



Testimony  
Before the Subcommittee on Aviation,  
Committee on Transportation and  
Infrastructure, House of Representatives

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# COVID-19 PANDEMIC

## Preliminary Observations on Efforts toward and Factors Affecting the Aviation Industry's Recovery

Statement of Heather Krause, Director,  
Physical Infrastructure

Accessible Version

## COVID-19 PANDEMIC

### Preliminary Observations on Efforts toward and Factors Affecting the Aviation Industry's Recovery

#### Why GAO Did This Study

International flight restrictions, local stay-at-home orders, and a general fear of contracting and spreading COVID-19 through air travel had a sudden and profound effect on the aviation industry. According to Department of Transportation statistics, passenger traffic was down 60 percent system-wide in 2020 compared to 2019. This reduction in demand has affected airlines, airports, and the entire aviation supply chain.

This testimony is based on ongoing work and provides preliminary observations on the: (1) actions that businesses across the aviation industry have taken to respond to reduced passenger demand, (2) factors that may affect industry recovery, and (3) considerations for federal support to the aviation industry.

GAO examined industry reports and statistics from 2019-2020 and reviewed GAO's body of work on the CARES Act and past financial assistance efforts, including those directed to commercial aviation. GAO also interviewed representatives from domestic passenger, cargo, and regional airlines; large and medium-sized airports; businesses that maintain and manufacture aircraft and engines; and aviation industry and labor groups.

#### What GAO Recommends

GAO will continue to assess these issues as part of ongoing work, and make recommendations as appropriate. GAO has previously made recommendations related to oversight of payroll support assistance for aviation and the development of a national aviation preparedness plan for communicable disease outbreaks.

View [GAO-21-412T](#). For more information, contact Heather Krause at 202-512-2834 or [krauseh@gao.gov](mailto:krauseh@gao.gov)

#### What GAO Found

Aviation businesses took a range of actions to respond to the dramatic reduction in passenger demand caused by the COVID-19 pandemic. Airlines, airports, and others leveraged federal assistance, such as payroll support and grant funding, provided in two 2020 federal relief laws. In 2020, for example, Treasury awarded \$28.2 billion in payroll support assistance for aviation to help airlines and contractors keep employees on their payroll. Industry association and credit rating agency representatives said that federal assistance, in addition to providing direct support, also increased confidence in the aviation industry, which enabled aviation businesses to raise money in private debt and equity markets to strengthen their cash reserves. Some aviation businesses have also reduced labor costs through various means, including through early retirement programs and furloughs. Further, aviation businesses reduced non-labor operating expenditures and certain capital costs. For example, airlines reduced capacity and accelerated the retirement of older aircraft to lower maintenance costs.

The recovery of the aviation industry to pre-pandemic passenger levels depends on factors outside the industry's control—including declines in COVID-19 infections and the recovery of the U.S. and global economies—as well as on industry dynamics in how airlines respond to financial pressures and the changing demand for air travel. Moreover, the effects have been uneven across the commercial aviation industry with certain sectors faring better or worse depending on their business model, customers, and location. For example, according to representatives from an aviation manufacturer, airlines are likely to continue to postpone the delivery and purchases of long-haul aircraft over the next few years to better align with passenger demand. In turn, this would affect demand for aviation manufacturing and aircraft maintenance services.

As the recovery unfolds, Congress may contemplate additional ways to support the aviation industry's recovery. The challenges facing the aviation sector are unprecedented and many uncertainties remain as to the pace and extent of recovery. GAO's previous work on federal assistance to the private sector identified three fundamental principles that can serve as a framework for considering future assistance to the aviation industry. These principles are (1) identifying and defining the problem; (2) determining the national interests and setting clear goals and objectives that address the problem; and (3) protecting the government's interests. In applying these principles, the following issues emerge and may help inform how best to design any response:

- identifying which type of assistance would best help achieve a defined goal;
- targeting support to sectors that have been the most affected;
- helping small communities stay connected to the national transportation system; and
- addressing the longer-term public health impacts of the pandemic on aviation.

Chairman Larsen, Ranking Member Graves, and Members of the Subcommittee:

I am pleased to be here today to discuss our ongoing work assessing the effects of the Coronavirus Disease 2019 (COVID-19) pandemic on the aviation industry.

The COVID-19 pandemic has resulted in catastrophic loss of life and substantial damage to the global economy. International flight restrictions, local stay-at-home orders, and a general fear of contracting and spreading COVID-19 through air travel had a sudden and profound effect on passenger air carriers, airports, and the entire ecosystem of manufacturers, repair stations, and other businesses that comprise the U.S. commercial aviation industry. According to Department of Transportation (DOT) statistics, passenger traffic was down 60 percent system-wide in 2020 compared to traffic levels in 2019. The ripple effect from this unprecedented and sustained reduction in demand has affected airline business models, employment, and the entire aviation supply chain. For example, according to the Bureau of Labor Statistics (BLS), as of November 2020, an estimated 122,600 jobs in the air transportation sector—over 23 percent—have been lost since peak employment levels of 516,900 in February 2020.<sup>1</sup>

As an immediate response to the public health and economic crises, Congress and the administration took a number of actions to provide funds for pandemic relief to aviation businesses. Notably, in March 2020, Congress passed, and the President signed into law, the CARES Act,<sup>2</sup> which appropriated, among other things, \$88 billion to help the nation's aviation industry and airports respond to and recover from the economic effects of the COVID-19 pandemic. This included:

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<sup>1</sup>According to BLS, the air transportation sector includes scheduled air carriers that fly regular routes on regular schedules and operate even if flights are only partially loaded, and non-scheduled carriers that provide chartered air transportation of passengers, cargo, or specialty flying services and often operate at nonpeak time slots at busy airports. Among others, these numbers do not include activities such as airport operations and aerospace manufacturing or repair activities, if conducted by companies other than airlines.

<sup>2</sup>Pub. L. No. 116-136, 134 Stat. 281, 470.

- \$32 billion in payroll support to passenger air carriers, cargo air carriers, and certain aviation contractors to continue paying employee wages, salaries, and benefits;
- Up to \$46 billion for loans and loan guarantees to provide liquidity to aviation and other eligible businesses; and,
- \$10 billion to support U.S. airports of all sizes experiencing severe economic disruption caused by the COVID-19 pandemic.

The Consolidated Appropriations Act, 2021 appropriates an additional \$16 billion to the Department of the Treasury to provide payroll support for passenger air carriers and certain aviation contractors, and \$2 billion for eligible airports and certain tenants.<sup>3</sup> Together, the CARES Act and Consolidated Appropriations Act, 2021 provided certain parts of the aviation sector with economic relief and in return required recipients to generally maintain their employment levels, among other requirements.<sup>4</sup>

At the beginning of 2021, the outlook for U.S. aviation remains uncertain. Demand for air travel remains far below pre-pandemic levels with the exception of certain leisure markets. Notably, the most profitable segments of the aviation industry—international and corporate air travel—have only minimally recovered. Leisure travelers have focused more on domestic and shorter-haul international destinations that are less profitable. Some businesses have relied more heavily on virtual meetings, which has led to a substantial reduction in business trips.

Unlike past disruptive events in aviation, including September 11, 2001, and the economic recession of 2008-2009, passenger airlines entered this crisis in a relatively strong financial position, with 10 consecutive years of industry profit from 2010 through 2019.<sup>5</sup> Nonetheless, some

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<sup>3</sup>Pub. L. No. 116-260, 134 Stat. 1182.

<sup>4</sup>GAO, *COVID-19: Opportunities to Improve Federal Response and Recovery Efforts*, [GAO-20-625](#) (Washington, D.C.: June 25, 2020). Conditions of the two financial assistance programs include prohibitions against involuntary layoffs or furloughs. Some airlines took action to offer early retirement. In addition, through attrition and hiring freezes, airlines were able to reduce headcount. As authorized by the CARES Act and the Consolidated Appropriations Act, 2021, DOT has required scheduled passenger air carriers receiving financial assistance to maintain minimum scheduled passenger service to points in the United States served prior to the pandemic, with some exceptions. Pub. L. No. 116-136, § 4005, 134 Stat. at 477; Pub. L. No. 116-260, § 407, 134 Stat. at 2058-59.

<sup>5</sup>Prior to September 11, 2001, a weakening U.S. economy affected passenger airlines. Throughout the 2000s volatile fuel prices, among other things, also led to financial difficulties and some bankruptcies.

industry analysts have forecast a long, multi-year recovery before aviation passenger traffic returns to 2019 levels. According to several forecasts, multiple uncertainties—ranging from vaccine distribution to additional government-imposed restrictions as a result of new COVID variants—suggest that a return to 2019 traffic levels may not occur until 2023 or later.

My statement today is based on our ongoing examination of the effects of the COVID-19 pandemic on selected aviation sectors—including airlines, airports, manufacturers, and repair stations—and on our extensive body of work on past financial assistance efforts, including those directed to the commercial aviation industry. This statement provides preliminary observations on the: (1) actions that businesses across the aviation industry have taken to respond to reduced passenger demand, (2) factors that may affect industry recovery, and (3) considerations for federal support to the aviation industry.

As part of our ongoing work, we reviewed a range of aviation industry reports, financial data, government statistics from 2019-2020, and documentation from selected businesses. We also interviewed a range of entities, including representatives from domestic passenger, cargo, and regional airlines; large and medium hub airports; manufacturers of commercial and general aviation aircraft and engines; repair station operators that perform inspections and maintenance on aircraft; and multiple industry associations and labor groups representing a cross-section of aviation interests. Interviews with selected businesses provided insights on the effects of the pandemic and the actions certain businesses and sectors have taken in response. Furthermore, we interviewed representatives from credit rating agencies and several industry analysts to gain insight on the uncertainties the industry faces as it looks toward recovery. The results of these interviews are not generalizable to the entire commercial aviation industry. When completed, our ongoing work will include actions DOT and the Federal Aviation Administration (FAA) have taken to help the industry respond to the pandemic and the effects of those actions on industry businesses, as well as aviation stakeholders' perspectives on the effects of the CARES Act. We plan to complete this work by summer 2021.

The ongoing work on which this statement is based is being conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

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the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Aviation Businesses Took a Range of Actions to Respond to Reduced Passenger Demand

In response to reduced passenger demand brought by the COVID-19 pandemic, aviation businesses quickly implemented measures to reduce financial losses and position themselves for recovery to pre-pandemic levels. These actions included leveraging federal assistance, raising money in private markets, and reducing labor, operating, and capital expenditures.

To obtain needed funding to respond to impacts from the pandemic, a wide range of aviation industry businesses leveraged the federal financial support from the CARES Act and the Consolidated Appropriations Act, 2021. According to representatives from airlines and credit rating agencies, the federal government's early support via the CARES Act helped to quickly provide stability to the aviation industry. For example:

- As of October 2020, Treasury provided \$28.2 billion in financial assistance from the CARES Act Payroll Support Program to help airlines and contractors keep employees on their payroll. Treasury is currently providing another \$16 billion in financial assistance for the Consolidated Appropriations Act, 2021 Payroll Support Program.<sup>6</sup>
- Treasury executed loans totaling up to \$21.2 billion that allowed 24 aviation-related businesses to bridge revenue declines and pay for ongoing expenses, including payroll and rent.<sup>7</sup>
- Airports received approximately \$10 billion in grants under the CARES Act, and FAA is currently allocating another \$2 billion

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<sup>6</sup>Treasury executed Payroll Support Program agreements with 352 passenger air carriers, 38 cargo air carriers, and 220 aviation contractors. Total demand by cargo air carriers for these funds was far below the \$4 billion authorized for these carriers, so about \$3 billion of funds in this category were not awarded.

<sup>7</sup>Of the \$21.2 billion in loans, most of the loan assistance—nearly \$20.8 billion—was provided to seven major passenger air carriers.

provided under the Consolidated Appropriations Act, 2021.<sup>8</sup> These grants allow airports to fund their operations and meet their ongoing debt payments.<sup>9</sup>

- Some aviation businesses, such as air carriers and contractors, applied and were approved for Paycheck Protection Program loans to help sustain them through the period of decreased demand.<sup>10</sup>

Representatives from airlines and manufacturers also reported using the tax provisions in the CARES Act to bolster their liquidity.<sup>11</sup> In addition, commercial aviation operators benefited from the CARES Act provision

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<sup>8</sup>Both the CARES Act and Division M of the Consolidated Appropriations Act, 2021—also known as the Coronavirus Response and Relief Supplemental Appropriations Act, 2021—give FAA the authority to retain up to 0.1 percent of the funds provided for Grants-in-Aid for Airports to fund the award and oversight by FAA of grants made under the respective Acts. Pub. L. No. 116-136, 134 Stat. at 597; Pub. L. No. 116-260, div. M, tit. IV, 134 Stat. at 1941.

<sup>9</sup>FAA has begun to collect data from airports on general spending categories for CARES Act funding through grant close-out reports, but officials said that they have limited information until airport sponsors draw down all funds for reimbursed costs. While FAA collects these data, officials said airports are generally using CARES Act funds on payroll, utilities, minor maintenance, and debt service. Although FAA officials have not yet obligated or expended any Consolidated Appropriations Act, 2021 funding, airport associations said that airport sponsors generally plan to use these grants to pay for operational expenses and costs related to mitigating effects of the COVID-19 pandemic, such as cleaning and sanitation, social distancing measures, and upgrading heating and cooling systems.

<sup>10</sup>The CARES Act and the Paycheck Protection Program and Health Care Enhancement Act appropriated a total of \$670 billion for the Paycheck Protection Program (PPP) under the Small Business Administration's 7(a) small business lending program. PPP loans are made at 1 percent interest and will be fully forgiven if certain conditions are met. These loans can be used for payroll and certain non-payroll costs. In general, small businesses with 500 or fewer employees, including tax-exempt nonprofit organizations, veteran's organizations, and tribal businesses were eligible. Businesses in certain industries with more than 500 employees were eligible for loans.

<sup>11</sup>Airlines and aviation manufacturers reported using tax provisions of the CARES Act, including deferring employer payroll taxes, claiming employee retention credits, and carrying back five years net operating losses arising in tax years beginning in 2018, 2019, and 2020. Pub. L. No. 116-136, §§ 2301-2303, 134 Stat. at 347-56. The Consolidated Appropriations Act, 2021 made a number of changes to these provisions, including extending the availability of credits, among other changes. Pub. L. No. 116-260, div. N, §§ 206-207, 134 Stat. at 3059-3066.

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suspending certain commercial air transportation taxes, including those on passenger tickets, cargo, and fuel.<sup>12</sup>

Industry associations and credit rating agencies told us that assistance from the CARES Act provided a degree of assurance in the stability of the market that enabled private lenders to invest in the aviation industry with greater confidence that they would be able to recoup their investments. For example, major U.S. passenger airlines added an estimated \$59 billion in private and federal long-term debt by the end of 2020, with their expected interest expenses to more than double in the next few years, according to one industry association. In some cases, businesses pursued private refinancing instead of pursuing government financial support options. For example, Boeing was able to issue \$25 billion in new long-term debt in April 2020 to bolster its liquidity and thus did not pursue any CARES Act loans.

At the same time that some airlines and other aviation businesses were strengthening their cash reserves through federal support and private financing, they also implemented broad cost-cutting measures, including reducing their labor costs. Airlines and airports sought to reduce their payroll expenses by, among other things, offering early retirement and voluntary separation programs, voluntary unpaid leave programs, freezing non-essential hiring, reducing executive and management compensation, and in some cases, involuntary furloughs and layoffs. For example, Delta Air Lines reported that 50,000 employees took unpaid leaves of absence and approximately 18,000 employees participated in its early retirement and voluntary separation programs from April 1 through December 31, 2020. American Airlines reported reducing its management and support staff team by approximately 5,100 positions (30 percent) and that more than 20,000 of its employees opted for an early retirement or long-term paid leave. Manufacturers and repair station operators have also reduced their workforces through reductions to employees' hours, layoffs, and furloughs, and in some cases, closing facilities. For example, one large manufacturer of airplane engines permanently reduced its global workforce by approximately 25 percent, while a general aviation aircraft

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<sup>12</sup>Pub. L. No. 116-136, § 4007, 134 Stat. at 477. In October 2020, Congress moved \$14 billion from the Treasury General Fund into the Airport and Airway Trust Fund. Continuing Appropriations Act, 2021 and Other Extensions Act, Pub. L. No. 116-159, § 1205, 134 Stat. 709, 728.

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manufacturer told us that more than 600 employees were impacted when it permanently closed a facility in California.

Airlines also took actions to reduce non-labor operating expenditures as well as certain capital costs. For example, some passenger airlines quickly reduced their capacity and the reach of their networks by reducing flight frequencies, aircraft size, and the number of airports served.<sup>13</sup> Airlines also accelerated the retirement of older aircraft to reduce maintenance costs and streamline their fleets. For example, American Airlines accelerated the retirement of a number of aircraft including certain Airbus A330, Boeing 757 and Boeing 767 models, and certain regional aircraft. According to American Airlines' publically available financial reports, these aircraft retirements provide cost savings and efficiencies associated with operating fewer aircraft types by removing complexity from the airline's operations. Airlines also placed aircraft in temporary storage. For example, representatives from one airline told us they parked 44 of their older Airbus A320 aircraft because they were less fuel efficient than other aircraft in their fleet. Airlines also delayed and deferred delivery of new aircraft. For example, according to company reports, Spirit Airlines deferred some of its aircraft deliveries originally scheduled for 2020 and 2021.

In addition to airlines, other aviation entities took similar actions to reduce non-labor operating expenditures and capital costs. Many airports reported deferring or delaying capital development projects. For example, representatives from one medium hub airport told us the airport had paused a \$1.5 billion expansion project that includes the addition of 16 new gates, a seven-story parking garage, new cargo facility, and several other improvements to the airport. Several airports accelerated the timeline of some capital projects to take advantage of project savings that could be realized as the result of reduced passenger traffic. Representatives from a large hub airport said that reduced passenger traffic allowed them to reduce costs and accelerate a taxiway replacement and runway projects because they did not have to pay overtime costs or costs for construction during the night. Some aircraft manufacturer representatives told us they reduced spending on research

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<sup>13</sup>As noted previously, as authorized by the CARES Act and the Consolidated Appropriations Act, 2021, DOT has required scheduled passenger air carriers receiving financial assistance to maintain minimum scheduled passenger service to points in the United States served prior to the pandemic, with some exceptions. For example, DOT has been exempting carriers from serving certain points where it is not reasonable or practicable to serve all points or all frequencies in their service obligations. Pub. L. No. 116-136, § 4005, 134 Stat. at 477; Pub. L. No. 116-260, § 407, 134 Stat. at 2058-59.

and development, marketing, and advertising, and deferred capital expenditures. Representatives from repair stations told us they closed facilities, delayed previously planned expansions, and deferred other capital expenditures.

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## Aviation Industry Recovery Depends on the Public Response to the Pandemic, Economic Recovery, and Industry Responses to these Uncertainties

The aviation industry's recovery to pre-pandemic passenger levels depends on external factors, including pandemic-related public health outcomes and economic improvement, and how the aviation industry responds to the financial pressures and changes in demand associated with these uncertainties.

As noted earlier, industry recovery is highly dependent on factors outside the aviation industry's control, most notably pandemic-related public health outcomes and the general recovery of the U.S. and global economies. According to several industry forecasts, public health factors include the pace and acceptance of COVID-19 vaccination; ongoing public adherence to measures to mitigate disease transmission, such as physical distancing and mask-wearing; the spread and impact of different variants of the virus that causes COVID-19; the ability to standardize international travel restrictions; and traveler sentiment and public confidence in the safety of air travel. Airline representatives are optimistic that air travel demand will pick up in the second half of this year as a significant portion of the flying public become vaccinated. Similarly, economists project that the economy will also recover in the second half of 2021 as employment levels, consumers' disposable income, business growth, and the associated demand for corporate travel all rebound.

However, while many are optimistic for a post-pandemic economic recovery, the speed and degree to which the aviation industry will be able to rebound is likely to vary across different industry sectors. Credit rating agency representatives told us that low-cost, leisure-oriented airlines are likely to recover faster than network airlines that rely more heavily on business and international travelers.

Airlines' responses to financial pressures will also likely impact other aviation businesses, including potentially delaying demand for their services. For example, airlines are likely to continue to delay delivery and defer purchases of new aircraft, especially long-haul aircraft, to better align with anticipated demand for domestic travel over the next few years, according to representatives from an aviation manufacturer. According to the consulting firm Oliver Wyman, as many as 4,700 aircraft that had been on the production schedule at the beginning of 2020 will no longer be built as scheduled, which will have a significant impact on the midsize and larger parts suppliers that supply larger airframe and engine manufacturers.

Additionally, credit rating agency representatives told us that repair station operators will likely be affected as airlines may conserve cash by using up existing inventories of spare parts and managing their fleet where possible to limit maintenance requirements. Those representatives told us this could cause demand for repair station services and parts to lag a recovery in air travel.

Representatives from an aviation manufacturer also told us that changes in demand for aircraft may result in the loss of key skill sets as manufacturing businesses reduce employment and skilled aviation workers migrate to other industries. We have previously reported on industry concerns that an insufficient supply of certain aviation professionals—including those involved in aviation manufacturing—could develop as a result of retirements and a perception that fewer people are entering aviation professions.<sup>14</sup>

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## Considerations for the Federal Role in Assisting the Aviation Sector

In response to past economic crises, we have recommended a framework for evaluating federal assistance to an industry; this framework may be useful to Congress in considering any future support to the aviation

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<sup>14</sup>GAO, *Aviation Workforce: Current and Future Availability of Aviation Engineering and Maintenance Professionals*, [GAO-14-237](#) (Washington, D.C.: Feb. 28, 2014).

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sector.<sup>15</sup> We have identified three fundamental principles that should be considered when providing large-scale federal assistance.

- **Identify and define the problem.** The government should clearly identify and define the specific problems confronting the industry— separating out those that require an immediate response from those structural challenges that will take more time to resolve.
- **Determine national interests and set clear goals and objectives that address the problem.** After defining the problem, Congress must determine whether a legislative solution best serves the national interest.
- **Protect the government’s interest.** Because the pandemic assistance programs pose a significant financial risk to the federal government, appropriate oversight should continue to be included in any future federal program to ensure that policy objectives are achieved and to provide some level of protections for taxpayers.<sup>16</sup>

As discussed earlier in this statement, the challenges facing the aviation sector are unprecedented and many uncertainties remain as to the pace and extent of recovery in the coming years. Congress has already determined that the benefits of immediate federal intervention exceed the costs of a potential industry collapse that could result in firm closures, layoffs of highly skilled aviation workers, and the loss of critical transportation infrastructure amid a pandemic. As we enter the second year of the pandemic and the pace and duration of recovery becomes clearer, Congress can use the principles outlined above as it considers any additional steps to assist the aviation industry. Evaluating the government’s response against these principles can help structure a

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<sup>15</sup>See, for example, GAO, *Auto Industry: A Framework for Considering Federal Financial Assistance*, [GAO-09-247T](#) (Washington, D.C.: Dec 5, 2008), *Commercial Aviation: A Framework for Considering Federal Financial Assistance* [GAO-01-1163T](#), (Washington, D.C.: Sep 20, 2001), *Troubled Financial Institutions: Solutions to the Thrift Industry Problem*, [GAO/GGD-89-47](#) (Washington, D.C.: Feb. 21, 1989), *Resolving the Savings and Loan Crisis*, [GAO/T-GGD-89-3](#) (Washington, D.C.: Jan. 26, 1989), *Options For Dealing With Farm Credit System Problems* [GAO/T-GGD-87-11](#) (Washington, D.C.: April 7, 1987), *Guidelines for Rescuing Large Failing Firms and Municipalities*, [GAO/GGD-84-34](#) (Washington, D.C.: Mar. 29, 1984).

<sup>16</sup>With respect to Treasury’s oversight of the Payroll Support Program, we recommended in November 2020 that Treasury develop and implement a compliance monitoring plan that identifies and responds to identified program risks and addresses potential fraud. Treasury neither agreed nor disagreed with our recommendation but committed to reviewing additional measures that may further enhance its compliance monitoring. See GAO, *COVID-19: Urgent Actions Needed to Better Ensure an Effective Federal Response*, [GAO-21-191](#) (Washington, D.C.: Nov. 30, 2020).

response that best supports the aviation industry, while simultaneously protecting taxpayers' interests.

As Congress contemplates future support to aid the aviation industry's recovery, the following issues emerge in light of the three aforementioned principles and may help inform how best to design any response:

- **Identifying the right type of assistance.** Defining the goals and objectives for future assistance would help Congress and program administrators determine which tools are needed and most appropriate to support an aviation industry recovery following the pandemic. While Congress has already provided financial assistance in the form of grants, loans, loan guarantees, and cost sharing programs, other mechanisms could play a role in supporting the highly skilled U.S. aviation workforce depending on the nature of the recovery. For example, worker retention incentives, aviation workforce retraining, and efforts to strengthen the pipeline of new applicants for careers in aviation manufacturing and maintenance, among others, could help prepare the workforce to be ready as air travel demand returns. In addition, investing in research and development to support the competitiveness and sustainability of the aviation industry can help maintain U.S. leadership in civil aviation.
- **Targeting assistance to sectors that have the greatest need.** The pandemic has resulted in uneven effects across the commercial aviation industry with certain sectors faring better or worse depending on their business model, customers, and location. For example, domestic cargo airlines have experienced an increased demand for service compared to the decreased demand for passenger service. Recognizing this, Congress did not extend assistance to cargo airlines under the second round of aviation financial assistance. Furthermore, the pace of recovery for domestic passenger airlines has been uneven, with some low-cost airlines returning to profitability much faster than larger network airlines that rely more heavily on international and business passengers. These dynamics are also at play within the aviation supply chain as, according to one consulting firm, suppliers that provide services to other industries may have an advantage over those tied to aviation manufacturing. Suppliers with military business may also be in a comparatively better financial position. Finally, assistance should be directed to businesses or sectors directly impacted by the pandemic over those that experienced losses because of other unrelated events, such as safety problems or declining market share.

- **Ensuring access to the national air transportation system.** Communities of all sizes seek access to air service as a driver for attracting investment, generating employment, and providing mobility for citizens. However, small communities were collectively losing air service prior to the pandemic, and we have evaluated various changes to existing subsidy programs.<sup>17</sup> As authorized by the CARES Act and Consolidated Appropriations Act, 2021, DOT has required air carriers receiving loans to maintain some service levels to small communities. In addition, the Consolidated Appropriations Act, 2021 allocates up to \$5 million of the \$45 million appropriated for Grants-in-Aid for Airports to carry out the Small Community Air Service Development Program, and directs DOT to prioritize allocating the funding to communities that have had air carrier service reduced or suspended as a result of the coronavirus pandemic.<sup>18</sup> However, once the CARES Act-related assistance ends, some small communities may face a reduction in or complete loss of air service. Amid other concerns, Congress could consider some additional near term steps to preserve a minimum level of service to small communities until the airline industry more broadly recovers.
- **Addressing the longer-term public health implication of the pandemic on aviation.** As the aviation industry adjusts to current and near-term demand, the federal government has an important role to play in mitigating the effects of the pandemic and helping the industry plan for a “new normal” in the years ahead. Much remains uncertain at this point, but several airports we interviewed told us that they expect a range of new technologies and processes to be implemented across the air travel experience to make flying safer for the public, some of which could benefit from federal government evaluation and support. For example, airlines and airports have started—and are expected to continue—to introduce touchless technology to reduce opportunities for disease transmission at check-in and boarding. Airports are also expected to grapple with new consumer habits and expectations around social distancing that may have profound implications for the design of air terminals as well as concession

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<sup>17</sup>GAO, *Commercial Aviation: Effects of Changes to the Essential Air Service Program, and Stakeholders' Views on Benefits, Challenges, and Potential Reforms*, [GAO-20-74](#) (Washington, D.C.: Dec 10, 2019), *Small Community Air Service Development: Process for Awarding Grants Could Be Improved*, [GAO-19-172](#) (Washington, D.C.: Mar 26, 2019), and *Commercial Aviation: Status of Air Service to Small Communities and the Federal Programs Involved*, [GAO-14-454T](#) (Washington, D.C.: Apr 30, 2014).

<sup>18</sup>Pub. L. No. 116-260, div. M, tit. IV, 134 Stat. at 1941.

businesses. The federal government is exploring the use of digital vaccine certificates for use in international travel, but the standards, solutions, and information security issues for digital health passports or other measures are not yet defined.<sup>19</sup> Other aspects of the public health response to the pandemic have only begun, including efforts to develop robust contact tracing and data sharing between governments and airlines. Finally, the entire aviation industry could benefit from the development of a national aviation-preparedness plan for communicable diseases, a recommendation we made to the Department of Transportation in 2015 that has not been implemented.<sup>20</sup>

As part of our ongoing work, we will continue to assess how DOT and FAA are supporting industry recovery. This work includes examining how DOT and FAA are supporting research and development related to protecting the health of air travelers during pandemics while also maintaining aviation safety, security, and efficiency.

Chairman Larsen, Ranking Member Graves, and Members of the Subcommittee, this completes my prepared remarks. We will continue to assess these issues as part of our ongoing work, including making recommendations as appropriate, and will be happy to assist the Subcommittee as you work to support the aviation industry's recovery from the pandemic. I would be pleased to respond to any questions that you or other Members of the Subcommittee may have at this time.

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## GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this statement, please contact me at (202) 512-2834 or [krauseh@gao.gov](mailto:krauseh@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement.

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<sup>19</sup>Promoting COVID-19 Safety in Domestic and International Travel, § 5(e), 86 Fed. Reg. 7205, 7207 (Jan. 26, 2021).

<sup>20</sup>In the absence of efforts to develop a national aviation preparedness plan, in June 2020, we urged Congress to take legislative action to require the Secretary of Transportation to work with relevant agencies and stakeholders to develop such a plan. See [GAO-20-625](#) and *Air Travel and Communicable Diseases: Comprehensive Federal Plan Needed for U.S. Aviation System's Preparedness*, [GAO-16-127](#) (Washington, D.C.: Dec 16, 2015).

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**Letter**

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