

**JURISDICTION AND ACTIVITIES
SUBCOMMITTEE ON AVIATION
116TH CONGRESS
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I.	JURISDICTION.....	2
II.	FAA OVERVIEW.....	2
III.	FUNDING FOR AVIATION PROGRAMS	3
IV.	AIRPORT IMPROVEMENT PROGRAM.....	4
	A. BACKGROUND	4
	B. AIRPORT CAPACITY	6
	C. ACTIVITIES IN THE 115 TH CONGRESS.....	6
V.	FACILITIES AND EQUIPMENT	6
	A. OVERVIEW.....	6
	B. FACILITY REALIGNMENT AND CONSOLIDATION.....	6
VI.	FAA OPERATIONS	7
	A. AIR TRAFFIC CONTROL.....	7
	1. Overview.....	7
	2. Air Traffic Controller Workforce.....	8
	3. Next Generation Air Transportation System.....	8
	4. NextGen Advisory Committee (NAC) Priorities	8
	5. Performance-Based Navigation (PBN)	9
	B. AVIATION SAFETY.....	9
	1. Overview.....	9
	2. Inspector Workforce.....	10
	3. Unmanned Aircraft Systems	11
	4. Commercial Space Transportation.....	11
	5. Certification of Aircraft, Engines, and Components	12
	6. Airline and General Aviation Safety.....	12
	C. NATIONAL TRANSPORTATION SAFETY BOARD.....	12
	1. Overview.....	12
	2. Structure.....	13
	3. Reauthorization.....	13
	D. ACTIVITIES IN THE 115 TH CONGRESS.....	13
VII.	AIR CARRIERS.....	14
	A. IMPROVEMENTS TO AIRLINE SAFETY.....	14
	B. ECONOMIC AND MARKET ISSUES AFFECTING AIR CARRIERS.....	15
	C. LABOR.....	16
	D. CONSUMER PROTECTION.....	16
	E. ACTIVITIES IN THE 115 TH CONGRESS.....	17
VIII.	ESSENTIAL AIR SERVICE	17
IX.	AVIATION EMISSIONS AND THE ENVIRONMENT	18
X.	AVIATION SECURITY	18
XI.	WAR RISK INSURANCE AND CIVIL RESERVE AIR FLEET	19
	A. WAR RISK INSURANCE.....	19
	B. CIVIL RESERVE AIR FLEET	19

I. JURISDICTION

The Subcommittee on Aviation has jurisdiction over all aspects of civil aviation, including safety, infrastructure, labor, economic regulation, and international issues. Within this scope of responsibilities, the Subcommittee has jurisdiction over the Federal Aviation Administration (FAA), a modal administration within the U.S. Department of Transportation (DOT). This jurisdiction covers all programs within the FAA as well as aviation programs of the DOT with respect to economic regulation of air carriers and passenger airline service. In addition, the Subcommittee has jurisdiction over commercial space transportation, the National Mediation Board (NMB), and the National Transportation Safety Board (NTSB).

Issues within the jurisdiction of the Subcommittee on Aviation include:

- Air traffic control systems and modernization
- Air traffic management
- Airport capacity and infrastructure
- Airport Improvement Program grants
- Airspace matters
- Airline competition and antitrust issues
- Aviation safety
- Aircraft and systems certification
- Aviation security (issues that affect commerce and safety)
- Certification of aircraft and equipment
- Commercial aviation and air carrier operations (passenger and cargo)
- Commercial space transportation operations, regulations, and infrastructure
- Airline consumer protection and service
- Environmental requirements
- Essential Air Service and other small-community air service programs
- General aviation
- Unmanned aircraft systems (UAS) and other new aircraft
- UAS traffic management
- Counter-UAS authorization, systems, and technology
- International aviation
- National Mediation Board
- National Transportation Safety Board
- War risk insurance
- Use of navigable airspace

II. FAA OVERVIEW

The primary mission of the FAA is ensuring aviation safety, including the safe and efficient operation of the National Airspace System (NAS). The FAA has the responsibility to certify, monitor, and regulate the safety and operation of the civil aviation sector, including airlines, general aviation, UAS, airports, repair stations, and aircraft manufacturers, as well as to establish licensing

and training requirements for pilots and other aviation-related professionals. One of the most visible functions of the FAA is the operation of the U.S. air traffic control system. The FAA provides air traffic control services in the continental United States airspace and also vast areas of international airspace over the Gulf of Mexico, Atlantic Ocean, and Pacific Ocean.

On February 14, 2012, President Obama signed into law the *Federal Aviation Administration Modernization and Reform Act of 2012* (FMRA) (P.L. 112-95). This law included significant changes to FAA programs and policies, including the implementation of the Next Generation Air Transportation System (NextGen), reforms to the Essential Air Service program, planning for the safe integration of UAS into the NAS, amendments to the Railway Labor Act governing collective bargaining at airlines and railroads, and provisions to address aviation safety and the efficiency of FAA operations. It also provided nearly \$16 billion annually from fiscal year 2012 through fiscal year 2015 for FAA programs, projects, and operations.¹

On July 15, 2016, President Obama signed into law the *FAA Extension, Safety, and Security Act of 2016* (P.L. 114-190). This law extended expiring authorities and taxes included in the FMRA through September 30, 2017. It also authorized certain critical, time-sensitive reforms relating to safety of flight, UAS integration, cybersecurity, consumer protection, and aviation security.

On October 5, 2018, President Trump signed into law the *FAA Reauthorization Act of 2018* (FAARA) (P.L. 115-254). This law authorizes federal aviation programs and policies through fiscal year 2023 and includes numerous provisions aimed at improving aviation safety, including a mandate that flight attendants receive a minimum of 10 hours rest between duty periods, that the FAA review its airline cabin evacuation assumptions to ensure safe evacuation during an emergency, and that other actions are taken to improve the safety of hot air balloon, helicopter, and general aviation operations. FAARA also improves the airline passenger experience by directing the FAA to set minimum pitch, width, and length requirements for passenger seats, prohibiting cell phone calls and the use of e-cigarettes during flights, and creating new consumer protections and improvements for passengers, including nursing mothers and passengers with disabilities, that will enrich air travel from gate to destination.

FAARA also strengthens the U.S. economy by mandating critical FAA aircraft certification reforms that will enable U.S. manufacturers to compete globally; creating new working groups and grant to develop the next generation of U.S. aviation workers, advancing the safe and efficient integration of UAS into the NAS and allowing for more complex UAS operations, and advancing the growing U.S. commercial space transportation industry. Finally, this law reauthorizes the NTSB through fiscal year 2022.

III. FUNDING FOR AVIATION PROGRAMS

The majority of funding for aviation programs of the FAA and the DOT comes from the Airport and Airway Trust Fund, with the balance of funding drawn from the General Fund of the Treasury. Congress created the Trust Fund in 1970 in the *Airport and Airway Revenue Act of 1970* (P.L. 91-258) as a self-sustained funding source for aviation programs. The Trust Fund draws all its revenues entirely from various excise taxes and fees, including:

¹ The FAA's authorities and taxes authorized in FMRA were extended through March 31, 2016, in P.L. 114-55, and again through July 15, 2016, in P.L. 114-141.

- 7.5 percent domestic air passenger ticket tax;
- \$4.20 domestic flight segment tax;
- 6.25 percent cargo waybill tax;
- \$17.80 tax on both international arrivals and departures;
- 7.5 percent frequent flier award tax;
- \$9.30 Alaska and Hawaii international air facilities tax;
- 19.3 cents per gallon fuel tax for aviation gasoline;
- 21.8 cents per gallon fuel tax on general aviation jet fuel;
- 14.1 cents per gallon surcharge on fuel for aircraft used in fractional ownership program (new); and
- 4.3 cents per gallon fuel tax for commercial air carriers.

IV. AIRPORT IMPROVEMENT PROGRAM

A. BACKGROUND

The Airport Improvement Program (AIP) was established by the *Airport and Airway Improvement Act of 1982* (P.L. 97-248). Funds obligated for the AIP are drawn from the Airport and Airway Trust Fund.

The AIP provides grants to public agencies— and, in some cases, to private owners and entities— for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS), which estimates airports' grant-eligible development needs over a five-year period. The most recently issued NPIAS, published in October 2018, projects airport capital development needs for AIP-eligible projects at \$35.1 billion through 2023, or more than \$7 billion each year.

AIP funds are primarily used for improvements related to enhancing airport safety, capacity, and security, and reducing environmental impacts. Airport sponsors can also use AIP funds, in most cases, for airfield capital improvements or repairs and, in some specific situations, for terminals, hangars, and non-aviation development.

The AIP is subject to legislative reauthorization, the most recent of which was FAARA, which reauthorized the program through fiscal year 2023. From fiscal year 2018 through fiscal year 2023, the AIP is annually funded at \$3.35 billion, the vast majority of which is distributed to airports for eligible AIP projects. Because demand for AIP funds routinely exceeds availability, the FAA distributes these funds according to certain national priorities and objectives. AIP funds are first apportioned into major entitlement categories such as primary, cargo, and general aviation. Remaining funds are distributed to a discretionary fund.²

Since 2001, primary commercial-service airports receive a minimum entitlement grant of \$650,000 and a maximum entitlement grant of \$22 million per year (\$1 million per year and not

² On March 23, 2018, the President signed into law the Consolidated Appropriations Act, 2018 (P.L. No: 115-141) which provided an additional \$1 billion to the AIP program for discretionary grants for nonprimary airports, small or nonhub airports.

more than \$26 million, if the AIP is funded at more than \$3.2 billion). General aviation, non-primary commercial service, and reliever airports are entitled to one-fifth of their expected infrastructure requirements as published in the NPIAS, capped at \$150,000 annually.

The FAA has discretion over the allocation of any AIP funds remaining after all entitlements have been funded. However, the discretionary funds are subject to three set-asides. The law requires that 35 percent be allocated to noise abatement projects and at least four percent to current or former military airports designated by the FAA. The law also requires that at least two-thirds of one percent of the discretionary funds is set aside for reliever airports if the AIP is funded at more than \$3.2 billion per year.

After the entitlements and set-asides are funded, the remaining funding is allocated as discretionary grants using a priority-based system and subject to the requirement that 75 percent be spent to enhance airport capacity, safety, or security, or to mitigate airport related noise.

To receive AIP discretionary funds, an airport files an application with the FAA. The FAA weighs the application against applications from other airports. If the FAA decides to award a grant, it typically pays 75 percent of the cost of a project at medium- and large-hub airports (80 percent for noise projects). The federal share at other airports is typically 90 percent. However, the federal share of 90 percent was temporarily raised in the 2003 FAA reauthorization, *Vision 100* (P.L. 108-176), to 95 percent between 2004 and 2011. The temporary increase in federal share to 95 percent was established to provide relief to operators of small airports after the 9/11 terrorist attacks. While the 95 percent share was originally expected to expire at the end of fiscal year 2007, it was continued for four more years under the 23 short-term extensions of the FAA's authorization. The federal share returned to 90 percent with the passage of FMRA.

The AIP meets only a portion of airport infrastructure needs. The FAA estimates in its 2019-2023 NPIAS that airports need an average of more than \$7 billion per year for AIP-eligible projects alone, while the AIP has been authorized at \$3.35 billion since fiscal year 2012. To provide additional resources for airport improvements, the *Aviation Safety and Capacity Expansion Act of 1990* permitted airports to assess a fee on enplaning passengers. This fee is known as the passenger facility charge (PFC). A PFC is a local fee, approved by the federal government, collected by the airlines, and paid directly to the airport without passing through the federal Treasury. The revenue derived from the PFC is intended to supplement AIP, not replace it.

The *Wendell H. Ford Aviation Investment and Reform Act for the 21st Century* (AIR-21) (P.L. 106-181) increased the cap on the PFC from \$3 to \$4.50 per passenger per leg of a trip, and no passenger can be required to pay more than \$18 in PFCs per round-trip. No airport can implement a PFC until the FAA approves it. The FAA has approved the collection of PFCs at 399 airports since the program's inception, and 361 are currently collecting the charge. If a medium- or large-hub airport charges a PFC of \$3 or less, it must forgo up to one-half of its AIP entitlement grant. If one of these airports charges a fee greater than \$3, it must forgo up to 75 percent of its AIP entitlement grant. Of the forgone entitlements, 87.5 percent go into a small airport fund that is distributed primarily to non-hub and general aviation airports, while the remaining 12.5 percent is available for discretionary grants. The PFC cap has not been increased since AIR-21 was enacted in 2000.

B. AIRPORT CAPACITY

The United States' air transportation system transports 965 million passengers each year. FAA air traffic controllers handle, on average, more than 43,000 flights each day. The FAA notes that the majority of U.S. airports now have sufficient airfield capacity for current traffic levels. However, the agency also notes that a small number of the largest airports are capacity constrained with chronic delays. Such delays regularly occur with cascading effects on the entire air transportation system. The FAA cites continued efforts to enhance capacity and reduce delays through infrastructure development and technological advancements.

C. ACTIVITIES IN THE 115TH CONGRESS

Hearings:

- “Building a 21st Century Infrastructure for America”
 - On February 1, 2018, the Full Committee held a hearing concerning the challenges facing our Nation’s current transportation infrastructure and a vision for a modern 21st Century Transportation Infrastructure.
- “Building a 21st Century Infrastructure for America: State of American Airports”
 - On March 1, 2017, the Subcommittee explored airport priorities for FAA reauthorization including the need for increased funding for AIP, raising the PFC, disadvantaged business enterprise contracting, and aircraft noise impacts for communities around airports.

V. FACILITIES AND EQUIPMENT

A. OVERVIEW

The FAA’s Facilities and Equipment account funds capital investment projects necessary to accomplish the FAA’s mission by providing funds to establish, replace, relocate, or improve federal air navigation facilities and equipment and aviation safety systems based on their operational use. This program supplies equipment for FAA buildings, including air traffic control facilities. Programs under the Facilities and Equipment account are funded entirely by the Airport and Airway Trust Fund.

B. FACILITY REALIGNMENT AND CONSOLIDATION

Over the years, the FAA has conducted numerous studies indicating the need to realign, consolidate, and co-locate air traffic control facilities as the air traffic control system is modernized. In accordance with legislative mandates for planning on facility consolidation and realignment in the FMRA in 2012, the agency is developing a multiphase consolidation and realignment plan by way of a collaborative working group with labor stakeholders.

As of October 2018, the FAA has only consolidated one facility: Cape TRACON (terminal radar approach control; K90) operations to Boston Consolidated TRACON (A90). Additional consolidations or realignments that have been approved by the FAA are scheduled to be

implemented in 2019 and 2020. The collaborative working group will continue to identify opportunities for additional consolidation or realignment of FAA facilities.

VI. FAA OPERATIONS

A. AIR TRAFFIC CONTROL

1. Overview

To the general public, the most visible role performed by the FAA is air traffic control services. It is an important governmental service that operates 24 hours a day, 365 days a year. It provides aircraft separation and guidance services to commercial, military, and general aviation users and consists of air traffic control and flight service facilities, navigation and landing aids, staff to operate and maintain existing facilities, and staff who conduct research into future air traffic control systems.

According to the FAA and industry data, three of the world's 10 busiest commercial airports (in terms of passenger traffic) were in the United States in 2017. As of 2018, there are 569 air traffic control facilities and the Air Traffic Control System Command Center in the United States. Each FAA facility is classified based on multiple factors, such as traffic volume, complexity, and sustainability of traffic. The major types of air traffic control facilities include the following:

- **Air route traffic control centers (ARTCC), also known as en-route centers.** The FAA operates 21 air route traffic control centers, which provide radar separation for aircraft flying at high altitudes between terminal areas. Additionally, New York, Oakland, and Anchorage ARTCCs provide air traffic services in U.S.-controlled oceanic airspace covering 24.1 million square miles of the Atlantic and Pacific Oceans.
- **TRACON facilities.** Radar approach control facilities provide separation services for aircraft operating in terminal areas (the airspace generally located within 40 miles of a major airport). As of August 2018, there are 160 TRACON facilities of various configurations.
- **Airport traffic control towers.** These facilities control aircraft on the airport surface and landing or taking off at the airport. As of August 2018, the FAA operates 268 towers.
- **Federal contract towers.** Federal contractors provide air traffic control services at visual flight rule airports. FAA oversees the safe operation of these towers. As of August 2018, there are 253 contract towers in the NAS.

2. Air Traffic Controller Workforce

FAA air traffic controllers staff 315 federally-operated facilities. As of October 2017, there were 14,050 controllers, 517 Traffic Management Specialists, and 533 Staff Support Specialists. In fiscal year 2017, controller retirements were lower than projected. Since 2000, total air traffic operations have declined, while the total number of FAA air traffic controllers has fluctuated, although current staffing levels are lower than in 2000. According to the FAA, the agency hires new controllers two to three years in advance of expected attrition to allow for sufficient training time.

Through 2027, the FAA expects total attrition of more than 11,000 controllers, including retirements of more than 3,000 controllers.

3. Next Generation Air Transportation System

The NextGen initiative is intended to transform the air traffic control system. NextGen is a continuation of modernization efforts dating back to at least 1981. The initiative contemplates a variety of measures including transition from a ground-based radar system to a satellite-based surveillance system, developing data communications for certain voice communications capabilities to reduce controller and pilot workloads, improved aviation weather information, and creating shared and distributed information technology architectures. NextGen is also intended to benefit many communities, as well as passengers and operators, by reducing the environmental impacts of aviation, providing greater system efficiencies, and improving safety. The FAA is well into its implementation of the various aspects of the NextGen program, which, according to the FAA, has already provided nearly \$5 billion in benefits to U.S. airlines and passengers.

FMRA established a Chief NextGen Officer within the FAA. This position is responsible for, among other things, implementing NextGen activities and budgets across the FAA, coordinating the implementation of NextGen activities with the Office of Management and Budget; reviewing and providing advice on the FAA's modernization programs, budget, and cost-accounting system with respect to NextGen; and developing an annual NextGen implementation plan. Congress created this position in order to have a person within the FAA who will be held directly responsible for the progress the FAA achieves in the implementation of NextGen programs. Daniel K. Elwell was appointed as Deputy Administrator and Chief NextGen Officer in 2017. Most recently, FAARA terminated the position and replaced it with a Chief Technology Officer for the Air Traffic Organization.

FMRA included other provisions that, among other things, set deadlines for FAA action to develop standards for GPS-based avionics that will replace radar and to publish more efficient GPS-based flight paths; establish objective performance metrics for the NAS that will be used to measure the FAA's progress in delivering NextGen benefits; provide for the inclusion of aviation stakeholders in the development of NextGen; and develop operational incentives for NextGen equipment. FAARA repealed the FMRA mandate for the equipment of automatic dependent surveillance-broadcast in ADS-B In equipment.

4. NextGen Advisory Committee (NAC) Priorities

In September 2013, the NextGen Advisory Committee (NAC), which is a federal advisory committee that provides recommendations on the FAA's NextGen portfolio, issued a report that identified a number of NextGen capabilities that should be prioritized by the FAA. In 2014, the NAC recommended the FAA focus on NextGen capabilities in four areas: Multiple Runway Operations, Performance Based Navigation, Surface Operations and Data Sharing, and Data Communications. These are capabilities that will provide significant near-term benefits to NAS users. By the end of fiscal year 2017, the FAA reported that it had completed 157 of 161 planned NextGen commitments. The FAA expects the initial implementation of all major planned systems will be in place by 2025.

5. Performance-Based Navigation

Performance-based navigation (PBN) is a term used to describe the broad range of technologies that are moving aviation away from a ground-based navigation system toward a system that relies more on the performance and capabilities of equipment on board the aircraft. These advanced procedures provide greater airspace efficiencies and result in improved safety, access, and capacity, while reducing aviation's impact on the environment.

To facilitate timely deployment of PBN procedures at airports where they will improve efficiency and reduce the environmental footprint of aviation operations, FMRA classified environmental reviews for certain procedures to be categorically excluded from the more extensive environmental impact statement process unless the FAA Administrator determines that extraordinary circumstances exist with respect to the procedures. FMRA did not remove the requirement for environmental reviews to be completed when appropriate.

The total revision of air routes to incorporate PBN is part of FAA's Metroplex initiative. Metroplexes are intended to optimize flight paths within metropolitan areas with multiple airports in order to reduce fuel burn and community noise exposure. Because aircraft using PBN fly more precise routes, however, aircraft are more frequently seen and aircraft noise can be more concentrated. In certain areas, lack of or insufficient communication and outreach from the FAA has led to some community criticism over these new flight paths. As a result, the FAA has reviewed certain PBN procedures and is required under the *Consolidated Appropriations Act, 2016* (P.L. 114-113) to update its Community Involvement Manual and Plan.

As of August 2018, according to the FAA it has published more than 9,300 PBN procedures and routes, which have increased the safety and efficiency of the NAS, particularly in the most congested areas of the NAS and near high terrain, saved flying time and fuel consumption, and reduced aircraft emissions. However, according to a January 2018 report by the DOT Office of Inspector General, newly upgraded air traffic control systems in TRACONs do not yet fully support PBN capabilities.

B. AVIATION SAFETY

1. Overview

The FAA regulates all aspects of aviation safety including the design, manufacture, operation, and maintenance of civil aircraft in the United States. The FAA also regulates and certifies the training, proficiency, and fitness for duty of pilots, flight dispatchers, flight attendants and mechanics. The FAA conducts its aviation safety mission through its Office of Aviation Safety (AVS). AVS is directly responsible for oversight of aircraft certification, manufacturing, airline flight operations, flight standards, airman certification and aircraft maintenance. To fulfill this mission, AVS establishes safety standards, monitors safety performance, conducts on-site inspections, conducts oversight of its designees (those delegated to carry out certain functions of the FAA), and supports aviation safety education and research with personnel and resources throughout the country. AVS also manages the FAA rulemaking program.

The FAA approves new aircraft and component designs through a combination of direct oversight, assurances made by manufacturers, and other regulatory programs. Similarly, the FAA

certifies and oversees pilots, flight attendants, mechanics, and dispatchers as meeting minimum training, testing, and experience standards relying on a combination of government and private resources.

The FAA oversees air carriers' compliance with safety and operational (including maintenance) standards through direct oversight and assurances made by carriers pursuant to certain regulatory programs. If an inspection or voluntary disclosure reveals a violation, the FAA has the authority to assess civil penalties, and suspend or revoke certifications which may include the grounding of aircraft, pilots, or air carriers.

To maintain its strong safety record, the FAA has transitioned to a risk-based, data-driven oversight system: the System Approach for Safety Oversight Program. This program evolved from the Air Transportation Oversight System (ATOS), established in 1998. Such an oversight methodology is designed to better utilize limited oversight resources by focusing on air carriers and air carrier processes posing the greatest risks. The program uses risk indicators, including data collected from all of the FAA's voluntary safety reporting programs, and prioritizes inspector work assignments to assess the risks associated with each aspect of an air carrier's operation.

A recent addition to the FAA's safety mission, as required by FMRA, is for the FAA to establish and implement a safety assessment system for foreign repair stations to ensure that repair stations located outside the United States are subject to appropriate inspections, while also taking into consideration bilateral safety agreements between the United States and foreign countries. FMRA also enhanced alcohol and drug testing requirements for employees responsible for safety-sensitive maintenance functions on United States' certificated commercial aircraft.

2. Inspector Workforce

AVS employs more than 7,200 employees and oversees approximately 9,000 designees in carrying out its safety mission. More than 70 percent of AVS's workforce is designated as safety critical, including approximately 3,800 aviation safety inspectors and 240 manufacturing safety inspectors, as of October 2018. The FAA projects hiring an average of 470 AVS employees each year to compensate for the projected attrition of approximately 450 employees each year over the next decade.

Much of the AVS workload is demand-driven. The workload drivers can be grouped into three general areas: (1) increasing complexity of the aviation industry; (2) globalization of the aviation industry and the increasing need for international standardization of regulations and safety criteria; and (3) rapidly advancing aviation technology.

The Regulation and Certification line of business has a number of end products which fall into the following four major product or service lines: (1) standards and policy, (2) certification, (3) surveillance, and (4) mission support. It must be noted that these lines are not necessarily mutually exclusive. For example, the certification of a new operator is not significantly different from the ongoing surveillance of that operator once its operating certificate has been granted.

Principal operations inspectors (POIs) and principal maintenance inspectors (PMIs) oversee air carriers' compliance with FAA performance, safety, and maintenance standards. POIs and PMIs

are certified by the FAA and must meet training and experience standards set by the FAA. They are subject to certificate action and fines for failure to report any carrier violations.

In addition to its federal civilian workforce, AVS utilizes designees (sometimes called “examiners”), who are private persons or groups of individuals designated to act as representatives of the FAA Administrator in carrying out a predefined set of responsibilities, such as ensuring pilots’ medical fitness and conducting limited certification-related activities. The federal government has relied on designees in aviation safety oversight since the 1930’s.

3. Unmanned Aircraft Systems

An unmanned aircraft system (UAS) is the combination of an unmanned aircraft and any other equipment necessary for the safe and efficient operation of that aircraft. An unmanned aircraft or drone is defined by statute as an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft. The demand for drone use in the NAS is enormous and growing rapidly. As of October 2018, the FAA had registered more than 1.2 million small drones. FMRA tasked the FAA with setting up a regulatory framework to allow the safe integration of UAS in the NAS, which included the requirement that the DOT develop a comprehensive integration plan and complete a rulemaking that will allow for safe civil operation of UAS in the NAS. In June 2016, the FAA issued its first operating rules for small UAS. The FAA small UAS rule was limited to commercial UAS weighing less than 55 pounds. FMRA prohibited the FAA from regulating model aircraft flown for hobby or recreational use; operated in accordance with a community-based set of safety guidelines; weighing not more than 55 pounds unless otherwise certified; operated in a manner that does not interfere with and gives way to any manned aircraft; and when flown within 5 miles of an airport, the operator provided the airport and air traffic control tower with prior notice. This prohibition has been cited as a roadblock to additional FAA rulemakings allowing commercial UAS operators to perform advanced operations, such as those over people and beyond the visual line of the UAS operator.

The *FAA Extension, Safety, and Security Act of 2016* (P.L. 114-190) contained provisions that, among other things, expanded permissible uses of unmanned aircraft under certain conditions, required the FAA to conduct preliminary work toward the creation of an unmanned aircraft traffic management system, and created additional penalties for UAS operators that interfere with certain public safety operations.

FAARA (P.L. 115-254) included several provisions aimed at further accelerating the FAA’s integration of UAS into the NAS. This law establishes the framework for advanced UAS operations, such as package delivery, and enhances the safety of operation of UAS more generally. Most notably, the legislation repeals the FMRA prohibition on FAA regulation of model aircraft flown for hobby or recreational purposes and authorizes the FAA to issue any standards for UAS operations, hobby or commercial, that are necessary to maintain and ensure the safety and security of U.S. airspace.

4. Commercial Space Transportation

Commercial space transportation is regulated by the Secretary of Transportation (51 U.S.C. 509). The Secretary of Transportation has delegated this authority to the FAA, which regulates the commercial space transportation industry through the Office of Commercial Space Transportation

(AST). AST issues licenses and permits launch and reentry of space transportation vehicles, launch sites, and other commercial space-related aviation activities, such as crew training. Commercial space transportation operations must coordinate with the FAA's Air Traffic Organization (ATO) in order to ensure their safe movement and the safety of other aircraft through the NAS. FAA must integrate commercial space transportation operations into a NAS with thousands of different airspace users, including commercial aircraft, general aviation aircraft, and UAS.

5. Certification of Aircraft, Engines, and Components

Among its aviation safety responsibilities, the FAA issues thousands of certificates and approvals annually to operators, manufacturers, repair stations, flight schools, and other regulated entities. These certificates and approvals are based on FAA inspectors' interpretations of federal standards and regulations.

FAARA (P.L. 115-254) included a series of provisions designed to reform the aircraft certification processes to ensure U.S. manufacturers can get products to market faster and compete globally.

6. Airline and General Aviation Safety

The United States operates the largest and safest aviation system in the world. According to NTSB statistics, the number of U.S. air carrier accidents has decreased over the last decade. In 2017, the NTSB reports that there were 0.160 accidents per 100,000 flight hours for part 121 scheduled air carriers, whereas in 1996 there were 0.269 accidents per 100,000 flight hours. Nevertheless, the first fatal commercial airline accident since 2009 occurred on April 17, 2018, when Southwest Airlines 1380 experienced an uncontained engine failure, resulting in loss of an engine inlet and cowling. Fragments struck the airplane's fuselage and damaged a cabin window, killing one passenger onboard. Prior to the April 17 accident, the last fatal commercial airline accident occurred nearly a decade ago, on February 12, 2009, when Colgan Air 3407 crashed in Buffalo, New York, killing all 49 onboard and one person on the ground. According to NTSB statistics, the number of general aviation flight hours increased in 2017 as well as the total number of general aviation accidents since 2015—from 1,210 in 2015 to 1,233 in 2017.

C. NATIONAL TRANSPORTATION SAFETY BOARD

1. Overview

Congress created the NTSB as part of the DOT in the *Department of Transportation Act of 1966* (P.L. 89-670) and mandated that the Safety Board investigate and determine the probable causes of transportation accidents. In the *Independent Safety Board Act of 1974* (P.L. 93-633, title III), Congress separated the NTSB from the DOT and established it as an independent federal agency. The NTSB is responsible for investigating all civil aviation and certain railroad, pipeline, highway, and marine accidents, and issuing recommendations to improve transportation safety. Because the NTSB has no authority to issue regulations, its effectiveness is dependent upon timely accident reports and safety recommendations.

2. Structure

The NTSB is headed by five board members who are nominated by the President and confirmed by the Senate. Two members must be Democratic and two members Republican. The fifth member is typically from the party that controls the White House. All board members serve a five-year term. The President nominates, and the Senate confirms, one of the five members to serve as Chairman for a term of two years.

3. Reauthorization

The latest NTSB reauthorization law was included in FAARA (P.L. 115-254), which was signed into law on October 5, 2018. The legislation authorizes the NTSB for four years, through fiscal year 2022, and includes several provisions aimed at improving transparency of the Safety Board's investigations and enhancing public understanding of its safety recommendations. For example, the reauthorization adds still images to the items the NTSB may publicly disclose during the course of an investigation and requires a methodology section to accompany each of the Safety Board's recommendations. The reauthorization also expands access to assistance for families of rail and aviation accident victims.

D. ACTIVITIES IN THE 115TH CONGRESS

Hearings:

- “Building a 21st Century Infrastructure for America: State of American Aviation Manufacturing”
 - On February 15, 2017, the Subcommittee participated in a hearing on issues related to aviation manufacturing and certification.
- “Building a 21st Century Infrastructure for America: Air Transportation in the United States in the 21st Century”
 - On March 8, 2017, the Subcommittee held a hearing on the current state of the U.S. air transportation industry.
- “Building a 21st Century Infrastructure for America: Enabling Innovation in the National Airspace”
 - On April 4, 2017, the Subcommittee heard from government and industry witnesses on innovation in the NAS, including the new users of the system such as UAS and commercial space vehicles, as well as new or non-traditional aviation business models and operations in U.S. air transportation.
- “The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America”
 - On May 17, 2017, the Subcommittee held a hearing regarding Chairman Shuster's proposal to transfer operational control of the ATC system, which the FAA and its predecessor agency have operated since 1958, to a private, not-for-profit corporation.

- “Building a 21st Century Infrastructure for America: Federal Aviation Administration Authorization”
 - On June 8, 2017, the Full Committee hosted DOT Secretary Elaine Chao for a hearing on Chairman Shuster’s and the Trump administration’s plan to transfer operational control of the ATC system to a private, not-for-profit corporation.
- “Unmanned Aircraft Systems Integration: Emerging Uses in a Changing National Airspace”
 - On November 29, 2017, the Subcommittee held a hearing that included a discussion of, among other things, current law and the FAA’s regulatory framework with regard to UAS operations; the agency’s ongoing programs and partnerships, both inter-governmental and with industry, aimed at enabling the integration of UAS into the NAS; challenges associated with UAS integration; and the benefits, both economic and social, of a strong and thriving UAS industry in the United States.
- “Commercial Space Transportation Regulatory Reform: Stakeholder Perspectives”
 - On June 26, 2018, the Subcommittee held a hearing on the President’s commercial space transportation regulatory reform initiatives and explored industry perspectives on the proposals and effects of a growing industry on the NAS and its users.
- “Counter UAS Issues”
 - On Wednesday, July 11, 2018, the Subcommittee held a roundtable discussion on the policy issues surrounding the authorization and use of counter-UAS technology in the United States.
- Airspace Integration of New Aircraft
 - On September 6, 2018, the Subcommittee held a hearing to explore issues related to the integration of new aircraft, including passenger drones and flying cars, into the NAS.

VII. AIR CARRIERS

A. IMPROVEMENTS TO AIRLINE SAFETY

The Subcommittee’s jurisdiction includes the safety of the U.S. air transportation system. For example, in response to the accident of Colgan Air flight 3407 near Buffalo in 2009, in which 50 people died, Congress enacted the *Airline Safety and Federal Aviation Administration Extension Act of 2010* (P.L. 111-216) to address safety issues that the NTSB and aviation stakeholders had identified for more than a decade.

The *Airline Safety Act of 2010* required the FAA to update pilot flight and duty time limitations based on improved medical and scientific information; to require airlines to implement

safety management systems; and to improve airline pilot qualification requirements, ensuring that first officers and captains alike hold advanced airline transport pilot (ATP) certificates and undergo sufficient training in upset recovery and other emergency procedures, among other things. The FAA has completed these mandates. The *Airline Safety Act of 2010* also requires the FAA to establish an airline pilot record database; the FAA has yet to complete this mandate despite a subsequent imposed deadline of April 30, 2017, established in the *FAA Extension, Safety, and Security Act of 2016* (P.L. 114-190). The FAA reports that while the rulemaking efforts has been delayed, the agency has made significant progress with the database application development and will implement portions of the database ahead of the rulemaking.

FAARA (P.L. 115-254) contains numerous provisions to address current safety issues present in the U.S. air transportation system, including requiring the FAA to update flight attendant rest and duty time limitations; requiring the installation of secondary cockpit barriers on newly manufactured aircraft; and mandating several studies, reviews, and reports aimed at enhancing aviation safety, including on the FAA's enforcement and safety oversight policies, pilot rest and duty rules, general aviation safety, airline engine safety, and accident and incident reporting.

B. ECONOMIC AND MARKET ISSUES AFFECTING AIR CARRIERS

Over the last decade, domestic airline financial performance has fluctuated. In recent years, the U.S. airline industry has shown sustained profitability. In that same timeframe, the industry has consolidated with the four largest U.S. carriers currently representing more than two-thirds of the U.S. domestic market, and approximately more than 80 percent of the total market when including the carriers' use of their regional carrier partners, according to Bureau of Transportation Statistics (BTS) statistics. Consolidation can present issues related to competition and the integration of often highly unionized airline workforces.

With regard to competition issues, mergers are generally reviewed by the Department of Justice (DOJ) to determine their consistency with antitrust law. The DOJ may attempt to block a merger that could violate antitrust laws by filing a civil lawsuit for injunctive relief in federal district court. The DOJ did not challenge the America West/US Airways merger in 2005, the Delta/Northwest merger in 2009, the United/Continental merger in 2010, or the Southwest/AirTran merger in 2011. In 2013, the DOJ filed a lawsuit to block the merger of US Airways and American Airlines but agreed to withdraw the lawsuit after the two airlines agreed to certain asset divestitures to remedy antitrust issues. The DOJ announced on December 6, 2016, that it reached a settlement with the two carriers so that the merger could proceed.

With regard to labor issues, in many cases, mergers trigger federally supervised processes under which workers select union representation and require the negotiation of new collective bargaining agreements covering unionized workers.

In recent decades, large network carriers augmented their own services with those of regional carriers that generally operate smaller aircraft on relatively short routes. Although regional carriers often serve smaller communities, network carriers also rely upon regional carriers to operate certain flights between larger cities, such as Washington-Chicago, Houston-Toronto, New York-Chicago, and Chicago-Atlanta. The use of regional carriers' aircraft in such markets allows network carriers to better match supply and demand throughout the day.

Given regional carriers' share of the domestic market, and in light of a series of regional airline crashes with passenger fatalities culminating with the Colgan accident in 2009, the Subcommittee has conducted oversight to ensure that regional carriers operate safely.

C. LABOR

The *Railway Labor Act of 1926* (as amended through P.L. 112-95) governs labor relations in the railroad and airline industries. The Subcommittee has jurisdiction over aspects of the Act that apply to the aviation industry.

The National Mediation Board (NMB) is the independent federal agency responsible for administering the *Railway Labor Act*. The NMB consists of three members who are appointed by the President for three-year terms and are confirmed by the Senate. Not more than two of the members may be from the same political party. The chairman is selected among members on a rotating annual basis.

The NMB is responsible for mediating disputes over wages, hours, and working conditions for rail and air carriers and their employees. When mediation efforts fail, the parties are encouraged to submit their disputes to binding arbitration. If the parties refuse arbitration, the NMB may certify to the President that an imminent strike may threaten an interruption of commerce. The President can then appoint an Emergency Board to make recommendations for resolution of the disputed issues. Generally, these reports form the basis of a settlement, however, PEBs do not have the authority to impose a settlement on the parties.

In the cases where the PEB recommendations do not produce a settlement, Congress has in the past enacted ad hoc legislation to, among other things, impose new terms and conditions on the parties, require binding arbitration, or continue negotiations.

D. CONSUMER PROTECTION

The Office of the Assistant General Counsel for Aviation Enforcement and Proceedings, including its Aviation Consumer Protection Division, monitors compliance with and investigates violations of the DOT's aviation economic, consumer protection, and civil rights requirements. The Office also provides legal review and support on aviation economic licensing matters, including air carrier licensing.

Specifically, the Aviation Consumer Protection Division enforces regulations to ensure reasonable standards of passenger service, including requirements for airlines to establish tarmac delay contingency plans and customer service plans; apply certain domestic air carrier standards to foreign carriers; increase compensation for denied boarding (over sales); require full fare advertising (i.e., advertise the total cost of a ticket, including all taxes and government fees); and improve flight status change notifications.

The *FAA Extension, Safety, and Security Act of 2016* (P.L. 114-190) contained several provisions to protect air travelers. It required the Secretary of Transportation to promulgate regulations compelling airlines to refund ancillary baggage fees if checked baggage is not timely delivered. It also required the Secretary to consider policies that would require airlines to seat children aged 13 years or younger adjacent to an accompanying family member subject to certain

limitations. Finally, the law changed requirements related to tarmac delays to mitigate unintended consequences of previous DOT rulemaking.

FAARA (P.L. 115-254) included a number of provisions to improve air travel for passengers. It prohibits the involuntary bumping of passengers after they have cleared the gate; requires airlines to promptly refund ancillary fees for services that are not received; bans cell phone calls and the use of e-cigarettes during flights; and establishes a new Aviation Consumer Advocate position at the DOT to help consumers resolve their complaints. In addition, it requires the FAA to set minimum dimensions for passenger seats that are necessary for the safety of passengers and requires all medium and large hub U.S. airports to have private rooms for nursing mothers. It also addresses issues faced by passengers with disabilities, including by requiring the DOT to develop an Airline Passengers with Disabilities Bill of Rights and creating a civil penalty for damage to passengers' wheelchairs and mobility aids. Finally, the law creates a task force on effectively addressing allegations of sexual misconduct on commercial aircraft.

E. ACTIVITIES IN THE 115TH CONGRESS

Hearings:

- “Building a 21st Century Infrastructure for America: Air Transportation in the United States in the 21st Century”
 - On March 8, 2017, the Subcommittee held a hearing on the current state of the U.S. air transportation industry.
- “Oversight of U.S. Airline Customer Service”
 - On May 2, 2017, the Full Committee received testimony from executives of four major U.S. airlines (United, American, Southwest, and Alaska) and Consumers Union, a policy and action division of Consumer Reports, on airline customer service.

VIII. ESSENTIAL AIR SERVICE

The *Airline Deregulation Act of 1978* (P.L. 95-504) phased out most economic regulation of the airline industry. Most notably, it permitted airlines to freely set fares and operate routes of their choosing. The rationale was that market forces, rather than government regulation, would foster an efficient and innovative air transportation system in the long term.

However, Congress recognized that market forces alone would not ensure air service to many small communities since some lack sufficient passenger traffic to profitably sustain scheduled air service. Accordingly, the *Airline Deregulation Act of 1978* created the Essential Air Service (EAS) program to ensure a minimum level of air service to small communities that enjoyed service prior to enactment. The program was originally authorized for 10 years but was later made permanent. The Office of the Secretary of Transportation administers the program, and to qualify for an EAS subsidy, a community must meet requirements established in law.

IX. AVIATION EMISSIONS AND THE ENVIRONMENT

The European Union's Emissions Trading Scheme (EU ETS) began in 2005 by capping emissions of carbon dioxide (CO₂) from stationary sources within the European Union. Under the EU ETS, the European Union auctions a specified number of emissions allowances for each multiyear period, and distributes a certain number of allowances for free. A covered emitter is required to submit to regulatory authorities one allowance for each ton of CO₂ emitted during the period.

Starting in January 2012, civil aviation operators landing in or departing from the European Union were targeted to be included in the EU ETS. This would have meant that all segments of international flights to, within, and from the European Union by U.S. air carriers would have been subject to the EU ETS, including those portions over the United States, Canada, and international waters. There was no requirement that the funds collected should be used for research and development to reduce aviation emissions.

The United States and other countries long objected to the European Union's unilateral imposition of the EU ETS. Many countries, including the United States, have argued that the application of the EU ETS to international civil aviation is a violation of international law. The United States is also concerned with the lack of transparency and whether the EU ETS will be applied equitably by the European Union. If implemented, the EU ETS could result in a competitive disadvantage to U.S. operators and loss of jobs in the U.S. aviation industry.

In November 2012, the President signed the *European Union Emissions Trading Scheme Prohibition Act of 2011* (P.L. 112-200) which directed the Secretary of Transportation to prohibit U.S. air carriers from participating in the EU ETS. The Act also required the Secretary and FAA Administrator to use their authority to negotiate a worldwide approach to address aircraft emissions. In November 2012, the European Union announced a postponement of the application of EU ETS to international flights.

In 2016, a group of nations convened by the International Civil Aviation Organization (ICAO) agreed to a global market-based measure known as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). In contrast to EU ETS, CORSIA has the support of the U.S. Government, U.S. airline industry, and several foreign governments. CORSIA will be implemented in several phases and is expected to fully supplant unilateral initiatives from Europe to regulate CO₂ emissions.

X. AVIATION SECURITY

In 2001, when Congress created the Transportation Security Administration (TSA), the agency became responsible for the screening of commercial passengers, including their persons, carry-on, and checked baggage. Since then, the TSA has developed its screening policies to react to intelligence, technology development, attempted acts of terror, and public feedback. The Subcommittee has jurisdiction over aviation security matters insofar as security threats affect aviation safety and screening procedures affect the flow of passengers and cargo through the aviation system. The Subcommittee also has jurisdiction over cybersecurity related to aircraft, avionics, and the air traffic control system. The first ever TSA reauthorization was included in the *FAA Reauthorization Act of 2018* (P.L. 115-254), signed into law on October 5, 2018.

XI. WAR RISK INSURANCE AND CIVIL RESERVE AIR FLEET

A. WAR RISK INSURANCE

Aircraft insurance is essential to any airline operation. However, commercial insurance companies often will not insure flights to high-risk areas, such as countries at war or countries on the verge of war. In many cases these flights are required to further the foreign policy or national security of the United States. For example, during U.S. war operations in the Middle East, commercial airlines were needed to move troops and equipment.

The war risk insurance program was first authorized in 1951. After the 9/11 terrorist attacks, a premium insurance program was created to address the change in the insurance industry. The premium insurance program expired in December 2014, when Congress did not renew the program's authorities. However, the non-premium insurance program was extended through December 31, 2019. The non-premium war risk insurance program is critical to participants in the Civil Reserve Air Fleet (CRAF) program.

B. CIVIL RESERVE AIR FLEET

Under the CRAF program, airlines perform troop transport and similar missions for the Department of Defense (DOD).

The CRAF program arose during World War II, when the Army Air Force engaged U.S. air carriers to transport U.S. troops to and from combat theatres. In 1951, President Harry S. Truman issued Executive Order 10219 directing that a plan be established for the utilization of the U.S. civilian airlines during a national emergency.

The CRAF program is voluntary. The purpose of the program is to provide civil aircraft to augment DOD's military airlift capability. Without it, the military would have to keep many more aircraft in reserve.

