‘maximum reliance on competitive market forces and on actual and potential competition’ as the best way to achieve ‘efficiency, innovation, and low prices’ and ‘variety and quality of air transportation services.’” (Heffernan, 2018).

After 9/11, and with the advent of the Department of Homeland Security, many new regulations were placed on the airline industry, most notably, the Transportation Safety Administration. The TSA is tasked with “authority over the security of the traveling public in the United States.” (TSA 2019). We now have to take off our shoes, belts, etc., when boarding an aircraft to improve security and avoid hijackings and bombings aboard aircraft. Airports have also undergone upgrades and changes. Technological advancements in runway design and maintenance, airfield lighting, and environmental impacts have made airports safer and more secure.

### MAJOR ISSUES

#### Safety

Despite airline deregulation, safety is still the major concern of the federal government. The FAA governs the certification of planes and other equipment safety, airport expansion and safety, along with the air traffic control system. Airlines face a whole host of challenges to assure passenger safety. Personnel shortages comprise a portion of those challenges. Katie Dwyer of the Risk and Insurance Company reported in January of 2019:

“Increased demand coupled with a shrinking pool of qualified pilots is driving an ongoing pilot shortage. According to Boeing’s 2018 Pilot & Technician Outlook, the aviation sector will need 790,000 pilots over the next two decades and 754,000 new maintenance technicians…”

Pilot training has also recently become an issue with the crashes and subsequent grounding, of the Boeing 737 Max airplanes. Arguments were made that the pilots didn’t have enough training to deal with the software issue. The arguments continue with how much training will be necessary for pilots once the software issue is solved and the planes can be put back into service. Will actual time in the aircraft be required? Or will simulator training be enough. The debate continues, and the aircraft is still grounded.

Along with pilot training we also have the issue of pilot fatigue. There are regulation specifying how long and under what conditions pilots can work. But airlines seem to be pushing the limits with the increased demands and pilot shortages. Not only is fatigue problematic but pre-flight behavior also has an impact. Increasingly, pilots are being reported for drinking prior to a flight. In February of 2019, American Airlines had to cancel a flight to Philadelphia. The pilot was arrested on suspicion of “performing an aviation function when over the prescribed limit of alcohol."

Other issues concerning safety in the airline industry include outdated infrastructure. From the planes themselves, to airport and runway technology, to air traffic control, the industry is suffering from an infrastructure that cannot handle today’s demands. Sara Breselor of Wired Magazine reports:

At any given time, around 7,000 aircraft are flying over the United States. For the past 40 years, the same computer system has controlled all that high-altitude traffic—a relic of the 1970s known as Host. The core system predates the advent of the Global Positioning System, so Host uses point-to-point, ground-based radar.

Climate change is another issue facing the airline industry. Now this assumes, unlike our current administration, that you believe in climate change. The airline industry has always been faced with weather issues. But this is becoming more pronounced as our climate is impacted by our own actions. Dwyer goes on to indicate “..the effects of climate change have made planning an almost futile exercise.” Better models and better predictions might make this planning more meaningful.

Congestion continues to be a problem for the airline industry. Congestion can be a major problem for air traffic controllers as they work to help aircraft safely navigate our airspace. More aircraft, less controller training, increased burn-out, along with the outdated systems have causes congestion that is pushing the safety envelope. Ground control is also hampered as they try to avoid runway incursions by maintenance vehicles and other aircraft that get in the way of landings and take offs.

Cabin safety is another concern. The International Air Transportation Association outlines some of the issues in cabin safety:

Cabin Safety is a vital part of any safety management system (SMS). It ensures that the cabin product and service is designed and delivered to the customer as safely as possible. Because of this, the role of a Cabin Safety professional involves risk management, training, reporting, investigation, auditing, fatigue risk management, formulating safety and emergency procedures and more.

Anything from lithium batteries that are fire hazards, to the use of electronic devices, to safety instructions, and the passenger that consumes too much alcohol, cabin issues are problematic. We have all heard that we shouldn’t drink the water, or anything made with the water on airplanes because of bacteria such as e-coli. Time Magazine reported that: “A 2015 study on aircraft water quality published in the International Journal of Environmental Research and Public Health found that the water tanks are “conducive for microbial growth.”

Another environmental issue in airplane cabin safety is toxic fumes. RESIDCO, aviation consultants indicated that, “[Fume events](https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2018/safo18003.pdf) occur when toxic smoke or odors from the plane's engines find their way into the cabin…According to the APA, the union that represents American Airlines' 15,000 pilots, there have been 20,000 of these toxic fume events over the past 10 years.”

#### Security

Airport security has been a hot button issue ever since 9/11. We remove our shoes, belts, take off any metal, then go through a metal detector or even a body scanner. The job of Transportation Safety Association (TSA) is to keep us safe from terrorism, hijacking, bombs, etc. Benjamin Zhang reported in April 2018:

Even though the frequency of terrorist acts targeted at airliners has gone down, incidents like the shoe bombers and the tragic events of 9/11 serve as a reminder they remain a substantial and persistent threat. Benjamin Zhang reported in April 2018:

As a result, airlines and security services around the world have to remain vigilant. Over the past 15 years, security screening procedures have become increasingly stringent. This has resulted in longer checkpoint wait times and complaints from the traveling public.

The TSA controls one part of airline security but technological security is another issue. Technological advances have been an important part of airport security. Technology on the flight deck has made it easier and safer for pilots to fly the planes. Technology in the cabin gives us in flight movies and Wi-Fi. Technology in air traffic control and ground control have also improved security. However, the reliance on technology also makes airlines more vulnerable to hackers. Benjamin Zhang goes on to identify the nature of this issue:

Technology has been great for airlines. Biometrics is going to be a changer for airport experience. While hybridization is expected to usher in a new age of flight. Technology has already helped revolutionize everything from in-flight entertainment to freeing flights crews from their cumbersome flight manuals.

However, as the airline industry and the infrastructure that serves it becomes increasingly dependent on technology, it's also going be even more vulnerable. Insufficient investment in technology infrastructure over the past decade has resulted in a spate of computer outages that can cripple an airline's operations for days on end. With the growing threat of cybercrime, the airline industry will have to work much harder to stay ahead of the curve.

The outdated technological infrastructure, while impacting safety, also has a major impact on security. Too often, we take for granted everything technology can do for us, until it fails. Tracking passengers and luggage, airline computers not only make it easier but more secure to fly. Major outages have cost the flying public and the airlines billions. Sean O’Neill points out:

U.S. airlines suffered through one technology malfunction a month on average between January 2015 and today, according to a federal government study.

The [report](https://www.gao.gov/assets/700/699643.pdf) released last week by the U.S. Government Accountability Office was prompted by several high-profile outages, such as [a three day failure](https://skift.com/2016/08/08/delta-grounds-planes-worldwide-because-of-a-computer-malfunction/) in 2016 that cost Delta about $150 million in revenue.

The report tried to quantify the issue in more detail. Officials spoke with 13 U.S. airlines and leading tech vendors Amadeus and Sabre about the issues. They pinpointed 34 information technology outages from 2015 through 2017, most of which led to flight delays or cancellations. The report noted in a footnote that it counted nine additional glitches between January 2018 through January 2019.

O’Neill goes on to explain that we may not know the full extent of this problem.

“Right now there’s no requirement that airlines disclose if an issue is the result of an IT outage,” said Paul Jibrail, a consultant at [Sungard AS](https://www.sungardas.com/en/), an IT services and disaster recovery provider. “While some do proactively, there’s no clear view on the scope of the problem.”

Another security issue facing airlines is the interplay between the passenger and the crew. Many reports have been published regarding airline crews and/or authorities mistreatment of passengers. We all remember the incident, from early 2019, where Dr. David Dao was dragged through the aisle of a United plane in Chicago, because it was overbooked. They asked him to deplane, he refused, so they forcibly removed him.

#### Economics

Airlines, like any other corporation are worried about their bottom line. The profit motive is what keeps them afloat. The last recession had a major impact on air travel and the profitability of the airlines, along with the deregulation of the 70s. Airline deregulation served as a boom to passengers. We were the beneficiaries of lower prices, more routes, and overall a more accessible form of transportation. Airlines are using smaller planes for regional routes because they save fuel. They fit as many seats as they can into the cabin to maximize profitability. Airlines have instituted additional baggage fees and preferential seating fees to bolster their income. Unfortunately, market forces are also the driving force to cutting costs for the airlines. The recent controversy over the crashes involving the Boeing 737 MAX aircraft has been blamed, in part, on just these market forces. “The failures of the 737 Max appear to be the result of an emphasis on speed, cost, and above all shareholder value.” (Robison 2019). The bottom line impacts passenger services, passenger comfort, and safety. Business insider reports:

In many respects, the industry's search for greater profitability has been to the detriment of passenger comfort.

For investors, the lower the unit costs the better. For airlines, an effective way to reach that target is to stuff more seats into each plane. In addition, airlines have become much more disciplined when it comes to flooding the market with additional flights. The capacity discipline along with a greater number of seats per plane has resulted in full planes with less room for individual passengers.

However, it is not only passenger comfort that is sacrificed. Safety could be compromised by economics. Failure to replace outdated equipment because of costs, paying pilots less money therefore having to settle for less experienced pilots, labor disputes with other employee groups, all have an impact on airlines bottom line and the safety of the flying public.

Oil price volatility also impacts the health of the airline industry. Katie Dwyer, a risk analyst points out:

It is estimated that just a $1 increase per barrel of oil can cost the global airline industry an additional $1 billion a year. According to The Motley Fool, “That is a significant amount of risk that is outside the control of an individual airline company. Even hedging strategies cannot fully compensate their vulnerability to sustained periods of high oil prices.

Governmental politics also impact the airline industry. The recent 35 day shutdown of the government over budgetary issues, the longest in history, wreaked havoc with the industry. Dwyer goes on to outline:

The impact of a government shutdown likely was never a top concern for airline risk managers before, but the recent 35-day shutdown — the longest in history — made clear that a non-functioning federal government has big implications for airline safety, efficiency and profitability.

Southwest Airlines reported it lost up to $15 million during the shutdown in the month of January 2019. Delta said it cost them 25 million in lost revenue.

This is due to fewer government employees and contractors taking business trips, and fewer TSA agents and air traffic controllers available to handle the existing traffic. Facing weeks without pay, these workers called out sick in record numbers. Citing financial limitations, as many as 10 percent of TSA agents used sick days during the shutdown. Absence of air traffic controllers lead to delays and cancellations.

Other types of governmental politics have caused concern in the industry with regard to safety, security and economics. President Trump’s Muslim ban and other immigration policies are a real issue for airlines. Business Insider goes on to explain:

Since airlines serve as a bridge between nations or even as a flying ambassador for its homeland, it is all but inevitable that they wind up in the middle of political scuffles.

Recent examples include the Trump administration's ban on travelers from certain Muslim majority nations and its ban on laptops in the cabins of flights from selected airports in the Middle East and North Africa.

There's also Qatar's dispute with its Persian Gulf neighbors that saw its national airline banned from a couple of its most lucrative markets.

Strife between nations usually results in a hit to the operations and profitability of airlines.

There are a multitude of issues that impact airlines in the areas of safety, security, and economics. This will leave a whole host of topic areas for affirmative with an airlines resolution. Another question that arises is what can the government do about airline regulation? This will be discussed in the next section.

### GOVERNMENT REGULATION

The main agency that has control of the aviation industry is the Department of Transportation. There are several parts of the DOT that can impact airline regulation. One would be their Aviation Consumer Protection Division. According to the DOT:

The ACPD reviews and responds to consumer complaints and promotes awareness and understanding of consumer rights through online consumer information and education.  If you would like information on DOT rules, guidance, and enforcement orders related to aviation consumer and civil rights matters, please visit the left navigation bar.

The Federal Aviation Administration is the agency within the DOT that has oversight of the airline industry. The FAA itself, outlines its role in aviation:

Under the broad umbrella of safety and efficiency, we have several major roles:

 Regulating civil aviation to promote safety

 Encouraging and developing civil aeronautics, including new aviation technology

 Developing and operating a system of air traffic control and navigation for both

 civil and military aircraft

 Researching and developing the National Airspace System and civil aeronautics

 Developing and carrying out programs to control aircraft noise and other environmental

 effects of civil aviation

 Regulating U.S. commercial space transportation

More specifically the FAA reports their job includes:

Our 44,000 employees throughout the United States participate in a wide variety of activities

**Safety Regulation**

Jet engine being manufactured.We issue and enforce regulations and minimum standards covering manufacturing, operating, and maintaining aircraft. We certify airmen and airports that serve air carriers.

**Airspace and Air Traffic Management**

We operate a network of airport towers, air route traffic control centers, and flight service stations. We develop air traffic rules, assign the use of airspace, and control air traffic. For more information, see Air Traffic Organization Safety.

**Air Navigation Facilities**

View from a cockpit. We build and install visual and electronic aids to air navigation. We maintain, operate, and assure the quality of these facilities. We also sustain other systems to support air navigation and air traffic control, including voice and data communications equipment, radar facilities, computer systems, and visual display equipment at flight service stations.

**Civil Aviation Abroad**

Men shaking hands in front of a small jet. We promote aviation safety and encourage civil aviation abroad. We exchange aeronautical information with foreign authorities; certify foreign repair shops, airmen, and mechanics; provide technical aid and training; negotiate bilateral airworthiness agreements with other countries; and take part in international conferences.

**Commercial Space Transportation**

A rocket being launched. We regulate and encourage the U.S. commercial space transportation industry. We license commercial space launch facilities and private launches of space payloads on expendable launch vehicles.

**Research, Engineering, and Development**

An aircraft in a hangar. We do research on and develop the systems and procedures we need for a safe and efficient system of air navigation and air traffic control. We help develop better aircraft, engines, and equipment and test or evaluate aviation systems, devices, materials, and procedures. We also do aeromedical research.

**Other Programs**

A person plotting points on a map. We register aircraft and record documents reflecting title or interest in aircraft and their parts. We administer an aviation insurance program, develop specifications for aeronautical charts, and publish information on airways, airport services, and other technical subjects in aeronautics.

Another agency that can influence what happens in the airline industry is the National Transportation Safety Board. According to the NTSB, their mission is “Making transportation safer by conducting independent accident investigations, advocating safety improvements, and deciding pilots’ and mariners’ certification appeals. (NTSB 2019). The NTSB serves as an independent government investigative agency. They are not a rule maker and they don’t proffer policies. They can, however, make recommendations regarding the direction of regulation. Those recommendations are usually based on findings from accident investigations.

### NFHS CRITERIA

**Resolutions:** *The topic area should have an appropriate number of potential resolutions that can be debated. These resolutions should be neither too broad nor too narrow.*

By nature, this is a narrower topic than some we are used to debating. This could be good. It would certainly help attract novices. But even within the more narrow topic there are still lots of affirmative cases that could be debated.

**Timeliness:** *A good topic should be timely. It will be a topic that is being debated both in academic debate rounds, among the general population, and perhaps within government. Thus, topics that are likely to appear frequently in the media are generally good topics. However, it is important to note that the report will be written two years before the final debate on the topic takes place; it is important to choose a topic that will not be rendered meaningless (for example, by the passage of new laws) by the time the debates occur. New issues should arise as the topic is debated.*

Given the recent crashes and controversy over the Boeing 737 MAX aircraft, airline safety is in the headlines. The reports of what caused the crashes for the MAX and the processes that lead to the deficiencies will be under full debate even if the plane gets back in the air. Even realizing that this topic would not be debated until 2020, airline safety is an ongoing issue. Unfortunately, too many incidents keep it in the forefront of the news.

**Scope:** *A good topic will address a problem that is significant in all sectors of the country, not merely in a single area or group of people.*

This topic is applicable to all. There would be no sectors of the country left out nor any single group of people. It might be more relevant to those in areas of the country that are the homes of many of the aircraft manufacturers.

**Range:** *A wide range of skill levels exists among debaters who will use a topic. A good topic is one that can be understood and debated by novice debaters, yet will also challenge advanced debaters.*

This topic has a range of skill levels available to debaters. Students could get involved technical economic debates, simple policy debates, the more complex rights/kritik debates. The issue of private vs. public regulation will be accessible to all.

**Quality:** *The topic should be one that enables high quality debates to take place. The issues involved in the topic should be ones that we want our high school students to be debating. It should be one that can be debated for a full year without producing repetitive debates. A good debate topic is one that will be of value to debaters, providing exposure to divergent points of view, experience in analyzing significant current issues and problems, and the opportunity to develop analytical and problem-solving skills.*

The quality of debates on this topic is a very positive aspect of debating airline regulation. It involves the core debate of public vs private regulation. The topic can center around safety concerns, the value of lives vs economics, privacy and civil rights issues could also be a focus. Regulation vs deregulation has been a topic debated via government policy and politics for a very long time.

**Material:** *There should be a wealth of material available on the topic. It should help encourage debaters to utilize a wide range of reference materials. This material should be available to all debaters, not simply those with access to a large library or access to special Internet databases.*

The amount of material from a wide variety of sources will not prove to be a barrier to participation. There are specific aviation journals that cover issues along with the mainstream media and government publications.

**Interest:** *The topic should be one that can generate the interest of high school debaters, judges and community members.*

Interest level should be good. Just about everyone flies. Especially to many of the national tournaments. Every time someone gets on an airplane safety, security, and economics of the airline industry come into play. It is also a topic that students, judges, and coaches will benefit from researching. Debaters will get to know more about something that is part of their lives.

**Balance:** *There should be issues and arguments supporting both sides of the topic under consideration. Ideally, neither side of the controversy should have a significant advantage over the other side. Balanced affirmative and negative ground should exist. Examples of possible affirmative cases and negative positions inherent in the resolutions should be taken into consideration.*

Balance should not be a problem. The case list later in this report should give one an idea of the affirmative areas. Negative debates are left with the pros or cons of the specific proposal of the affirmative along with standard positions on regulation vs deregulation, economic impacts, industry competition, along with privacy and civil rights.

### PROPOSED RESOLUTIONS

1. Resolved: The United States federal government should substantially increase regulation on the commercial airline industry in the United States
2. Resolved: The United States federal government should substantially increase regulation on the domestic passenger airline industry
3. Resolved: The United States federal government should substantially increase regulation of the domestic passenger airline industry in one or more of the following areas: safety, costs, development, training.
4. Resolved: The United States federal government should substantially increase regulation of the commercial airline industry in one or more of the following areas: safety, costs, development, training.
5. Resolved: The United States federal government should substantially increase airline regulation

Resolutions from previous Aviation paper in 2002 (For reference only. Not for consideration)

Resolved: The United States Federal Government should substantially change regulations in the commercial airline industry in one or more of the following areas: security, passenger safety, and foreign ownership.

Resolved: The United States Federal Government should substantially change safety and/or security regulations in civil and commercial aviation.

Resolved: The United States Federal Government should substantially increase passenger safety and/or security regulation of the commercial airline industry.

Resolved: The United States Federal Government should substantially change regulations in the commercial airline industry.

### POTENTIAL AFFIRMATIVE GROUND

Air traffic control

Bring back Civil Aeronautics Board

Budget and gov’t shutdowns

Commercial space travel

Employee alcohol screening and policies

Employee conflict training

Environment-impacts of air-travel on the environment

Environment-in-flight (toxic fumes, disease, food water handling)

Equipment approval, testing

Expanding air marshals

FAA control

Flight crew training

Fuel prices

Guns on planes (either employees or passengers)

Hijacking

Improving safety in cargo holds (explosion proofing)

Market economy

Monopolies (concentration of ownership)

Outdated infrastructure

Overcrowding of the air and airports—Mid air collisions

Passenger civil rights

Pilot fatigue

Pilot shortage

Pricing

Runways

Security and terrorism

Take-off and landing safety

TSA reform

Use of electronics in flight

Weather related issues including climate change

### DEFINITIONS

#### Note on definitions: Most literature uses the terms airline, airline industry, commercial airline industry, passenger airline industry interchangeably. None of the experts do a good job of identifying why they use the specific term. Terms that include “aviation” seem to include more things like drones and experimental aircraft. Most all of the sources focus only on commercial airlines and not military, although to get one to articulate that is difficult.

#### AIRLINE

airline noun (1)

Definition of airline

: an air transportation system including its equipment, routes, operating personnel, and management

Merriam Webster <https://www.merriam-webster.com/dictionary/airline> Accessed July 10 2019

 airlines

1. countable noun

An airline is a company that provides regular services carrying people or goods in airplanes.

Collins dictionary [https://www.collinsdictionary.com/us/dictionary/english/airline accessed July 10 2019](https://www.collinsdictionary.com/us/dictionary/english/airline%20accessed%20July%2010%202019)

Airline noun [[ C ]](https://dictionary.cambridge.org/us/help/codes.html)

a [business](https://dictionary.cambridge.org/us/dictionary/english/business) that [operates](https://dictionary.cambridge.org/us/dictionary/english/operate) [regular](https://dictionary.cambridge.org/us/dictionary/english/regular) [services](https://dictionary.cambridge.org/us/dictionary/english/service) for [carrying](https://dictionary.cambridge.org/us/dictionary/english/carry) [passengers](https://dictionary.cambridge.org/us/dictionary/english/passenger) or [goods](https://dictionary.cambridge.org/us/dictionary/english/goods) by [aircraft](https://dictionary.cambridge.org/us/dictionary/english/aircraft)

Cambridge Dictionary [https://dictionary.cambridge.org/us/dictionary/english/airline accessed July 17](https://dictionary.cambridge.org/us/dictionary/english/airline%20accessed%20July%2017), 2019

#### AIRLINE INDUSTRY

airline industry,

the business of transporting paying passengers and freight by air along regularly scheduled routes, typically by airplanes but also by helicopter.

The Free Dictionary “airline industry” [https://encyclopedia2.thefreedictionary.com/airline+industry](https://encyclopedia2.thefreedictionary.com/airline%2Bindustry) accessed July 10 2019

The airlines industry provides air transportation for passengers and cargo by using aircraft such as airplanes and helicopters.

“Airlines” VAULT 2019 https://www.vault.com/industries-professions/industries/airlines

#### Aviation

aviation

the art of operating aircraft

n

the operation of aircraft to provide transportation

Type of:

 industry

 the people or companies engaged in a particular kind of commercial enterprise

Vocabulary.com “aviation industry” [https://www.vocabulary.com/dictionary/aviation accessed july 10 2019](https://www.vocabulary.com/dictionary/aviation%20accessed%20july%2010%202019)

#### Aviation industry

aviation industry

noun

a collective term for the companies involved in air transport

Collins Dictionary “aviation industry” <https://www.collinsdictionary.com/us/dictionary/english/aviation-industry>

The aviation industry is the business sector dedicated to manufacturing and operating all types of aircraft. Air traffic controllers, when they are awake, are concerned with aviation safety.

Vocabulary. com “aviation industry” [https://www.vocabulary.com/dictionary/aviation Accessed July 10 2019](https://www.vocabulary.com/dictionary/aviation%20Accessed%20July%2010%202019)

The aviation industry encapsulates the development, operation and management of aircrafts.

[https://www.slideshare.net/ushmashah20/introduction-to-the-aviation-industry Sept 9 2011](https://www.slideshare.net/ushmashah20/introduction-to-the-aviation-industry%20Sept%209%202011)

#### Commercial

of, relating to, or characteristic of commerce.

engaged in commerce.

prepared, done, or acting with sole or chief emphasis on salability, profit, or success: a commercial product; His attitude toward the theater is very commercial.

able to yield or make a profit: We decided that the small oil well was not commercial.

Dictionary.com “commercial” [https://www.dictionary.com/browse/commercial accessed July 17](https://www.dictionary.com/browse/commercial%20accessed%20July%2017), 2019

#### Passenger airline industry

Passenger airlines are airlines dedicated to the transport of human passengers.

 E. Mazareanu, Passenger airlines - Statistics & Facts, Statista Apr 25, 2019

https://www.statista.com/topics/1151/passenger-airlines/

#### GOOGLE NUMBERS

AIRLINE INDUSTRY About 243,000,000 results

AIRLINES About 1,030,000,000 results

“PASSENGER AIRLINE INDUSTRY” About 32,100 results

PASSENGER AIRLINE INDUSTRY About 30,700,000 results

AVIATION About 971,000,000 results

AVIATION INDUSTRY About 389,000,000 results

DOMESTIC PASSENGER AIRLINE INDUSTRY About 24,600,000 results

AIRLINE REGULATION About 30,500,000 results

#### DEFINITIONS FROM THE 2002 PAPER

**Air Carrier**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Carrier: Commercial system of air transportation, consisting of domestic and international scheduled and charter service. (AIA1)

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Carrier: Commercial system of air transportation consisting of certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs. (DOE6) (FAA6)

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Carrier: As defined in the Federal Aviation Act of 1958, any citizen of the United States who undertakes, whether directly or indirectly, or by lease or any other arrangement, to engage in air transportation. (FAA1)

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Carrier: An air carrier holding a Certificate of Public Convenience and Necessity issued by the Department of Transportation to conduct scheduled services over specified routes and a limited amount of nonscheduled operations. (FAA13)

**Air Transport**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Transport Movements: Landing and take-off of an aircraft operating a scheduled or non-scheduled service. (ACI1)

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Transportation: Interstate, overseas, or foreign air transportation or the transportation of mail by aircraft. (14CFR1)

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Air Transportation: Includes establishments that provide domestic and international passenger and freight services, and establishments that operate airports and provide terminal facilities. Also included are flying services such as crop dusting and aerial photography. (BEA1)

**Aircraft Industry**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=a](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Aircraft Industry: Industry primarily engaged in the manufacture of aircraft, aircraft engines and parts including propellers and auxiliary equipment. (AIA1)

**Civil Aircraft**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. <http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c>

Civil Aircraft: Aircraft other than public aircraft. (14CFR1)

**Commercial Air Carrier**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. <http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c>

Commercial Air Carrier: An air carrier certificated in accordance with Federal Aviation Regulations (FAR) Part 121 or 127 to conduct scheduled services on specified routes. These air carriers may also provide non-scheduled or charter services as a secondary operation. Four carrier groupings have been designated for statistical and financial data aggregation and analysis. Majors (annual operating revenues greater than $1 billion), Nationals (annual operating revenues between $100 million and $1 billion), Large Regionals (annual operating revenues between $10 million and $99,999,999), Medium Regionals (annual operating revenues less than $10 million).

**Public Aircraft**

Bureau of Transportation Statistics, U.S. Department of Transportation, “Transportation Expressions,” online. [http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=p](http://www.bts.gov/cgi-bin/btsprod/expr/expr.pl?letter=c)

Public Aircraft: Aircraft used only in the service of a government, or a political subdivision. It does not include any government-owned aircraft engaged in carrying persons or property for commercial purposes. (14CFR1)

**Safety**

23 U.S.C. 501(2)

The term “safety” includes highway and traffic safety systems, research, and development relating to vehicle, highway, driver, passenger, bicyclist, and pedestrian characteristics, accident investigations, communications, emergency medical care, and transportation of the injured.

Webster's Revised Unabridged Dictionary (1913) (web1913)

“1. The condition or state of being safe; freedom from danger or hazard; exemption from hurt, injury, or loss.

2. Freedom from whatever exposes one to danger or from liability to cause danger or harm; safeness; hence, the quality of making safe or secure, or of giving confidence, justifying trust, insuring against harm or loss, etc.”

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