



March 2024

COMMERCIAL AVIATION

Key Lessons from COVID-19 Preparedness and Emergency Financial Assistance to the Industry

GAO Highlights

Highlights of [GAO-24-106754](#), a report to congressional addressees

Why GAO Did This Study

The COVID-19 pandemic resulted in catastrophic loss of life and profoundly affected the aviation industry. In April 2020, U.S. commercial airline traffic fell to 3 million passengers, a 96 percent decrease from April 2019. The federal government responded in many ways, including by providing \$132 billion in financial assistance to airlines, aviation and other businesses, and airports.

GAO was asked to identify lessons from COVID-19. This report examines key lessons GAO identified from the federal government's (1) preparedness and response to disease transmission in air travel and (2) financial assistance to the aviation industry.

GAO reviewed its body of work on aviation and the pandemic, which includes over 20 reports, to identify relevant lessons. GAO also reviewed documents from offices of inspector general and aviation stakeholders as well as interviewed officials from DOT and Treasury.

What GAO Recommends

GAO previously made one recommendation to DOT and two matters for Congress on federal leadership. Congress addressed one matter by requiring DOT to develop a preparedness plan for disease outbreaks. DOT needs to develop the plan to address GAO's 2015 recommendation, which DOT aims to do by the end of 2024. For the other matter, Congress has not yet directed FAA to develop a communicable disease research strategy. GAO will continue to monitor the federal COVID-19 response, including DOT's and Treasury's plans to gather aviation lessons learned.

View [GAO-24-106754](#). For more information, contact Heather Krause at (202) 512-2834 or krauseh@gao.gov.

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What GAO Found

A key lesson from GAO's prior work is that greater federal leadership could benefit both aviation pandemic **preparedness** and disease mitigation **research**.

- The Department of Transportation (DOT) has not developed a national aviation **preparedness** plan for communicable disease outbreaks as GAO recommended in 2015. Such a plan is needed to avoid the piecemeal response seen early in the COVID-19 pandemic. Stakeholders GAO spoke to in 2020 and 2021 said confidence in air travel could have been restored more quickly with greater federal coordination. At GAO's urging, Congress passed legislation in December 2022 requiring DOT to develop the plan.
- In July 2022, GAO reported that federal leadership was needed to advance **research** on disease transmission in air travel, including real-world situations and the effectiveness of mitigation efforts. GAO recommended Congress direct the Federal Aviation Administration (FAA) to develop a research strategy, which Congress had not done as of March 2024.

DOT and FAA officials stated in 2023 and 2024 that they have actions underway to develop the preparedness plan and identify needed research. By implementing GAO's recommendations, DOT and other aviation stakeholders would be better positioned to address a communicable disease threat while minimizing unnecessary aviation disruptions which were significant in the case of COVID-19.

Key lessons from GAO's work on four COVID-19 aviation financial assistance programs—the Department of the Treasury's Payroll Support Program (PSP) and CARES Act loan program and DOT's Airport Grants and Aviation Manufacturing Jobs Protection Program—include the following.

- **Financial and other safeguards**, when developed before distributing assistance, can help agencies minimize risks associated with emergency funding. DOT and Treasury quickly awarded funds but did not always have safeguards in place in a timely manner. For instance, Treasury did not quickly implement a monitoring plan for PSP.
- **Multiple programs or paths within a program** may better accommodate businesses of varying types and sizes. Businesses eligible for the PSP and loan programs ranged from large airlines to ticket agents with a handful of employees. Large airlines viewed the programs favorably, but small businesses reported challenges accessing funds.
- **Clear communication** with eligible entities is important for new or expanded funding programs. Some program applicants reported confusion—e.g., small businesses new to applying for federal funding—regarding issues such as eligibility requirements and expected funding time frames.
- **Workforce retention** requirements were a part of all four programs, but airlines still struggled with sufficient staffing to handle air traffic when it recovered. The aviation industry credited the funding programs, especially the PSP, in providing critical support. But factors such as early retirements and pauses on employee training also affected airline workforce levels.

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Abbreviations

AMJP	Aviation Manufacturing Jobs Protection program
CBP	Customs and Border Protection
CDC	Centers for Disease Control and Prevention
DHS	Department of Homeland Security
DOT	Department of Transportation
ERC	employee retention credit
FAA	Federal Aviation Administration
HHS	Department of Health and Human Services
Loan program	CARES Act Section 4003 Loan Program
OIG	Office of Inspector General
PPP	Paycheck Protection Program
PSP	Payroll Support Program
SARS	sudden acute respiratory syndrome
TSA	Transportation Security Administration

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March 18, 2024

Congressional Addressees

The COVID-19 pandemic resulted in catastrophic loss of life and damage to the global economy, with the U.S. aviation industry among many industries profoundly affected. U.S. commercial airline passenger traffic reached its lowest levels in April 2020, when traffic fell to 3 million passengers system-wide, a 96 percent decrease from April 2019.¹ The federal government responded in many ways, including by providing \$132 billion in financial assistance to airlines, aviation and other businesses, and airports.

We began reporting on COVID-19 within months of the pandemic, first testifying on aviation and COVID-19 in June 2020.² While the pandemic was unfolding, we continued to regularly report on the response by the federal government and aviation industry. Our work in this area spans over 20 products, including comprehensive reports and testimonies.³ We made a number of recommendations and matters for congressional consideration as well as identified lessons learned regarding the COVID-19 response. As the federal public health emergency for COVID-19 expired on May 11, 2023, there is an opportunity to gather lessons

¹GAO, *COVID-19 Pandemic: Observations on the Ongoing Recovery of the Aviation Industry*, [GAO-22-104429](#) (Washington, D.C.: Oct. 21, 2021).

²See GAO, *Air Travel and Communicable Diseases: Status of Research Efforts and Action Still Needed to Develop Federal Preparedness Plan*, [GAO-20-655T](#) (Washington, D.C.: June 23, 2020). The World Health Organization characterized COVID-19 as a pandemic on March 11, 2020.

³The CARES Act of 2020 included a provision for GAO to report regularly on the effects of the pandemic and the federal response. CARES Act, Pub. L. No. 116-136, § 19010(c), 134 Stat. 281, 580 (2020). We will continue our oversight of the federal response to the COVID-19 pandemic. As part of this work, we plan to examine the Department of Transportation's and the Department of Treasury's plans to gather aviation lessons learned from the pandemic. For all of GAO's COVID-19 oversight reports, see <https://www.gao.gov/coronavirus>.

learned from our prior work to better prepare the aviation sector for future communicable disease outbreaks.⁴

The CARES Act includes a provision for us to report on our ongoing monitoring and oversight efforts related to the COVID-19 pandemic.⁵ This report is a part of that body of work. We also were asked to assess the response to COVID-19 and provide lessons learned that could assist with pandemic preparedness planning as it pertains to aviation. This report examines key lessons we have identified from the federal government's (1) preparedness for and response to COVID-19 disease transmission in air travel and (2) financial assistance to support the aviation industry during the COVID-19 pandemic.

For both objectives, we reviewed our body of work on COVID-19 and aviation, encompassing over 20 products from June 2020 to July 2023. In this prior work, we interviewed stakeholders about their perspectives, including representatives from selected industry associations, airlines, and airports. We reviewed these products to identify lessons regarding preparedness, response, and financial assistance. We also examined our findings specific to aviation and the pandemic. For this study, we also interviewed officials from the Department of Transportation (DOT) and the Department of the Treasury to learn about the current status of DOT's and Treasury's programs and prior GAO recommendations, as well as to gain the agencies' perspectives on lessons learned.

For this study we also reviewed the following:

- Reports from Offices of Inspector General (OIG)—specifically the DOT OIG, Treasury OIG, and the Special Inspector General for Pandemic Recovery.
- Documents and reports from industry associations and other aviation stakeholders, such as relevant testimonies from airline representatives.

⁴The Secretary of Health and Human Services first declared a public health emergency under section 319 of the Public Health Service Act on January 31, 2020. On March 13, 2020, the President declared COVID-19 a national emergency under the National Emergencies Act and subsequently a nationwide emergency under section 501(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). The national emergency declaration terminated on April 10, 2023, and the Stafford Act declarations terminated on May 11, 2023.

⁵Pub. L. No. 116-136, § 19010(b)-(c), 134 Stat. 281, 580 (2020).

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- Academic and policy papers published from 2020 through 2023 that we identified through a literature search. The literature search focused on lessons learned from the federal response to COVID-19 disease transmission on aircraft and from federal financial assistance to support the aviation industry during the pandemic.
 - Documents from DOT and Treasury, such as presentations on communicable disease research efforts by the Federal Aviation Administration (FAA) and financial assistance program status documentation.

To identify lessons learned from the federal financial assistance provided to the aviation industry, we focused on four key programs that were authorized under COVID-19 relief legislation and were largely designed to provide direct assistance the aviation industry: the Payroll Support Program (PSP), the CARES Act loan program (loan program), Airport Grants, and the Aviation Manufacturing Jobs Protection program (AMJP). Other COVID-19 federal assistance the aviation industry was eligible for was outside the scope of our review, such as the suspension of aviation excise taxes,⁶ programs such as the Paycheck Protection Program and

⁶Congress suspended through calendar year 2020 certain aviation excise taxes on air transport of people, cargo, and aviation fuel. CARES Act, Pub. L. 116-136, § 4007, 134 Stat. 281, 477 (2020). In October 2020, Congress appropriated \$14 billion to the Airport and Airway Trust Fund, the income of which had been affected by reduced revenues from air travel during the pandemic and the CARES Act's suspension of aviation excise taxes. Continuing Appropriations Act, 2021 and Other Extensions Act, Pub. L. No. 116-159, § 1205, 134 Stat. 709, 728 (2020).

the Main Street Lending Program,⁷ and various employer and business tax provisions.⁸

We conducted this performance audit from April 2023 to March 2024 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Effect of COVID-19 on the U.S. Aviation Industry

The COVID-19 pandemic, along with public health-related restrictions and precautions taken by consumers, resulted in an extraordinary shock to the economy and the aviation industry. The airline industry has been affected by several past shocks, such as the 9/11 terrorist attacks and the 2003 sudden acute respiratory syndrome (SARS) outbreak. However, COVID-19 caused an unprecedented and sudden reduction in demand for U.S. passenger airlines. As the industry group Airlines for America testified to Congress, passenger traffic levels dropped to levels that had

⁷For our most recent report examining the Main Street Lending Program, see GAO, *Federal Reserve Lending Programs: Status of Monitoring and Main Street Lending Program*, [GAO-24-106482](#) (Washington, D.C.: Dec. 22, 2023).

⁸Starting in March 2020, Congress passed several laws providing employers with tax relief. One tax provision in these laws was the Employee Retention Credit (ERC), encouraging employers to keep employees on their payroll. An eligible employer was able to claim the ERC in 2020 when it experienced either (1) full or partial suspension of operations due to government orders during any quarter or (2) a significant decline in gross receipts, more than 50 percent for the same quarter in 2019. We reported that industries involved in air transportation and warehousing claimed about \$621 million in ERCs, while those involved in the manufacturing of transportation equipment claimed about \$393 million in ERCs in 2020. We found the Internal Revenue Service (IRS) took some steps to plan for compliance risks associated with the ERC. However, we made five recommendations, including that IRS develop a compliance plan consistent with project management principles, document compliance processes for adjusted returns and tax credits using restricted wages, and identify ineligible entities. IRS agreed with two of the recommendations and disagreed with three, stating that its current processes are sufficient. GAO maintained that the recommendations were warranted. See GAO, *COVID-19: IRS Implemented Tax Relief for Employers Quickly, but Could Strengthen Its Compliance Efforts*, [GAO-22-104280](#) (Washington, D.C.: May 17, 2022).

not been seen since the 1950s as a result of COVID-19.⁹ Air travel, more than any other transportation mode, creates the potential for communicable disease to move quickly from one part of the world to another.¹⁰

Although the industry entered the COVID-19 crisis in a relatively strong financial position, U.S. passenger airlines lost billions from 2020-2022, according to Airlines for America. The recovery of air traffic and industry profitability also took time. After plummeting in 2020, passenger demand for air travel started rebounding in spring 2021 and began to reach and exceed pre-pandemic levels in 2023. The International Air Transport Association reported that U.S. domestic traffic grew above pre-pandemic levels in January 2023.¹¹

Pandemic Preparation and Response

In the U.S., preparing for, assessing, and responding to communicable disease threats in the civil aviation system require immense coordination among several federal agencies and aviation stakeholders, such as airports and airlines. Each federal agency has a different mission, which affects its role in protecting against communicable disease threats. According to DOT officials, leadership roles can vary depending on the situation. The Department of Homeland Security (DHS) and Department of Health and Human Services (HHS) can lead the federal government's response to a communicable disease threat. Examples of agency roles include the following:

- DHS's component agency, the Transportation Security Administration (TSA), focuses on securing the nation's transportation sector, including aviation. This involves screening passengers and issuing security requirements with which airlines and airports must comply. Meanwhile, U.S. Customs and Border Protection (CBP), also within DHS, processes international travelers at airports and other ports of entry.

⁹*Prepare for Takeoff: America's Safe Return to Air Travel, Hearing on SR-253, Before the U.S. Senate Committee on Commerce, Science, and Transportation Subcommittee on Aviation Safety, Operations, and Innovation, 117th Cong. (2021)* (statement of Nick Calio, President and CEO, Airlines for America).

¹⁰[GAO-20-655T](#).

¹¹International Air Transport Association, *Air Passenger Market Analysis: January 2023* (Geneva, Switzerland, March 8, 2023).

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- The Centers for Disease Control and Prevention (CDC), within HHS, protects the nation from public health threats, both foreign and domestic.
 - FAA, within DOT, is the principal federal agency responsible for overseeing civil aviation and the safe and efficient movement of air traffic in the national airspace system. In addition, FAA supports and coordinates a range of research and development activities for the civil aviation system. DOT also has authorities related to international air transport agreements, among other responsibilities.

In our December 2015 report addressing communicable disease threats to aviation, such as Ebola and SARS, we recommended that DOT work with relevant stakeholders, such as DHS and HHS, to develop a comprehensive aviation preparedness plan for communicable disease outbreaks.¹² However, at the start of the COVID-19 pandemic, DOT had not implemented this recommendation. In our 2015 report, we explained that such a plan would provide airports and airlines with an adaptable and scalable framework with which to integrate their individual plans and promote harmonization across airports and airlines.¹³ We also noted that an international aviation treaty, to which the U.S. is a signatory, establishes a standard that obligates member states to develop such a plan.¹⁴

At the time of our 2015 report, DOT agreed that a plan was needed but suggested that agencies that have both the legal authority and expertise for emergency response and public health—namely HHS and DHS—were best positioned to take the lead role in developing such a plan. We have maintained that DOT is in the best position to lead a multiagency effort to develop the plan given its responsibility in overseeing the aviation

¹²GAO, *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).

¹³The extent to which individual U.S. airports and airlines have individual preparedness plans for communicable disease threats is unknown, as no federal agency tracks this information. See [GAO-20-655T](#).

¹⁴ICAO adopts standards and recommended practices in accordance with Article 37 of the Convention on International Civil Aviation (Chicago Convention) in order for all contracting states (including the U.S.) to have the highest practicable degree of uniformity in regulations, standards, and procedures in relation to air navigation and transportation. ICAO's Annex 9 to the Chicago Convention provides a standard for contracting states to "establish a national aviation plan in preparation for an outbreak of a communicable disease posing a public health risk or public health emergency of international concern."

industry. We describe DOT’s efforts to address our recommendation, which remains open, later in this report.

Federal COVID-19 Emergency Financial Assistance to the Aviation Industry

Congress passed three COVID-19 relief laws in 2020 and 2021 that made \$132 billion in assistance available for airlines, aviation and other businesses, and airports across four selected programs (see table 1 for an overview of these programs).¹⁵ Two of these programs—the Payroll Support Program (PSP)¹⁶ and the Airport Grants Program¹⁷ were funded in each of the three laws. The other two programs were each funded once. Specifically, the March 2020 CARES Act provided funding to Treasury’s loan program.¹⁸ In addition, the American Rescue Plan Act of March 2021 provided funding to the Aviation Manufacturing Jobs Protection Program (AMJP). DOT, along with Treasury, undertook new responsibilities and, where appropriate, set up new programs to distribute these funds.

Table 1: Selected Federal Programs Providing Financial Assistance to the Aviation Industry and Certain Other Eligible Businesses in Response to the COVID-19 Pandemic

Program and purpose	Available funds	Funding actual amounts as of December 31, 2023	Department overseeing program
Payroll Support Program (PSP): Exclusively for employee wages, salaries, and benefits of passenger airlines, cargo airlines, and aviation contractors	\$63 billion ^a	\$58.9 billion in payments	Department of the Treasury
CARES Act Loan Program: Provided liquidity to passenger airlines, cargo airlines, repair stations, ticket agents, and national security businesses	\$46 billion ^b	Of \$21.9 billion in loans executed, about \$2.7 billion disbursed ^c	Treasury
Airport Grants: Supported U.S. airports (and starting with the Consolidated Appropriations Act of 2021, certain airport tenants) experiencing disruption caused by the pandemic	\$20 billion	\$18.1 billion in payments	Department of Transportation (DOT)

¹⁵CARES Act, Pub. L. No. 116-136, 134 Stat. 281 (2020); Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, 134 Stat. 1182 (2020); American Rescue Plan Act of 2021, Pub. L. 117-2, 135 Stat. 4 (2021).

¹⁶Specifically, the CARES Act of March 2020 made \$32 billion available; the Consolidated Appropriations Act, 2021 of December 2020 made \$16 billion available; and the American Rescue Plan Act of March 2021 made \$15 billion available.

¹⁷Specifically, the CARES Act of March 2020 made \$10 billion available; the Consolidated Appropriations Act, 2021 of December 2020 made \$2 billion available; and the American Rescue Plan Act of March 2021 made \$8 billion available.

¹⁸This program is sometimes referred to as the Section 4003 Loan Program in reference to the section of the CARES Act that authorized it. Pub. L. No. 116-136, § 4003, 134 Stat. 281, 470 (2020). We refer to it as the “CARES Act loan program” or simply “loan program” throughout this report.

Program and purpose	Available funds	Funding actual amounts as of December 31, 2023	Department overseeing program
Aviation Manufacturing Jobs Protection Program (AMJP): Provided payroll support to eligible businesses for employee wages, salaries, and benefits, and to facilitate the retention, rehire, or recall of employees	\$3 billion	\$681 million disbursed ^d	DOT

Source: GAO analysis of information from Treasury and DOT. | GAO-24-106754

Note: This table does not specify unobligated balances from these programs which may have been permanently rescinded through subsequent legislation, such as the Fiscal Responsibility Act of 2023, Pub. L. No 118-5, 137 Stat. 10.

^aUp to \$54 billion for passenger airlines, \$4 billion for cargo airlines, and \$5 billion for aviation contractors.

^bUp to \$25 billion for passenger airlines; businesses certified to perform inspection, repair, replace, or overhaul services; and ticket agents. Up to \$4 billion for cargo airlines and \$17 billion for businesses critical to maintaining national security.

^cSeven borrowers—all passenger airlines—did not draw down the full authorized amount of their loans.

^dAccording to DOT officials, the lower amount disbursed from this program was due to several reasons, such as a lower total amount of funding requested by applicants, some eligible applicants not accepting awards, and DOT reducing the amount of some awards during post-award oversight. As of November 2023, DOT officials noted that the program was largely concluded.

Aviation Pandemic Preparedness and Disease Mitigation Research Could Benefit from Greater Federal Leadership

The key lesson for both pandemic preparedness and disease transmission research is the need for greater federal leadership. First, we have found that a comprehensive national plan could help the U.S. aviation system avoid a piecemeal approach to preparedness. Second, increased federal leadership in research could help inform future actions to mitigate disease spread.

Comprehensive National Plan Could Help Avoid Piecemeal Response to Future Communicable Disease Outbreaks

We reported in June 2020 that both the federal government and the aviation industry took several actions early in the pandemic intended to help limit the spread of COVID-19 through air travel. We stated at the time that while these actions were helpful, some aviation stakeholders publicly highlighted the piecemeal nature of the response efforts, which may have contributed to confusion in the early pandemic.¹⁹ Below are some of the actions taken in response to the pandemic and the perspectives shared by selected aviation stakeholders during our prior audit work:

¹⁹[GAO-20-655T](#).

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- **Travel restrictions and enhanced health screenings.** Implementation issues with travel restrictions resulted in confusion and crowding at some airports in March 2020. Starting in January 2020, the White House issued executive actions to restrict air travel to the U.S. for some individuals with recent travel in countries with high COVID-19 transmission rates. For example, on March 11, 2020, the Trump administration announced presidential proclamations restricting air travel from Europe that went into effect on March 13, 2020. DHS also required that flights carrying persons with recent travel in certain countries arrive at specified airports and undergo enhanced health screenings by CDC.²⁰ We reported in June 2021 that there were significant delays in processing travelers at Chicago O’Hare International Airport on the first full day of travel restrictions from Europe in March 2020. According to airport and CBP officials we interviewed at the time, implementation issues with the travel restrictions caused thousands of travelers to wait for hours without access to food, water, or bathrooms.²¹
 - **Policies to protect passenger and employee health.** Individual airlines and airports took steps to mitigate the spread of COVID-19 and to protect passenger and employee health in 2020. Specific actions included the following: enhancing cleaning protocols, requiring and providing masks, implementing social distancing (i.e., blocking the sale of middle seats to allow for greater distancing between passengers), implementing contactless technology to reduce interaction between employees and passengers, and allowing employees to work from home when possible. In July 2020, DOT, HHS, and DHS issued *Runway to Recovery* to provide guidance to airports and airlines on measures to mitigate disease, such as social distancing. This document was most recently updated in December 2020.²² However, we reported in October 2021 that representatives from one airport told us that inconsistent passenger procedures

²⁰For these enhanced screenings, travelers were to be observed for signs of illness, have their temperature taken, complete a questionnaire about symptoms and COVID-19 exposure, and provide U.S. contact information. In September 2020, CDC ceased these screenings, stating that it would instead dedicate resources to other mitigation strategies. See GAO, *Transportation Security: TSA Efforts to Coordinate with Stakeholders on COVID-19 Security Directives*, [GAO-22-104583](#) (Washington, D.C.: Mar. 14, 2022).

²¹GAO, *Border Security: CBP’s Response to COVID-19*, [GAO-21-431](#) (Washington, D.C.: June 14, 2021).

²²See U.S. Departments of Transportation, Homeland Security, and Health and Human Services, *Runway to Recovery: The United States Framework for Airlines and Airports to Mitigate the Public Health Risks of Coronavirus*, Version 1.1 (Washington, D.C.: December 2020).

between origin and destination airports were a major challenge, and that the federal government plays a pivotal role in restoring passenger confidence in flying. Furthermore, aviation stakeholders we spoke with in 2020 and early 2021 told us that confidence in air travel could have been restored more quickly if the federal government had provided greater coordination and guidance earlier in the pandemic.²³

- **Federal face mask requirement.** On January 31, 2021, DHS and TSA issued security directives that required face masks to be worn by passengers and employees on transportation systems, including aviation.²⁴ We reported in March 2022 that industry stakeholders we spoke with stated that TSA coordinated positively and effectively overall when issuing the COVID-19 related security directives.²⁵ Specifically, we reported that TSA officials reached out to airlines and airports through a series of conference calls and emails. In addition, officials from DOT and its component agencies previously told us that they were also included and participated in TSA outreach efforts to industry stakeholders about the face mask requirement and also provided additional resources for operators. However, industry stakeholders we interviewed for our March 2022 report raised some implementation issues with the security directives. For example, some of these stakeholders noted that better guidance and signage from TSA prior to the release of the directives could have better informed the public that the face mask directive was a federal requirement.

As we reported in October 2021, FAA also took actions early in the pandemic to gather and respond to airport operators' and other stakeholders' questions and concerns, and to grant specific and temporary regulatory relief in response to requests from airlines and other industry associations.²⁶ FAA created a rapid response team that was a focal point for gathering and responding to such questions and concerns in March 2020. According to FAA officials we interviewed for our October 2021 report, the team's main purpose was to create a channel of communication with industry, quickly tackle any issue brought to its attention, and elevate issues that needed broader attention. The team

²³[GAO-22-104429](#).

²⁴See [GAO-22-104583](#). Transp. Sec. Admin., SD 1582/84-21-01, Security Measures – Mask Requirements (2021). The U.S. mask mandates ended, and most airlines stopped requiring them, in April 2022.

²⁵[GAO-22-104583](#).

²⁶[GAO-22-104429](#).

had cataloged over 750 requests for information and policy decisions at the time of our October 2021 report.

In addition, airlines and aviation associations sought FAA's assistance to ease regulatory and operational requirements that they said negatively affected the safety and continuity of operations. The airline representatives we interviewed for our October 2021 report credited FAA for its quick actions in support of continuing operations. For example, one airline stated that by allowing flight attendants to sit in seats throughout the plane at a distance from crewmembers and passengers (not in their designated jump seat), FAA likely helped airlines reduce the spread of the virus.

After the start of the COVID-19 pandemic, in June 2020, we urged Congress to require DOT to develop a national aviation preparedness plan for communicable disease outbreaks.²⁷ As described above, we had previously recommended in 2015 that DOT develop such a plan, but the recommendation remains unaddressed. In June 2020 we emphasized that the absence of a national plan undermined the ability of the public health and aviation sectors to coordinate on a response or provide consistent guidance to airports and airlines. We also noted the plan could serve as the basis for testing communication mechanisms among responders and to ensure staff have received appropriate training to reduce exposure. Furthermore, we noted that the existence of a national plan might have reduced some of the confusion among aviation stakeholders and passengers early in the pandemic. In December 2022, Congress passed legislation which requires DOT to develop an aviation preparedness plan for communicable disease outbreaks.²⁸

In March 2024, DOT officials told us that the plan has been drafted and is being coordinated internally within FAA, with a target delivery date at the end of the 2024 calendar year. DOT officials said that they have used lessons learned from the COVID-19 pandemic, as well as from the Ebola, SARS, and other communicable disease outbreaks, to inform the draft plan. According to DOT officials, the need for communication and collaboration is a key lesson the department learned from the pandemic. Specifically, DOT officials identified the need to share information early

²⁷GAO, *COVID-19: Opportunities to Improve Federal Response and Recovery Efforts*, [GAO-20-625](#) (Washington, D.C.: June 25, 2020).

²⁸Consolidated Appropriations Act, 2023, Pub. L. No. 117-328, § 105, 136 Stat. 4459, 5253-55 (2022). This legislation also directs GAO to assess the plan.

and often, maintain relationships across the U.S. government and industry, and leverage knowledge through a multi-disciplinary approach. Finalizing the forthcoming plan, including incorporating lessons learned from the pandemic, will better position DOT and other aviation stakeholders to address a communicable disease threat while minimizing unnecessary aviation disruptions, which as mentioned above, were significant in the case of COVID-19.

Increased Federal Leadership in Research Could Help Inform Agencies' and Industry's Future Actions to Mitigate Disease Spread

Another key lesson we identified is that federal leadership is needed to advance research on communicable diseases in air travel to better understand the effectiveness of various disease mitigation efforts. In July 2022, we found that such research we identified at the time had limitations that could be addressed by improved federal leadership. For example, we identified research conducted in several areas—such as how air moves in an aircraft and the effect of different airline operations on potential disease transmission.²⁹ However, stakeholders we interviewed told us that more research is needed that incorporates the real-world environment and human behavior in air travel. These stakeholders also identified challenges to conducting research that could help address knowledge gaps, such as researchers' inability to access aircraft, airports, or data. As we reported in July 2022, federal leadership could help overcome these challenges by linking researchers with aviation stakeholders. Furthermore, additional research, facilitated by greater federal leadership, could inform the development of evidence-based mitigation measures to protect employees, passengers, and the public.

In its December 2020 *Runway to Recovery* guidance on mitigating the risks of COVID-19, DOT, HHS, and DHS acknowledged the need for the U.S. government to continue to evaluate evolving risk reduction opportunities and to provide additional revisions to the guidance as lessons are learned and risk conditions change. New information about how communicable diseases are transmitted in air travel, and how to mitigate this transmission, can improve not only existing guidance, but also future policies and regulations.

In our July 2022 report, we recommended Congress consider directing FAA to develop and implement a strategy to identify and advance needed research on communicable diseases in air travel, in coordination with

²⁹GAO, *Air Travel and Communicable Diseases: Federal Leadership Needed to Advance Research*, [GAO-22-104579](#) (Washington, D.C.: July 28, 2022).

appropriate federal agencies—such as DHS and HHS—and external partners. As of March 2024, Congress had not passed legislation to address this matter.³⁰

Although FAA has not developed and implemented a strategy specific to research on communicable disease in air travel, FAA officials we interviewed in September 2023 said the agency has taken steps to identify needed research. Specifically, FAA officials reported that they are integrating communicable disease threats into their aviation safety framework through the agency’s safety risk management process.³¹ FAA officials reported that doing so will provide the agency with tools they can eventually incorporate into DOT’s comprehensive national plan to better prepare for communicable disease outbreaks. FAA officials said they initiated a safety risk management team that includes DHS and HHS in January 2022. As of September 2023, FAA officials reported that they had recently confirmed the knowledge gaps that GAO identified in its 2022 report regarding the need for additional information that reflect the real-world aviation operations and behaviors. To address these gaps, FAA officials said they are working with other agencies and entities to better understand the transmission of disease in air travel as well as to measure the effectiveness of potential countermeasures.

Four Key Lessons Could Help Agencies Manage Future Emergency Financial Assistance to the Aviation Industry

³⁰In May 2023, the Healthy Air Travel Act was introduced in the House of Representatives. The bill directs FAA to develop an interagency task force to develop and implement a strategy to identify and advance research on communicable diseases in air travel, and other related purposes. Healthy Air Travel Act, H.R. 3679, 118th Cong. (2023).

³¹Safety risk management is designed to identify potential safety hazards, assess the risks arising from those hazards, and develop mitigation plans to reduce or eliminate those risks.

Agencies Can Minimize Risk by Developing Appropriate Financial and Other Safeguards Before Distributing Emergency Funding

We previously found that DOT and Treasury awarded funds quickly to the aviation industry and eligible entities during the pandemic, given the programs were designed to provide emergency assistance. However, as we also found in our work on COVID-19 assistance programs more broadly, the agencies did not always develop or implement internal controls or apply certain financial management practices in a timely manner.³²

DOT and Treasury took actions and leveraged resources to help award funding quickly under challenging circumstances. Three of the four assistance programs—Treasury’s Payroll Support Program (PSP), Treasury’s CARES Act loan program, and DOT’s Aviation Manufacturing Jobs Protection Program (AMJP)—were new and involved developing new policies and procedures. The fourth program, Airport Grants, used aspects of the existing Airport Improvement Program but expanded the eligible use of funds. As we previously reported:

- For PSP, Treasury signed agreements with over half of 580 PSP recipients within 2 months after the CARES Act was signed into law.³³
- For the CARES Act loan program, Treasury drew on its experience aiding the private sector in times of crisis, enlisted external advisors, and detailed staff from across the department. Treasury published initial procedures for the loan program 3 days after enactment of the CARES Act.
- For the Airport Grants program, FAA announced CARES Act funds for more than 3,000 airports just 2 weeks after Congress passed the legislation. FAA also established a dedicated team with prior airport grant management experience to review and process payment requests.³⁴

³²Internal controls comprise the plans, methods, policies, and procedures used to fulfill the mission, strategic plan, goals, and objectives of the entity, and go hand-in-hand with effective financial and fraud risk management practices. See GAO, *Emergency Relief Funds: Significant Improvements Are Needed to Ensure Transparency and Accountability for COVID-19 and Beyond*, [GAO-22-105715](#) (Washington, D.C.: March 17, 2022).

³³Similarly, for the second round of PSP funding, Treasury signed agreements with the 12 largest passenger airlines within 7 business days of their application. See GAO, *COVID-19: Sustained Federal Action Is Crucial as Pandemic Enters Its Second Year*, [GAO-21-387](#) (Washington, D.C.: Mar. 31, 2021).

³⁴GAO, *COVID-19: Additional Actions Needed to Improve Accountability and Program Effectiveness of Federal Response*, [GAO-22-105051](#) (Washington, D.C.: Oct. 27, 2021).

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- For AMJP, DOT officials said they established a process to accept and review applications 90 days after the program was established.³⁵ Since the program was authorized later than other COVID-19 relief programs, DOT had discussions with the Small Business Administration and Treasury on how to administer the program based on the experiences of other relief programs.³⁶

Although the agencies moved quickly to distribute funds, we and others found instances in the PSP, the loan program, and Airport Grants program where appropriate financial controls and safeguards were not in place in a timely manner.³⁷ Examples from these three programs showcase the importance of having safeguards in place when awarding and monitoring funds, as well as of protecting the government interest.

- **Awarding Funds.** We and others have reported issues with a \$700 million loan that Treasury made through the CARES Act loan program to Yellow Corporation, a trucking company formerly known as YRC Worldwide. While Yellow Corporation was not a part of the aviation industry, the loan program was available to businesses critical to maintaining national security.³⁸ We reported in December 2020 that Treasury executed the loan in July 2020 before it had finalized procedures for evaluating applications.³⁹ A May 2023 report by the Special Inspector General for Pandemic Recovery found internal control weaknesses in Treasury’s approach to reviewing, approving,

³⁵DOT officials said they initiated the process to seek emergency approval under the Paperwork Reduction Act within 30 days of enactment, and 60 days later established a process to accept and review applications.

³⁶DOT also had discussions with these agencies regarding the types of data available from other relief programs to enforce eligibility restrictions established by the AMJP statute, according to DOT officials. AMJP eligibility restrictions are described later in this report.

³⁷For AMJP, a September 2023 DOT OIG report found that DOT appropriately managed the program, with sufficient processes to validate applicant data, allocate funding, and ensure funding was used lawfully. DOT OIG recommended that DOT conduct an after-action review of AMJP to identify lessons learned and incorporate improvements into future grant programs. DOT agreed with the recommendation and, as of March 2024, DOT officials said the department had conducted an after-action review. See U.S. Department of Transportation, Office of Inspector General, *DOT Has Effectively Managed the Aviation Manufacturing Jobs Protection Program and Should Capture Lessons Learned From Its Oversight Efforts*, AV2023045 (Washington, D.C.: Sept. 19, 2023).

³⁸Up to \$17 billion of the total \$46 billion Congress made available for the loan program was designated for businesses critical to maintaining national security.

³⁹GAO, *Financial Assistance: Lessons Learned from CARES Act Loan Program for Aviation and Other Eligible Businesses*, [GAO-21-198](#) (Washington, D.C.: Dec. 10, 2020).

and disbursing the loan.⁴⁰ Furthermore, a congressional investigation found that White House officials overrode career officials' assessment that the company was not eligible for the loan and that Treasury made the loan on terms that violated CARES Act requirements.⁴¹

Although Yellow Corporation filed for bankruptcy, it repaid its \$700 million loan, according to Yellow Corporation and Treasury officials. On August 6, 2023, Yellow Corporation filed for bankruptcy. In November 2023 Treasury officials said they were working through Yellow Corporation's bankruptcy process to recover the loan and protect taxpayer interests. On February 5, 2024, Yellow Corporation announced it had fully repaid its loan, including \$700 million in principal and more than \$151 million in interest. In February 2024, Treasury confirmed that the loan had been fully repaid.

- **Conducting Post-Award Monitoring.** We reported in November 2020 that Treasury did not implement post-payment controls in a timely manner for PSP. Specifically, 3 months after the first quarterly compliance reports were due, Treasury had not completed developing and implementing a plan to monitor recipients' compliance with PSP agreement terms.⁴² We recommended that Treasury finish developing and implementing a compliance monitoring plan that identified and responded to risks in the PSP program to ensure program integrity and address potential fraud, including the use of funds for purposes other than for the continuation of employee wages, salaries, and benefits. In April 2021, we confirmed that Treasury had developed, documented, and implemented a risk-based approach to monitor PSP compliance.

For the loan program, the Special Inspector General for Pandemic Recovery found that Treasury did not conduct timely monitoring of loans. Specifically, although Treasury's authority to make new loans ended December 31, 2020, Treasury did not create a monitoring

⁴⁰This report recommended Treasury develop a lessons learned report of the process used to approve the loan to Yellow Corporation. Office of the Special Inspector General for Pandemic Recovery Office of Audits, *Audit of the U.S. Department of the Treasury's Process for Its Direct Loan to YRC Worldwide, Inc.*, SIGPR-A-22-005 (May 11, 2023).

⁴¹See Select Subcommittee on the Coronavirus Crisis, *Preparing for and Preventing the Next Public Health Emergency: Lessons Learned from the Coronavirus Crisis*, December 2022. On June 27, 2023, the Congressional Oversight Commission published a special report regarding the loan, available at <https://coc.senate.gov/press-releases/congressional-oversight-commission-publishes-special-final-report/>.

⁴²GAO, *COVID-19: Urgent Actions Needed to Better Ensure an Effective Federal Response*, GAO-21-191 (Nov. 30, 2020).

policy guide for the program until May 2022.⁴³ Finally, for Airport Grants, the DOT OIG reported in July 2022 that FAA did not adopt all the internal controls from the Airport Improvement Program, which hampered the agency's ability to detect and prevent improper payments and monitor program performance. The DOT OIG made recommendations to improve FAA's internal controls and policies and procedures for overseeing the Airport Grants program. In response, DOT partially agreed with these recommendations and took actions to better monitor the grant program and strengthen the program's internal controls through manual invoice reviews and updated guidance.⁴⁴

- **Exercising Warrants.** Warrants give Treasury an option to buy stock shares at a predetermined price or an equity interest in the company and are a tool to help protect taxpayer investments. For the PSP and the loan program, the CARES Act and subsequent legislation authorized, or in the case of the loan program, required Treasury to receive notes, warrants, or other financial instruments for providing financial assistance.⁴⁵ As we reported in 2010, acquiring an ownership interest in private companies can help protect taxpayers by enabling the government to earn returns when it sells its shares.⁴⁶

However, we reported in October 2021 that Treasury had not developed policies and procedures to ensure that warrants are acted upon in a manner that would provide appropriate compensation to the federal government.⁴⁷ As a result we recommended that Treasury

⁴³Office of the Special Inspector General for Pandemic Recovery Office of Audits, *Weaknesses in Treasury's CARES Act Loan Monitoring*, SIGPR-A-22-002-2 (May 31, 2023).

⁴⁴U.S. Department of Transportation, Office of Inspector General, *FAA Quickly Awarded CARES Act Funds but Can Enhance Its Oversight Approach To Promote Effective Stewardship*, AV2022032 (Washington, D.C.: July 18, 2022).

⁴⁵In total across all rounds of PSP, the note principal amount that must be repaid by 36 recipients is \$15.1 billion, and 14 recipients provided a total of 58 million warrants. Notes are financial instruments, the value of which is a percentage of the assistance provided and which must be repaid. For the loan program, Treasury received warrants from nine passenger airlines equal to 10 percent of the total loan amount drawn. Treasury also received shares equal to 29.6 percent of Yellow Corporation common stock as taxpayer compensation.

⁴⁶GAO, *Financial Assistance: Ongoing Challenges and Guiding Principles Related to Government Assistance for Private Sector Companies*, [GAO-10-719](#) (Washington, D.C.: Aug. 3, 2010).

⁴⁷[GAO-22-105051](#).

develop policies and procedures to determine when to act on the PSP and loan program warrants. Treasury implemented these recommendations in March 2023 when it provided us with its guide for determining when to act on the warrants, which better positions Treasury to maximize the benefit to the federal government. As of February 2024, Treasury officials said they have exercised its warrants from one PSP recipient—Atlas Air Worldwide Holdings, Inc.

Our prior work identified significant shortcomings in the application of fundamental internal controls and financial and fraud risk management practices across several federal COVID-19 financial assistance programs, beyond those offering assistance to the aviation industry. In March 2022, we recommended 10 actions for congressional consideration to help address these shortcomings. For example, we recommended that Congress consider requiring the Office of Management and Budget to provide guidance for agencies to develop internal controls plans in advance of issuing funds, that can be put into immediate use for future emergency funding.⁴⁸ Although federal laws have required agencies to submit specific internal control plans for relief funds in previous emergencies, there was no such requirement for the COVID-19 pandemic. By applying effective internal controls consistent with nonemergency federal spending, agencies can distribute emergency relief funding quickly while ensuring financial and other safeguards are in place to minimize the risk of fraud and improper payments. As of February 2024, Congress has taken no action on this matter.

DOT and Treasury officials we interviewed for this review identified lessons learned and offered areas for Congress to help agencies distribute funds quickly while ensuring oversight in the future. For instance, Treasury officials said that in future emergency financial assistance programs, Congress should try to resolve the conflict between disbursing funds quickly and the complex process needed to validate applicant identity, eligibility, and amount of awards. Treasury officials suggested, for example, that Congress could simplify the processes for validating the identity, eligibility and award amounts. According to these officials, such actions would help reduce the agency workload and program complexity, which they noted was significant for the COVID-19 programs. Similarly, DOT officials also stated that in the future, when designing program eligibility restrictions, Congress should consider what data are available to ensure compliance with such restrictions. DOT

⁴⁸[GAO-22-105715](#).

officials said they faced challenges in verifying eligibility of some AMJP applicants, because some of the eligibility criteria in the law would have depended upon data that were not required by other relief programs.⁴⁹

Multiple Programs or Paths within a Program May Better Accommodate Businesses of Varied Types and Sizes

Our prior work has shown that providing future emergency financial assistance through multiple programs or multiple paths within a program may better accommodate businesses of varied types and sizes. As we previously reported, a broad range of private businesses were eligible for the PSP and loan program, including ticket agents, repair station operators, and major passenger airlines.⁵⁰ These businesses ranged from ticket agents with a handful of employees to passenger airlines with tens of thousands of employees. Although many businesses were facing dire financial circumstances brought about by the pandemic, smaller businesses reported more challenges accessing the pandemic assistance than large airlines.

Our work has shown that in terms of the amount of funding received, timeliness of assistance, and overall perceived benefit of the programs, large passenger airlines had a different experience with the PSP and loan program than smaller eligible entities.

- **Amount of Funding Received.** Large passenger airlines received over half of the \$132 billion in total assistance Congress made available across the four financial assistance programs in our review. The amounts that large passenger airlines received were driven both by how the programs were designed in statute as well as decisions

⁴⁹By statute, businesses were ineligible to receive AMJP funds if they had either: (1) received financial assistance from the first round of PSP; (2) were still expending Paycheck Protection Program funds as of the date of application to the AMJP; or (3) under DOT's statutory interpretation were allowed the Employee Retention Credit for the quarter immediately prior to the one an AMJP agreement was to be entered into if a company was allowed the credit for a calendar quarter occurring prior to July 1, 2021. American Rescue Plan Act of 2021, Pub. L. No. 117-2, § 7202, 135 Stat. 4, 176-182. See [GAO-22-105051](#) and GAO, *COVID-19: Current and Future Federal Preparedness Requires Fixes to Improve Health Data and Address Improper Payments*, [GAO-22-105397](#) (Washington, D.C.: Apr. 27, 2022).

⁵⁰Many of these businesses were also eligible for assistance through the Small Business Administration's Paycheck Protection Program (PPP). The Paycheck Protection Program and Health Care Enhancement Act appropriated a total of \$670 billion for the PPP under the Small Business Administration's 7(a) small business lending program. PPP loans were made at 1 percent interest and were fully forgiven if certain conditions were met. In general, small businesses with 500 or fewer employees were eligible. We reported in November 2020 that many PSP recipients also received PPP funds, which was permitted if a business was eligible for both programs. See [GAO-21-191](#). As mentioned earlier in this report, we did not include PPP in the scope of this review.

made by Treasury.⁵¹ Specifically, the 10 largest passenger airlines received \$50 billion in PSP payments as of December 31, 2023. Meanwhile, for the loan program, we reported that seven of these 10 major passenger airlines executed loans with Treasury for nearly \$21 billion.⁵² Although these large airlines represented seven of the 35 total loans Treasury made, their loans made up the overwhelming majority of the approximately \$22 billion in total loans Treasury made through the program.⁵³ Meanwhile, we reported that out of 173 smaller passenger airlines, repair station operators, and ticket agents that applied for the program, Treasury executed 16 loans for a total of \$440 million.

- **Timeliness of Assistance.** The largest passenger airlines were among the earliest recipients of financial assistance. We reported in September 2020 that Treasury officials said they prioritized the large airlines' applications over those of smaller businesses because they were the largest employers and represented a significant amount of jobs at stake.⁵⁴ Officials also said that the large airlines' applications were straightforward under the statutory formula because those airlines are required to regularly report employee and salary data to DOT. Other entities eligible for the PSP and loan program—particularly regional and small aviation companies—reported challenges accessing the assistance. For example, Treasury had obligated approximately 85 percent of the total \$32 billion appropriated through the first round of the PSP by July 31, 2020. However, we reported that some PSP applicants we interviewed in late June and early July 2020 said that they had not heard from Treasury as to whether they would receive funds, though they had applied for PSP in April 2020.⁵⁵

⁵¹For the PSP, the three statutes made up to \$54 billion available for passenger airlines and specified the formula for calculating the awardable amounts for each recipient. For the loan program, the CARES Act grouped passenger airlines together with repair station operators and ticket agents and made up to \$25 billion available for this group. In addition, the statute designated up to \$4 billion for cargo airlines and up to \$17 billion for businesses critical to maintaining national security.

⁵²[GAO-21-198](#).

⁵³Of the nearly \$21 billion awarded to the seven large passenger airlines, Treasury disbursed about \$1.6 billion as of January 1, 2024. These seven borrowers did not draw down the full authorized amount of their loans, and they have all repaid their loans in full.

⁵⁴GAO, *COVID-19: Federal Efforts Could Be Strengthened by Timely and Concerted Actions*, [GAO-20-701](#) (Washington, D.C.: Sept. 21, 2020).

⁵⁵[GAO-20-701](#).

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- **Perceived Benefit of the Programs.** In our prior work, we found the largest passenger airlines viewed the Treasury programs favorably. For example, we reported in July 2021 that representatives from four large passenger airlines we interviewed—two that applied for and received loans and two that applied for but did not receive loans—reported the existence of the loan program created liquidity in financial markets. The two large airlines that received loans reported that the program created liquidity that was critical to the airlines maintaining operations. In addition, the two large passenger airlines that did not receive Treasury loans were able to access loans through private markets. These airline representatives credited the Treasury loan program with increasing the confidence of lenders in private financial markets to make loans to airlines.⁵⁶

We reported in July 2021 that Treasury officials noted the purpose of this loan program was to provide liquidity, and they viewed the continued operations of major airlines as an indicator of the program's success. Meanwhile, smaller businesses we interviewed reported fewer benefits of the loan program than the large airlines. In July 2021 we reported that the cost of applying, in terms of time, dollars, and missed opportunities, was more onerous for smaller businesses.⁵⁷ For example, several small businesses we spoke to for that report said they needed to hire outside counsel to assist with their applications. In addition, smaller businesses that did not receive loans said the program did not positively affect their ability to receive alternative financing, with most unable to find financing to take the place of the Treasury loan.

Treasury officials we interviewed for this review said that smaller entities faced difficulties due to issues with applications and statutory requirements, and that in future assistance, consideration should be given to recipient capacity in designing program requirements. We previously reported that Treasury officials noted that many small businesses that applied for the loan program were unfamiliar with government programs or the underwriting process.⁵⁸ In addition, according to Treasury officials, many PSP applications from smaller airlines and contractors had application issues, such as incomplete information. Officials said these

⁵⁶GAO, *COVID-19: Continued Attention Needed to Enhance Federal Preparedness, Response, Service Delivery, and Program Integrity*, [GAO-21-551](#) (Washington, D.C.: July 19, 2021).

⁵⁷[GAO-21-551](#).

⁵⁸[GAO-21-198](#).

issues took time to address before they could determine whether applications met statutory requirements. According to the officials, the concerns highlighted by smaller businesses reflected the loan program structure and the conditions imposed by statute. For example, they said that to meet the CARES Act requirements, Treasury undertook extensive due diligence on each loan application to assess each applicant's financial position and ensure that loans were sufficiently secured or made at a rate that reflected the risk of the loan. Treasury officials also said that in the future, Congress should take into account the relative experience of agencies in dealing with particular pools of applicants, such as small businesses.

The pandemic affected industries differently, and in some situations, Congress made changes to program eligibility for subsequent funding. For example, Congress excluded cargo airlines from PSP after the CARES Act, which had made up to \$4 billion in PSP funds available to cargo airlines. As we reported in October 2021, cargo airlines used only a fraction of this funding, with 39 cargo airlines receiving over \$828 million in assistance.⁵⁹ As we reported, domestic cargo airlines experienced an increased demand for service because of the larger number of people staying home during the pandemic and the growth in e-commerce. A similar approach of recognizing the needs and capabilities of businesses affected by the crisis could help inform future emergency financial assistance. In the case of the loan program, several associations we interviewed for our December 2020 report said the program could have been improved by creating two different paths for loans: one for large and one for small businesses. Such an approach could potentially allow applicants of different sizes and types to better take advantage of programs for which they are eligible.⁶⁰

New or Expanded Funding Programs Require Clear Communication with Eligible Entities

Our prior work has shown that federal assistance to businesses facing emergency circumstances requires clear and consistent information to applicants and eligible entities. This is especially true when the federal assistance is provided through new or expanded programs. Three of the four programs providing federal assistance to the aviation industry, including both Treasury programs and AMJP, were new programs.⁶¹ These programs involved communicating new procedures to applicants

⁵⁹[GAO-22-104429](#).

⁶⁰[GAO-21-198](#).

⁶¹As mentioned above, the fourth program, Airport Grants, used aspects of an existing program to provide funds to airports.

that may be unfamiliar with accessing federal funds. While our prior work showed agencies communicated with applicants and eligible entities, we also found areas where communication could be improved.

In July 2021, we reported that for the PSP and loan program, Treasury did not communicate clearly with applicants, particularly small businesses.⁶² Treasury officials we interviewed for this review said that the emergency nature of the programs and emphasis on quickly distributing funds limited the amount of time the department had to conduct the outreach it typically does when implementing new programs.

- For our September 2020 report, industry associations representing regional and small aviation companies reported the following: confusion about eligibility and other requirements, lack of a direct contact at Treasury, and lack of a mechanism to check on PSP application status, among other issues.⁶³
- For the loan program, we reported in December 2020 that Treasury’s initial application procedures did not communicate a timeline for the program. As a result, businesses were unsure on time frames, which they said complicated their financial decision-making.⁶⁴
- We also reported in December 2020 that Treasury viewed itself as a lender of last resort when designing and implementing the loan program, according to Treasury officials. However, as we reported at that time, published information on Treasury’s website about the loan program did not include this view, and many businesses expected Treasury to make loans more quickly.⁶⁵ This omission led to some applicants being surprised by parts of the process, such as when Treasury encouraged over a third of all applicants to apply to another loan program before continuing to pursue a loan from Treasury. Treasury officials in November 2023 stated this is not accurate, noting that the guidance Treasury issued on March 30, 2020, said that a condition of borrower eligibility was “No Credit Elsewhere. The borrower is an eligible business for which credit is not reasonably available at the time of the transaction.”

⁶²GAO, *COVID-19 Pandemic: Actions Needed to Improve Federal Oversight of Assistance to Individuals, Communities, and the Transportation Industry*, [GAO-21-105202](#) (Washington, D.C.: July 19, 2021).

⁶³[GAO-20-701](#).

⁶⁴[GAO-21-198](#).

⁶⁵[GAO-21-198](#).

Applicants generally reported better communication regarding funding distributed through established DOT programs, although DOT faced challenges communicating new eligible uses of funds and communicating with businesses new to federal funding. In November 2020, we reported that selected airport sponsors and airport association representatives said that FAA generally provided timely communication for the Airport Grants program. Specifically, they said that FAA provided timely guidance and assistance on how to apply for federal funds and determine the eligibility for and claim reimbursement for airport costs.⁶⁶ However, we also found the following:

- We reported in July 2021 that airport representatives said that determining eligibility for tenant relief, a new eligible use of these funds, could be complex.⁶⁷ For example, airports had varying agreements with tenants, and tenants were not often single entities. To address some of these challenges, we reported that FAA provided guidance on how to administer relief to tenants through FAQs posted to FAA's website and videoconferences. Airport associations appreciated FAA's response to airport inquiries.
- For AMJP, we reported in October 2021 that industry associations were generally complimentary of DOT's communication, although some expressed challenges with the clarity of some DOT guidance.⁶⁸ According to DOT officials we interviewed for this review, AMJP was challenging to manage in part because the applicants lacked experience with federal financial assistance programs.

We previously reported that developing a comprehensive strategy for communicating with participants would better prepare agencies in the future to respond to longer-term, large-scale emergencies.⁶⁹ Such a

⁶⁶[GAO-21-191](#).

⁶⁷Eligible airport tenants include airport car rental and in-terminal concessions. Starting with the Consolidated Appropriations Act, 2021, airport sponsors that accepted tenant relief funds waived rent for eligible airport tenants. Sponsors provided FAA tenant relief plans so that FAA could ensure that airport sponsors are providing relief according to the law. See [GAO-21-551](#).

⁶⁸[GAO-22-105051](#).

⁶⁹We recommended the Small Business Administration develop a comprehensive strategy for communicating with potential and actual program applicants in the event of a disaster. The Small Business Administration agreed with the recommendation and reported that as of February 2023, the development of a new disaster loan application portal is underway. The recommendation remains open. See GAO, *Economic Injury Disaster Loan Program: Additional Actions Needed to Improve Communication with Applicants and Address Fraud Risks*, [GAO-21-589](#) (Washington, D.C.: July 30, 2021).

strategy would benefit both the agency and program participants. For example, such communication could reduce applicant confusion and uncertainty, while also lessening the burden on agency resources created by applicants inquiring about status, posing questions, or submitting duplicate applications.

Despite Workforce Retention Requirements, Airlines Were Not Fully Positioned to Respond when Demand for Air Travel Returned

Although the aviation emergency financial assistance programs contained workforce retention provisions, airlines still struggled with sufficient staffing to handle air traffic when it recovered. This raised long-standing industry concerns, which we have reported on, that new workers are not entering the aviation industry at a pace sufficient to replace attrition and retirements and to support the industry's projected growth.⁷⁰ We have previously reported that when providing financial assistance to private market participants, the federal government should separate out issues that require an immediate response from structural challenges that will take longer to resolve.⁷¹ For example, we previously reported that in the assistance to the auto industry in the wake of the financial crisis of 2008-2009, Treasury identified a lack of liquidity as requiring immediate attention and provided short-term assistance. To address that industry's structural challenges, Treasury required automakers to submit restructuring plans in February 2009 that described how the companies intended to achieve long-term financial viability.⁷²

Congress conditioned federal assistance to the aviation industry on workforce retention. All four federal financial assistance programs contained workforce retention requirements, meaning recipients were required to refrain from reducing employment levels, such as through

⁷⁰GAO most recently reviewed these issues in May 2023. See GAO, *Aviation Workforce: Current and Future Availability of Airline Pilots and Aircraft Mechanics*, [GAO-23-105571](#) (Washington, D.C.: May 17, 2023). See also GAO, *Aviation Workforce: Current and Future Availability of Airline Pilots*, [GAO-14-232](#) (Washington, D.C.: Feb. 28, 2014), and *Current and Future Availability of Aviation Engineering and Maintenance Professionals*, [GAO-14-237](#) (Washington D.C.: Feb. 28, 2014).

⁷¹[GAO-10-719](#).

⁷²GAO, *Auto Industry: Summary of Government Efforts and Automakers' Restructuring to Date*, [GAO-09-553](#) (Washington, D.C.: Apr. 23, 2009).

involuntary furloughs or terminations, for a specified amount of time.⁷³ In addition, PSP and AMJP funds were to be used exclusively for the salaries, wages, and benefits of employees.

The aviation industry credited these federal programs, especially PSP, for providing critical and timely support that reduced the need for drastic cost-cutting measures that could have caused long-term damage to the industry. We reported in October 2021 that representatives from passenger airlines and credit rating agencies told us that the federal assistance was essential to preserving airlines operations. Specifically, this assistance helped to cover airline passenger expenses, keep employees on their payrolls, and help stem cash outflows while passenger traffic levels were at historic lows.⁷⁴ A representative from a major airline testified before Congress in December 2021 that the PSP program saved the airline industry, and that without it, airlines would have stopped flying in April 2020, furloughed almost all employees, and waited for demand to return to levels strong enough to justify restoring flying.⁷⁵

As we have reported, the federal COVID-19 assistance did not preclude actions by airlines to manage labor costs, such as offering early retirements and other incentives. We reported in October 2021 that representatives we interviewed from passenger airlines took several actions to manage labor costs throughout 2020, such as freezing non-essential hiring and offering voluntary unpaid leave and early

⁷³For PSP, recipients agreed to refrain from conducting involuntary furloughs or terminations for specified amounts of time. For the most recent round of PSP, this requirement expired on September 30, 2023, or when the recipient had expended all of its payroll support, whichever was later. For the loan program, borrowers agreed, to the extent practicable, not to reduce employment levels by more than 10 percent from levels as of March 24, 2020, through September 30, 2020. CARES Act, Pub. L. No. 116-136, § 4003(G), 134 Stat. 281, 471 (2020). For Airport Grants, certain airport sponsors accepting Airport Grant funds were required to directly employ at least 90 percent of the number of employees onboard as of March 27, 2020, for a specified amount of time. Lastly, to receive AMJP funds, companies had to commit that they would not involuntarily furlough or lay off (or reduce the pay or benefits for) employees for whom they are receiving AMJP funding for the duration of the agreement. American Rescue Plan Act of 2021, Pub. L. No. 117-2, § 7202, 135 Stat. 103 (2021).

⁷⁴[GAO-22-104429](#).

⁷⁵Doug Parker, Chairman and Chief Executive Officer, American Airlines Group, Inc., *Oversight of the U.S. Airline Industry*, testimony before the Senate Committee on Commerce, Science, and Transportation, 117th Cong., December 15, 2021.

retirements.⁷⁶ According to Airlines for America, many workers at least temporarily left the aviation industry during the pandemic.

As we reported in May 2023, Airlines for America estimated the following, based on a mix of public reports and information provided directly by airlines: approximately 50,000 airline employees opted for early retirement or voluntary separation in 2020, while 100,000 employees took unpaid leaves of absence.⁷⁷ These actions resulted in significant reductions in the airlines' workforce in 2020. For example, we reported that the number of full-time employees for major U.S. passenger airlines decreased by about 9.5 percent between February 2020 and May 2020, according to DOT's Bureau of Transportation Statistics. According to data from the bureau, Delta Air Lines, which maintained a workforce of around 90,000 employees during 2019, went from more than 91,000 employees in February of 2020 to less than 51,000 employees in May of 2020. As passenger demand for air travel returned in the spring of 2021, airlines began hiring new employees, including pilots.

While all four funding programs included workforce retention provisions, major airlines struggled when air traffic resumed in 2021. In our prior work, we noted that these struggles were due in part to the lack of available staff. In April 2023, we found that flight cancellations increased in the second half of 2021 and the first 4 months of 2022, outpacing cancellation rates in both 2018 and 2019 despite fewer flights overall.⁷⁸ In addition, Bureau of Transportation Statistics data show that factors within the airlines' control (e.g., aircraft maintenance or lack of crew) were the leading causes of flight cancellations and delays in the last 3 months of 2021, as well as in April 2022.

We reported that airline and union representatives told us that when air travel began to rebound in 2021, operational challenges such as a need for additional pilots and crew made it more difficult to manage flight disruptions. For example, representatives from all four airlines and three unions we spoke with said it was more difficult than before the pandemic for airlines to ensure they had enough crew to staff aircraft and to set reliable airline schedules. Three of the four airlines we spoke to also reported challenges operating training facilities and onboarding

⁷⁶[GAO-22-104429](#).

⁷⁷[GAO-23-105571](#).

⁷⁸GAO, *Airline Passenger Protections: Observations on Flight Delays and Cancellations, and DOT's Efforts to Address Them*, [GAO-23-105524](#) (Washington, D.C.: Apr. 13, 2023).

employees as flight operations increased in 2021. For example, we reported in April 2023 that representatives from one airline told us that they had stopped conducting training during the first year of the pandemic. Consequently, the airline had to handle a large number of staff certifications when operations increased.⁷⁹

Flight delays and cancellations prompted congressional inquiries into the airlines' compliance with the workforce retention requirements.⁸⁰ For example, in July 2021, the Chair of the Senate Commerce, Science, and Transportation Committee asked certain major airlines to provide information on how they used the federal funds.⁸¹ The Chair noted the reported workforce shortages ran counter to the "objective and spirit of the PSP, which was to enable airlines to endure the pandemic and keep employees on payroll so that the industry was positioned to capture a rebound in demand."

In March 2021, we reported that other mechanisms beyond emergency assistance could play a role in supporting the highly skilled U.S. aviation workforce during the recovery of air traffic demand from the pandemic. For example, we reported worker retention incentives, aviation workforce retraining, and efforts to strengthen the pipeline of new applicants for careers in aviation, among other efforts, could help support the workforce

⁷⁹Due to the pandemic, FAA issued regulatory exemptions providing airlines grace periods for certain personnel to complete some training requirements.

⁸⁰See House Committee on Transportation and Infrastructure, "Press Release: Bipartisan Committee Leaders Request Clarity from Airlines on Management of Payroll Support Program Funds" (Dec. 3, 2021), <https://transportation.house.gov/news/documentsingle.aspx?DocumentID=405727>; and House Committee on Oversight and Reform and Select Subcommittee on the Coronavirus Crisis, "Press Release: In Light of Pilot Shortage, Chairs Maloney and Clyburn Request Treasury Inspector General Review Airlines' Use of Pandemic Relief Funds" (Sept. 9, 2022), <https://oversightdemocrats.house.gov/news/press-releases/in-light-of-pilot-shortage-chairs-maloney-and-clyburn-request-treasury-inspector>.

⁸¹See Senate Committee on Commerce, Science, and Transportation, "Press Release: As Workforce Shortages Force Flight Cancellations, Delays, and Passenger Frustrations, Chair Cantwell Calls on Airlines for Answers" (July 16, 2021), <https://www.commerce.senate.gov/2021/7/as-workforce-shortages-force-flight-cancellations-delays-and-passenger-frustrations-chair-cantwell-calls-on-airlines-for-answers>. This committee also held a hearing on these issues. See *Oversight of the U.S. Airline Industry*, hearing before the Senate Committee on Commerce, Science, and Transportation, 117th Cong., December 15, 2021.

as air travel demand returned.⁸² As we reported in May 2023, aviation industry stakeholders and FAA are taking steps to address workforce supply concerns. For example, several regional airlines raised pay substantially in 2022, airlines are creating flight schools, and FAA is undertaking efforts to support industry workforce development, including awarding grants to attract young people to aviation careers.⁸³

Agency Comments

We provided a draft of this report to the Departments of Transportation and the Treasury for review and comment. Both agencies provided technical comments, which we incorporated, as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretaries of Transportation and Treasury, and other interested parties. In addition, this report is available at no charge on our website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or KrauseH@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix I.



Heather Krause
Managing Director, Physical Infrastructure

⁸²GAO, *COVID-19 Pandemic: Preliminary Observations on Efforts toward and Factors Affecting the Aviation Industry's Recovery*, [GAO-21-412T](#) (Washington, D.C.: Mar. 2, 2021).

⁸³[GAO-23-105571](#).

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Acknowledgments

In addition to the contact named above, Jonathan Carver (Assistant Director), Emily Larson (Analyst in Charge), Paul Aussendorf, Laura Bonomini, James Geibel, Delwen Jones, Bonnie Pignatiello Leer, Dan Luo, and Kelly Rubin made key contributions to this report.

Related GAO Products

COVID-19: GAO Recommendations Can Help Federal Agencies Better Prepare for Future Public Health Emergencies. [GAO-23-106554](#). Washington, D.C.: July 11, 2023.

Aviation Workforce: Current and Future Availability of Airline Pilots and Aircraft Mechanics. [GAO-23-105571](#). Washington, D.C.: May 17, 2023.

Aviation Workforce: Supply of Airline Pilots and Aircraft Mechanics. [GAO-23-106769](#). Washington, D.C.: April 19, 2023.

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Washington, D.C.: December 16, 2015.

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