COVID–19'S EFFECTS ON U.S. AVIATION AND THE FLIGHTPATH TO RECOVERY

(117–5)

REMOTE HEARING

BEFORE THE

SUBCOMMITTEE ON
AVIATION

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

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CONTENTS

Page

SUBMISSIONS FOR THE RECORD

APPENDIX

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U.S. House of Representatives
Washington, DC 20515

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MARCH 2, 2021

SUMMARY OF SUBJECT MATTER

TO: Members, Subcommittee on Aviation
FROM: Staff, Subcommittee on Aviation
RE: Subcommittee Hearing on "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery"

PURPOSE

The Subcommittee on Aviation will meet on Tuesday, March 2, 2021, at 10:00 a.m. (EST) in 2167 Rayburn House Office Building and virtually via Cisco WebEx to hold a hearing titled, "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery." The purpose of the hearing is to examine the continuing effects of the COVID–19 pandemic on the U.S. aerospace industry, what the industry will look like post-pandemic, and how best to aid in the recovery. The Subcommittee will receive testimony from representatives of the Government Accountability Office (GAO); Airlines for America (A4A); Air Line Pilots Association (ALPA); American Association of Airport Executives (AAAE); General Aviation Manufacturers Association (GAMA); and National Business Aviation Association (NBAA).

BACKGROUND

I. COVID–19 TRANSMISSIBILITY

The Centers for Disease Control and Prevention (CDC) states that COVID–19 is most commonly spread during close contact; individuals who are physically near (within 6 feet) a person with COVID–19 or have direct contact with that person are at greatest risk of infection.[1] Some infections can be spread by exposure to the virus through small droplets and particles that can linger in the air for minutes to hours. These particles can infect people who are further than 6 feet away from an infected individual or after that individual has left the space. This kind of spread is referred to as *airborne transmission*.[2] Although less common, COVID–19 can also be spread when a person touches a contaminated surface where respiratory droplets have landed, and then touches their own mouth, nose, or eyes.[3]

In September 2020, the CDC reported that it had investigated 1,600 cases of passengers flying commercial airlines while COVID–19 positive and found nearly 11,000 people may have been exposed; however, due to incomplete contact tracing

[1] *How COVID–19 Spreads*, Ctr. for Disease Control (Updated: Oct. 28, 2020) *available at* https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html.
[2] *Id.*
[3] *Id.*

data, the CDC was unable to confirm any case of viral transmission.[4] However, in March 2020, a separate CDC analysis found that a woman traveling from London to Vietnam, a more than 10-hour flight, infected 15 other passengers on a commercial flight prior to airline mask mandates.[5] Other studies have demonstrated the potential for the spread of coronavirus during long duration flights as well.[6]

As such, the CDC recommends people delay travel and stay home as much as possible during the pandemic, to protect themselves and others from COVID–19.[7] Consequently, the aviation industry has been severely affected by the significant decline in air travel.

II. COVID–19 Effects on the Aerospace Industry

The COVID–19 pandemic has had a devastating effect on the U.S. aerospace industry. Demand for commercial air travel plummeted last spring as the coronavirus cases surged, and it continues to be far below typical levels. The most recent airline traffic data showed a 61 percent decrease in passenger traffic for November 2020 over November 2019.[8] In January 2021, total traveler throughput at Transportation Security Administration (TSA) checkpoints dropped by, on average, more than 60 percent compared to the same period in 2020.[9] The International Air Transport Association (IATA) estimated in October 2020 that global airlines were burning more than $13 billion in cash each month.[10] IATA also predicts the airline industry will not fully recover until 2024 at the earliest.[11] Aerospace manufacturing has also been hit hard; by the end of 2020, it was expected that global civil aircraft production would drop by nearly 50 percent, affecting the entire supply chain and repair infrastructure.[12]

The reduction in U.S. air travel has also reduced the flow of aviation-related excise tax revenues into the Airport and Airway Trust Fund (AATF), the major source of funding for Federal aviation programs, including airport infrastructure grants, aviation safety programs, and air traffic control operations.[13] The Coronavirus Aid, Relief, and Economic Security (CARES) Act (Pub. L. 116–136) suspended the collection of most aviation excise taxes through calendar year 2020.[14] Due to the suspension of such taxes, the balance of the Federal Aviation Administration's (FAA's) AATF rapidly declined during the pandemic, according to FAA staff, including a revised projection of $571 million in downward Treasury adjustments and a projected $2.4 billion reduction to the Trust Fund cash balance.[15] Therefore, the Continuing Appropriations Act, 2021 and Other Extensions Act (Pub. L. 116–159), included a $14 billion general fund transfer to shore up the AATF to ensure funding stability for Federal aviation programs.[16]

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[4] Joseph Guzman, *CDC says nearly 11,000 people may have been exposed to COVID–19 on flights*, The Hill, Sept. 22, 2020, *available at* https://thehill.com/changing-america/well-being/longevity/517566-cdc-says-nearly-11000-people-may-have-been-exposed-to.

[5] Khanh N, Thai P, Quach H, Thi N, Dinh P, Duong T, et al., *Transmission of SARS-CoV 2 During Long-Haul Flight*, Vol. 26 No. 11 Emerging Infectious Diseases 2617–2624 (Nov. 2020) *available at* https://dx.doi.org/10.3201/eid2611.203299.

[6] Benedict Carey, *One 18-Hour Flight, Four Coronavirus Infections*, N.Y. Times, Jan.7, 2021 (Updated: Jan. 26, 2021), *available at* https://www.nytimes.com/2021/01/07/health/coronavirus-airline-passengers-outbreak.html.

[7] *Traveling During COVID–19*, Ctr. for Disease Control (Updated: Feb. 16, 2021), *available at* https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html.

[8] *U.S. Airlines November 2020 Passengers Decreased 61% from November 2019 (Preliminary)*, Bureau of Transp. Statistics, Jan. 12, 2021, *available at* https://www.bts.gov/newsroom/us-airlines-november-2020-passengers-decreased-61-november-2019-preliminary.

[9] *TSA checkpoint travel numbers (current year(s) versus prior year/same weekday)*, Transp. Sec. Admin. (Feb. 19, 2021), *available at* https://www.tsa.gov/coronavirus/passenger-throughput.

[10] *Airlines continue to burn through cash*, Int'l Air Transport Assoc., Oct. 8, 2020, *available at* https://airlines.iata.org/news/airlines-continue-to-burn-through-cash.

[11] *Recovery Delayed as International Travel Remains Locked Down*, Int'l Air Transport Assoc., July 28, 2020, *available at* https://airlines.iata.org/news/airlines-continue-to-burn-through-cash.

[12] Eric Fanning, *It's time for Congress to act: Save jobs and stabilize the aerospace industry*, The Hill, Nov. 16, 2020, *available at* https://thehill.com/blogs/congress-blog/economy-budget/526245-its-time-for-congress-to-act-save-jobs-and-stabilize-the?rl=1.

[13] *Airport and Airway Trust Fund (AATF) Fact Sheet*, FAA (Updated: April 2020), *available at* https://www.faa.gov/about/budget/aatf/media/AATF__Fact__Sheet.pdf.

[14] Coronavirus Aid, Relief, and Economic Security (CARES) Act, Pub. L. No. 116–136 § 4007 (2020).

[15] FAA briefing for staff of the Committee on Transportation and Infrastructure, April 21, 2020.

[16] Continuing Appropriations Act, 2021 and Other Extensions Act, Pub. L. 116–159 (2020).

III. COVID–19 Effects on the Aerospace Workforce

More than 750,000 workers are employed by U.S. passenger and cargo airlines,[17] with a large number of these workers facing the prospect of furlough as a result of substantially reduced demand. According to recent industry analysis, an estimated 100,000 aerospace manufacturing workers have already lost their jobs nationwide and 220,000 additional jobs are at risk of furlough.[18]

A. Payroll Support Program

Recognizing the immediate need to save airline jobs, Congress passed the CARES Act, which included the Payroll Support Program (PSP)—a $32 billion program to preserve the jobs of employees of U.S. airlines and certain airline contractors through September 30, 2020.[19] The assistance provided was conditioned on companies not involuntarily furloughing or reducing the pay rates or benefits of workers, refraining from stock buybacks, limiting executive compensation, and other conditions. Every major airline signed an agreement with the U.S. Treasury to receive PSP grants.[20]

Unfortunately, airlines struggled to remain solvent in the face of declining revenues, furloughing tens of thousands of flight attendants, pilots, and other workers after the PSP program and the prohibition on involuntary furloughs expired on September 30, 2020. While a second round of PSP funding was approved in December 2020 as part of a larger COVID–19 relief package, with the condition that air carriers recall any furloughed employees, the process to recall such employees is proved extraordinarily complex and expensive.[21] The recent December 2020 PSP extension provided a total of $15 billion in payroll grant funding for airlines and certain airline contractors through March 31, 2021.[22]

B. Worker Health and Safety

Aviation workers face significant risks of being exposed to COVID–19. Throughout the pandemic, flight attendants, pilots, gate agents, and service workers have had to deal with some travelers who refuse to follow airline mask requirements, have not been screened for the virus, and are unable to follow social distancing precautions both in the air and on the ground.[23] There have been numerous reports of airline passengers verbally abusing and taunting flight attendants as they have tried to enforce airline mask requirements and of passengers exploiting food and drink mask exceptions for prolonged periods to avoid mask wearing.[24] Moreover, these disturbances have safety implications beyond even spreading the virus, with at least one report of an airline captain being so distracted by a mask-related problem with a passenger that the captain mistakenly descended to the wrong altitude.[25] While an executive order now mandates passengers and crew wear face coverings in airports and on flights, including during check-in and boarding,[26] many personnel still have concerns regarding their safety, including mask enforcement, contact tracing, and whether they can miss work without repercussions.[27]

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[17] *Airline Employment Data by Month*, Bureau of Transp. Statistics, (Visited: May 29, 2020), *available at* https://www.transtats.bts.gov/Employment/.

[18] David Shepardson and Eric M. Johnson, *U.S. lawmakers consider aid for aerospace workers in COVID–19 bill*, Reuters, Dec. 18, 2020.

[19] CARES Act, Pub. L. No. 116–136 § 4112–20 (2020).

[20] *Payroll Support Program Payments*, U.S. Treas., (Updated: Feb. 9, 2021) *available at* https://home.treasury.gov/policy-issues/cares/preserving-jobs-for-american-industry/payroll-support-program-payments.

[21] Consolidated Appropriations Act, 2021, Pub. L. 116–260 (2020); CNBC, *Airlines Begin Complex Process of Calling Back More Than 32,000 Furloughed Workers* (Visited: January 15, 2021) *available at* https://www.cnbc.com/2020/12/23/coronavirus-stimulus-gives-airlines-15-billion-to-call-back-furloughed-workers.html.

[22] Consolidated Appropriations Act, 2021, Pub. L. 116–260 (2020).

[23] Harmeet Kaur and Natalia V. Osipova, *For flight attendants, getting people to wear masks is now one of the hardest parts of the job*, CNN, Jan. 21, 2021, *available at* https://www.cnn.com/travel/article/flight-attendants-unruly-passengers-masks-trnd/index.html.

[24] Michael Laris, *Sneezed on, cussed at, ignored: Airline workers battle mask resistance with scant governmental backup*, Wash. Post, January 1, 2021, *available at* https://www.washingtonpost.com/local/trafficandcommuting/coronavirus-mask-airplanes/2020/12/31/09c12d52-4565-11eb-975c-d17b8815a66d_story.html.

[25] *Id.*

[26] Exec. Order No. 13998, 86 FR 7205, Jan. 21, 2021.

[27] Johanna Read, *'It's definitely not easy.' How flight attendants are handling travel during COVID–19.*, Nat'l Geographic, Jan. 26, 2021 *available at* https://www.nationalgeographic.com/travel/article/heres-what-flight-attendants-want-you-to-know-about-flying-during-covid.

IV. Congressional Response

A. The CARES Act

In response to the pandemic, on March 27, 2020, Congress passed the bipartisan CARES Act.[28] This sweeping law provided economy-wide relief to individuals and businesses. In addition to authorizing the aforementioned PSP, providing $32 billion in payroll assistance to U.S. airlines and certain contractors conditioned on certain employer assurances, the CARES Act authorized $29 billion in Federal loans to airlines and a separate loan fund designed for businesses critical to maintaining national security.[29]

The CARES Act also provided $10 billion in emergency aid for airports to address the effects of the pandemic.[30] In exchange for receiving these Federal funds, small, medium, and large hub airports were required to retain at least 90 percent of their workforce as of March 27, 2020, through December 31, 2020. The measure also provided $100 million directly to general aviation airports and $500 million to help airports cover the non-Federal cost share of any Airport Improvement Program (AIP) grant received in fiscal year 2020.[31]

B. The Consolidated Appropriations Act, 2021

On December 27, 2020, the bipartisan Consolidated Appropriations Act of 2021 (Pub. L. 116–260) became law.[32] In the Act, the PSP was extended, authorizing an additional $16 billion for the program—$15 billion for air carriers and $1 billion for air carrier contractors. As such, it extended many of the conditions on employer acceptance of financial assistance through March 31, 2021.[33] The Act also included measures for airports similar to those included the CARES Act, providing $2 billion in emergency aid for airports to help them prepare for, mitigate, and respond to the effects of the COVID–19 pandemic.[34] Finally, the Act expanded the eligibility of the loan fund designed for businesses critical to maintaining national security created under the CARES Act to specifically include aerospace suppliers.[35]

C. Budget Reconciliation for Fiscal Year 2021

The reconciliation bill currently moving through the House would provide $15 billion to extend the PSP to fund payroll support for airline workers and related contract workers.[36] As with the original PSP authorization and its first extension, this second extension would prohibit air carriers and contractors from involuntarily furloughing or reducing pay rates or benefits of their workers until September 30, 2021, or on the date on which the assistance they receive is exhausted, whichever is later.[37] The extension includes similar restrictions on executive compensation and capital distributions, such as dividend payments, and taxpayer protections, as provided in the original program.[38]

The bill also provides a total of $8 billion in emergency aid for primary airports, non-primary airports, and airport concessions.[39] Of this amount, $6.4 billion would be distributed to primary airports for costs related to operations, personnel, debt service payments, and combating the spread of pathogens at airports, among other things.[40] In exchange for receiving these Federal funds, small, medium, and large hub airports are required to continue to retain at least 90 percent of their workforce as of March 27, 2020, through the end of this fiscal year.[41] Additionally, it would provide $100 million to non-primary airports to help address costs related to the current pandemic and more than $600 million to help ensure all airports receive a 100 percent Federal cost share for any AIP grant awarded to them in fiscal year 2021.[42] The measure would allocate $800 million to airport concessions at primary airports in the form of relief from rent and minimum annual guarantee obliga-

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[28] CARES Act, Pub. L. No. 116–136 (2020).
[29] *Id.* at § 4003.
[30] *Id.* at tit. XII, 134 Stat. 596.
[31] *Id.*
[32] Consolidated Appropriations Act, 2021, Pub. L. 116–260 (2020).
[33] *Id.*
[34] *Id.*
[35] *Id.*
[36] The American Rescue Plan of 2021, H.R. 1319, 117th Cong. (2021).
[37] *Id.*
[38] *Id.*
[39] *Id.*
[40] *Id.*
[41] *Id.*
[42] *Id.*

tions.[43] Of this $800 million allocation, 80 percent would be targeted toward small businesses and minority-owned firms and 20 percent would be provided to large concessionaires.[44]

Finally, the bill establishes a $3 billion payroll support program for aerospace manufacturers. Administered by the U.S. Department of Transportation (DOT), it would provide a 50 percent Federal share to eligible U.S. aerospace manufacturing companies—those that involuntarily furloughed at least 10 percent of their workforce or experienced at least a 15 percent decline in revenues in 2020 and have a majority of their aviation employees based in the United States—to help cover the wages, salaries, and benefits of manufacturing employees most at risk of being furloughed and to facilitate the recall or rehire of such employees furloughed during the COVID–19 pandemic.[45] The assistance is also specifically targeted at workers making less than $200,000 annually. Moreover, while receiving Federal funds, a manufacturer recipient is prohibited from conducting involuntary furloughs or reducing the pay rates and benefits of its eligible employee groups.

V. Combating COVID–19 Transmission in Air Travel—Current and Proposed Mitigation Strategies to Increase Safety and Recovery

A. Voluntary Symptom Self-Screening

People infected with COVID–19 should not travel.[46] Since the easiest way to suspect a COVID–19 infection is with active symptoms, the CDC and airlines currently ask passengers not to fly if they have symptoms. Unfortunately, a recent CDC study modeled that 59% of COVID–19 transmission came from people who were asymptomatic.[47] As such, self-screening is just the first of many methods used to ensure public safety.

B. Masks and Face Coverings

Wearing masks on any high-density public transport, if worn correctly, substantially reduces transmission. Masks protect both the wearer and others by containing the illness at its source and, if it is a specific type of mask (e.g., N95), by filtering the air the person breathes in. While the efficacy of the mask greatly depends on material, fit, and construction,[48] masks and face coverings in the aggregate have proven to be one of the most cost effective and minimally intrusive measures to mitigate transmission.[49]

Initially, the FAA declined to require airlines to block seats or to require passengers to wear masks on board commercial aircraft. However, many major airlines began independently requiring passengers and flight attendants to wear masks or other protective face coverings on board their aircraft. Unfortunately, once in the air, most airlines relied heavily on customer compliance rather than enforcement.[50] Seeing the need for stronger enforcement in view of belligerent passengers, airlines began independently banning passengers for non-compliance. In October 2020, it was reported that more than 900 passengers had been banned from airlines for refusing to wear a mask.[51] On January 13, 2021, citing increased disruptive behavior by airplane passengers stemming from refusal to wear masks, the FAA issued a zero-tolerance policy by which the agency committed to taking enforcement action against unruly passengers, including fines up to $35,000 and possible jail time, as

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[43] *Id.*
[44] *Id.*
[45] *Id.*
[46] *Traveling During COVID–19*, Ctr. for Disease Control (Updated: Feb. 16, 2021), *available at* https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html.
[47] Ben Guarino, *People without symptoms spread virus in more than half of cases, CDC model finds*, Wash. Post, Jan. 7, 2021, *available at* https://www.washingtonpost.com/science/2021/01/07/covid-asymptomatic-spread/. Please note, this article is referring to the general population and is not specific to airline passengers.
[48] Abrar A. Chughtai, Holly Seale, and C. Raina Macintyre, *Effectiveness of Cloth Masks for Protection Against Severe Acute Respiratory Syndrome Coronavirus 2*, Vol. 26 No. 10 Emerging Infectious Diseases 3201 (Oct. 2020) *available at* https://wwwnc.cdc.gov/eid/article/26/10/20-0948_article.
[49] Deborah Netburn, *New forecasts show why masks are the easiest—and cheapest—way to save U.S. lives*, L.A. Times, Oct. 23, 2020 *available at* https://www.latimes.com/science/story/2020-10-23/if-americans-would-just-wear-masks-we-could-save-more-than-671-000-lives.
[50] Pete Muntean, *Airlines Are Having Trouble Enforcing Their Face Mask Policies*, CNN, May 14, 2020, *available at* https://www.cnn.com/2020/05/13/business/airlines-mask-policy-enforcement/index.html.
[51] Shannon McMahon, *Delta, United and Alaska Airlines have banned more than 900 passengers for not wearing masks*, Wash. Post, Oct. 26, 2020, *available at* https://www.washingtonpost.com/travel/2020/10/26/airlines-banning-passengers-masks/.

opposed to first using counseling and warnings.[52] The policy is currently in effect through March 30, 2021.

On January 21, 2021, President Biden issued an Executive Order (EO) mandating masks to be worn on all forms of public transportation, including in airports and on commercial airplanes.[53] The EO confers, upon agency heads, significant discretion to authorize broad exceptions to the mask requirement.[54] The TSA has since announced that it will begin fining travelers in the United States who refuse to wear a mask in airports. The first time they fail to do so, the fine will be $250. Repeated offenses will be fines of up to $1,500. Based on substantial aggravating or mitigating factors, the TSA may seek a sanction amount that falls outside these ranges.[55] All passengers over the age of two must wear a mask. Passengers who refuse to wear a mask at the security check-in area will not be allowed to enter the secure area of the airport, including the terminal and gate area.[56] Airlines have also revised their language on masks to reflect CDC requirements and have pushed such information out to passengers through a variety of electronic communications.[57] The DOT also issued a Notice of Enforcement on February 5, 2021, to remind U.S. and foreign air carriers of their legal obligation to accommodate passengers with disabilities when implementing the Federal mask mandate.[58] According to a briefing from the TSA, passengers have nearly universally complied with this mandate with little to zero prompting from TSA officers.[59]

C. Cleaning

Both public and private transportation services have explored innovations in disinfection and U.S. airlines have enhanced their airplane cleaning protocols since the onset of the pandemic. For example, United Airlines has used an antimicrobial coating called "Zoono Microbe Shield" that inhibits the growth of microbes by forming a long-lasting bond with surfaces, such as seats, trays, tables, and armrests.[60] JetBlue has experimented with a machine from Honeywell that uses UV light to disinfect cabins.[61] Nonetheless, the CDC still recommends frequent hand washing and use of hand sanitizer containing at least 60 percent alcohol.[62] To help airplane passengers adhere to this recommendation, the TSA allows passengers to carry on one container of hand sanitizer up to 12 ounces.[63]

D. Airflow and Filtration

If a virus is airborne—i.e., transmitted by aerosolized small droplets—intra-cabin airflow plays a critical role in its spread or lack thereof. For instance, while the

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[52] David Shepardson, *Exclusive: U.S. FAA chief orders 'zero tolerance' for disruptive airline passengers, possibly jail*, Reuters, January 13, 2021, *available at* https://www.reuters.com/article/us-usa-election-aviation-exclusive/exclusive-u-s-faa-chief-orders-zero-tolerance-for-disruptive-airline-passengers-possibly-jail-idUSKBN29I302; See also FAA, *Press Release—Federal Aviation Administration Adopts Stricter Unruly Passenger Policy*, January 13, 2021, *available at* https://www.faa.gov/news/press_releases/news_story.cfm?newsId=25621.

[53] Exec. Order No. 13998, 86 FR 7205, Jan. 21, 2021.

[54] *Id*.

[55] Press Release, *TSA to implement Executive Order regarding face masks at airport security checkpoints and throughout the transportation network*, Transp. Sec. Admin. (Jan 31, 2021), *available at* https://www.tsa.gov/news/press/releases/2021/01/31/tsa-implement-executive-order-regarding-face-masks-airport-security.

[56] *Id*.

[57] Donald Wood, *New Government Mask Mandate for Airlines Now in Effect*, Travel Pulse, Feb. 2, 2021, *available at*: https://www.travelpulse.com/news/airlines/new-government-mask-mandate-for-airlines-now-in-effect.html.

[58] *Notice of Enforcement Policy: Accommodation by Carriers of Persons with Disabilities Who Are Unable to Wear or Safely Wear Masks While on Commercial Aircraft*, Dept. of Transp. (Feb. 5, 2021), *available at*: https://www.transportation.gov/sites/dot.gov/files/2021-02/Mask%20Notice%20Issued%20on%20Feb%205.pdf.

[59] TSA briefing for Members of the Subcommittee on Transportation and Maritime Security, Committee on Homeland Security and some Members of the Committee on Transportation and Infrastructure, February 17, 2021.

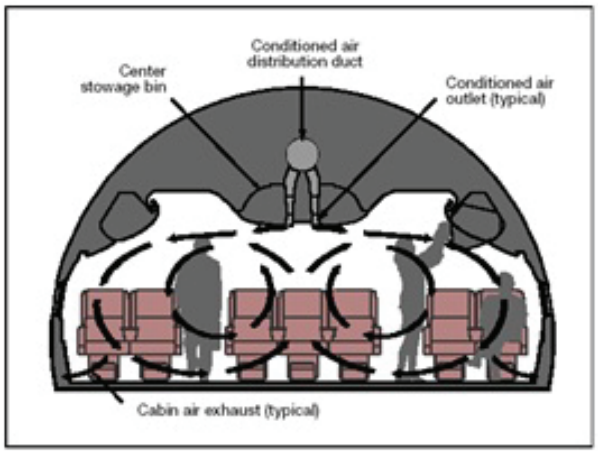
[60] Press Release, *United Adds Antimicrobial Spray to Already Extensive Cabin-Cleaning Measures*, United Airlines, September 16, 2020, *available at* https://hub.united.com/2020-09-16-united-adds-antimicrobial-spray-to-already-extensive-cabin-cleaning-measures-2647678535.html.

[61] Cailey Rizzo, *JetBlue Is Testing a Giant UV Light Machine That Could Disinfect Plane Cabins in Under 10 Minutes*, Travel + Leisure, July 30, 2020, *available at* https://www.travelandleisure.com/airlines-airports/jetblue/jetblue-airplane-cabin-disinfectant-machine-coronavirus.

[62] *How to Protect Yourself & Others*, Ctr. for Disease Control (Updated: December 31, 2020) *available at* https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html.

[63] *Hand Sanitizers*, Transp. Sec. Admin. (Visited: Feb. 21, 2021) *available at* https://www.tsa.gov/travel/security-screening/whatcanibring/items/hand-sanitizers.

cross-sectional nature of circulation in the cabin (see image) limits airflow up and down the aisle, studies have shown that air is still shared a few rows to the front and back.[64] Moreover, gaspers (personal air vents in the passenger service unit above your head) have the potential to drastically increase the possibility of droplet spread.[65] While there have been a few recent studies on the topic, including one that was conducted jointly by the Department of Defense and United Airlines, most have not considered variables such as passenger movement, eating and drinking, lavatory use, and humidity.[66]



Most commercial airliners use high-efficiency particulate air (HEPA) filters and have a high air-exchange rate, including a mix of outdoor and recirculated air. Such HEPA filters play a critical role in reducing risks as they can filter out almost all airborne droplets that contain COVID–19.[67] However, they are also limited. For instance, a HEPA filter affords no protection to an individual if they are exposed to the virus prior to it settling or reaching the circulation intake.[68] As such, airborne particles generated by sneezing or coughing, remain in the cabin air until they enter the ventilation system and are effectively removed by HEPA filters or settle on common surfaces, creating potential exposure for disease transmission.[69]

E. Contact Tracing

Contact tracing is a resource intensive exercise dependent upon individuals with the right public health skills and access to laboratory testing facilities. However, it

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[64] Chen, McDevitt, et al., *Infectious Disease Transmission in Airliner Cabins*, Report No. RITE–ACER-CoE-2012–01, National Air Transportation Center of Excellence Research in the Intermodal Transport Environment (RITE), (Feb. 22, 2012) *available at* https://www.faa.gov/data__research/research/med__humanfacs/cer/media/infectiousdiseasetransmission.pdf; *see also* Walkinshaw, *Germs, Ventilation, Occupancy Density and Exposure Duration: A Thirteen Setting Pathogen Inhalation Comparison*, American Society of Heating, Refrigerating and Air-Conditioning Engineers Indoor (ASHRAE) IAQ Conference Papers (2010); *see also* Walkinshaw, *A Brief Introduction To Passenger Aircraft Cabin Air Quality*, ASHRAE Journal, Oct. 2020 *available at* https://www.ashrae.org/file%20library/technical%20resources/covid-19/12-19__walkinshaw.pdf.

[65] You, Chen, Lin et al., *Investigating the impact of gaspers on cabin air quality in commercial airliners with a hybrid turbulence model*, Vol. 111 Building and Environment, 110–122 (Jan. 2017); *see also* Darrah, Bennet, Jones et al., *Infectious Passenger Isolation System for Aircraft*, Vol. 125 Pt. 2 ASHRAE Transactions 288–296 (2020) *available at* https://www.ashrae.org/file%20library/technical%20resources/covid-19/kc021.pdf.

[66] Gio Benitez and Sam Sweeney, *Risk of COVID–19 exposure on planes 'virtually nonexistent' when masked, study shows*, abcNews, Oct. 15, 2020, *available at* https://abcnews.go.com/Politics/risk-covid-19-exposure-planes-virtually-nonexistent-masked/story?id=73616599.

[67] Johanna Read, *How clean is the air on planes?* Nat'l Geographic, Aug. 28, 2020 *available at* https://www.nationalgeographic.com/travel/article/how-clean-is-the-air-on-your-airplane-coronavirus-cvd.

[68] Tim Heffernan, *Can HEPA Air Purifiers Capture the Coronovirus*, N.Y. Times, Updated: Nov. 18, 2020 *available at* https://www.nytimes.com/wirecutter/blog/can-hepa-air-purifiers-capture-coronavirus/.

[69] ACRP Report 91, *Infectious Disease Mitigation in Airports and on Aircraft*, Nat'l Acad. of Sci., 2013 *available at* http://nap.edu/22512.

has been shown to be an effective measure to help control the spread of infectious diseases, including COVID–19.[70] It is also an incredibly useful scientific tool to help public health professionals learn how the disease spreads, in what environments or work places, and what factors, or lack of protective measures, may help to augment the spread of the disease to others.

A study by researchers at Harvard and Stanford Universities, using a mathematical model, found that the most effective contact tracing programs could reduce the overall transmissions of COVID–19 infections by almost half.[71] The United States does not have a cohesive Federal contact tracing program or plan.[72] Instead, the Federal response has largely left COVID–19 contact tracing efforts up to State and local officials.

In February, Airlines for America (A4A) announced that its major members would all begin voluntarily collecting information for contact tracing to turn over to the CDC.[73] While, Delta and United have been engaging in this practice since December, American, Southwest, Alaska, JetBlue, and Hawaiian will now also ask passengers to make their names, phone numbers, email, and physical addresses available to the CDC.[74]

F. National Aviation Preparedness Plan

Following the Ebola outbreak in 2014, the GAO recommended the U.S. Department of Transportation (DOT) develop a plan to limit the spread of pandemics through the aviation system. Specifically, the GAO issued following recommendation:

> To help improve the U.S. aviation sector's preparedness for future communicable disease threats from abroad, the Secretary of Transportation should work with relevant stakeholders, such as the Department of Health and Human Services, to develop a national aviation-preparedness plan for communicable disease outbreaks. Such a plan could establish a mechanism for coordination between the aviation and public health sectors and provides clear and transparent planning assumptions for a variety of types and levels of communicable disease threats.[75]

According to the GAO, the DOT has not implemented this recommendation. The GAO found that had the DOT implemented such a plan, it "could have improved coordination between public-health and aviation sectors during COVID–19 to address issues like passenger screening."[76] Moreover, the GAO found that since the time the 2015 report was published, the FAA had sponsored limited research on disease transmission within airplanes and airports.[77]

G. Testing Requirements

On January 21, 2021, the Biden Administration issued an Executive Order which requires travelers seeking to enter the United States from a foreign country to show proof of a recent negative COVID–19 test prior to entry; and comply with other applicable CDC guidelines concerning international travel, including recommended pe-

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[70] Matt J. Keeling, T. Deirdre Hollingsworth, and Jonathan M. Read, *Efficacy of contact tracing for the containment of the 2019 novel coronavirus (COVID–19)*, J. of Epidemiology and Cmty. Health, October 2020, *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7307459/#:~:text=In%20general%2C%20contact%20tracing%20is,transmission%20from%20the%20secondary%20cases.

[71] Alyssa Bilinski, MS, Farzad Mostashari, MD and Joshua A. Salomon, PhD, *Modeling Contact Tracing Strategies for COVID–19 in the Context of Relaxed Physical Distancing Measures*, JAMA Network Open (Research Letter/Public Health), August 21, 2020, *available at* https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2769618.

[72] Beth Duff-Brown, *Model shows potential contact tracing impact against COVID–19*, News Center, Stanford Univ. School of Med., Aug. 24, 2020, *available at* http://med.stanford.edu/news/all-news/2020/08/model-shows-potential-contact-tracing-impact-against-covid-19.html.

[73] Press Release, *Major U.S. Airlines Announce Support for International Contact Tracing Program*, Airlines for America (Feb. 19, 2021) *available at* https://www.airlines.org/news/major-u-s-airlines-announce-support-for-international-contact-tracing-program/.

[74] *Airlines plan to ask passengers for contact-tracing details*, Associated Press, Feb. 22, 2021, *available at* https://apnews.com/article/public-health-airlines-united-states-coronavirus-pandemic-edb4fdb3997a07ab02ad35c347cb0839.

[75] Gov't Accountability Office, *Air Travel and Communicable Diseases: Comprehensive Federal Plan Needed for U.S. Aviation System's Preparedness* 43, Rpt. No. GAO–16–127 (December 2015), *available at* https://www.gao.gov/assets/680/674224.pdf.

[76] Gov't Accountability Office, *Air Travel and Communicable Diseases: Status of Research Efforts and Action Still Needed to Develop Federal Preparedness Plan*, Rpt. No. GAO–20–655T (June 2020), *available at* https://www.gao.gov/assets/710/707757.pdf.

[77] *Id*.

riods of self-quarantine or self-isolation after entry into the United States.[78] Other countries have put in place similar requirements.[79]

In February 2021, there were media reports that the Biden Administration was considering mandating a pre-departure testing requirement of all passengers on domestic commercial flights.[80] It is estimated that such a requirement would amount to approximately 900,000 tests per day (based on current passenger levels), or 27 million more tests per month,[81] requiring a massive scale-up in testing capacity. Moreover, many experts agree that mitigation measures such as masks, hand sanitizers, social distancing, and proper ventilation would still need to be required, regardless of whether a passenger tests negative.[82] As such, numerous organizations voiced their concerns that this could effectively lead to a ban on domestic air travel, devastating U.S. airlines, with limited benefit.[83] On February 12, 2021, the Biden Administration announced that it would not be pursuing such a requirement at this time.[84]

In a limited capacity, some airports and air carriers are pushing a scaled-down rollout of testing between specific destinations. This concept, otherwise known as "safe travel corridors", would require passengers to take rapid COVID–19 tests before certain flights in exchange for removing the destination country's travel restrictions and quarantine requirements.[85]

H. Vaccinations

When Ebola exploded across West Africa in 2014, it took more than five years to get a vaccine approved.[86] In 2020, " . . . researchers were able to develop multiple protective coronavirus vaccines and get them authori[z]ed within 12 months of the virus being discovered."[87] On December 11, 2020, the U.S. Food and Drug Administration (FDA) issued the first emergency use authorization (EUA) for a vaccine for COVID–19 in individuals 16 years of age and older.[88] The EUA allows the Pfizer-BioNTech COVID–19 Vaccine to be distributed in the United States. A week later, on December 18, 2020, the FDA issued an EUA for the Moderna COVID–19 vaccine for use in individuals 18 years of age and older.[89] On February 24, 2021, the FDA announced that the Johnson & Johnson COVID–19 vaccine had met the requirements for emergency use authorization.[90] All three vaccines were developed and FDA approved in record time.

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[78] Exec. Order No. 13998, 86 FR 7205, Jan. 21, 2021.

[79] *COVID–19 Country Specific Information*, U.S. Dept. of State—Bureau of Consular Affairs (Visited: Feb, 24, 2021) *available at*: https://travel.state.gov/content/travel/en/traveladvisories/COVID-19-Country-Specific-Information.html.

[80] Marnie Hunter, *US considers Covid-19 testing requirement for domestic air travel*, CNN, Feb. 9 2021 *available at* https://www.cnn.com/travel/article/us-domestic-covid-19-test-considered-air-travel/index.html.

[81] *TSA checkpoint travel numbers (current year(s) versus prior year/same weekday)*, Transp. Sec. Admin. (Feb. 19, 2021), *available at* https://www.tsa.gov/coronavirus/passenger-throughput.

[82] Holly Yan, *Don't get a false sense of security with Covid-19 testing. Here's why you can test negative but still be infected and contagious*, CNN, Nov. 3, 2020, *available at* https://www.cnn.com/2020/11/03/health/covid-test-negative-contagious-wellness/index.html.

[83] Airlines for America Letter to Mr. Jeffrey Zients, COVID–19 Recovery Team Coordinator, The White House, *A4A Joins Coalition in Letter to White House COVID–19 Recovery Team* (Jan. 29, 2021) *available at* https://www.airlines.org/news/a4a-joins-coalition-in-letter-to-white-house-covid-19-recovery-team/.

[84] Alison Sider and Sabrina Siddiqui, *Covid-19 Testing Won't Be Required Before Domestic Flights, CDC Says*, Wall St. J., Feb. 12, 2021, *available at* https://www.wsj.com/articles/covid-19-testing-wont-be-required-before-domestic-flights-cdc-says-11613183533.

[85] Hira Humayun, *Delta's new travel corridor offers quarantine-free access to the Netherlands*, CNN, Dec. 15, 2020 *available at* https://www.cnn.com/travel/article/delta-air-lines-atlanta-amsterdam-corridor/index.html.

[86] Olivia Willis, *How COVID–19 vaccines were developed in record time, without compromising safety*, ABC Health & Wellbeing, Jan. 28, 2021, *available at* https://www.abc.net.au/news/health/2021-01-29/how-covid-vaccines-were-developed-in-record-time/13096682.

[87] *Id*.

[88] *Pfizer-BioNTech COVID–19 Vaccine*, Food and Drug Admin.(Visited: Feb. 24, 2021) *available at* https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/pfizer-biontech-covid-19-vaccine.

[89] *Moderna COVID–19 Vaccine*, Food and Drug Admin. (Visited: Feb. 24, 2021) *available at* https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/moderna-covid-19-vaccine.

[90] Jen Christensen, *FDA says Johnson & Johnson Covid-19 vaccine meets requirements for emergency use authorization*, CNN, Feb. 24, 2021, *available at* https://www.cnn.com/2021/02/24/health/johnson-vaccine-fda-analysis/index.html.

According to the Department of Health and Human Services, "vaccines will help prevent the spread of COVID–19 and bring this pandemic to an end."[91] COVID–19 vaccine availability is increasing rapidly in the United States; as of February 24th, more than 13 percent of Americans had received at least one COVID–19 vaccine dose.[92] President Biden recently pledged to make 600 million vaccine doses available by the end of July; this is effectively enough to vaccinate every American.[93]

Airlines and analysts anticipate that increased vaccination rates will release "pent up demand" for domestic air travel in 2021.[94] The belief is that the availability of vaccines and testing will give air travelers comfort again.[95] Another analyst estimates that while travel was down by 50 percent last summer, this summer there will be a 70–80 percent return in leisure travel.[96] As airline travel returns, hospitality, tourism, airports, and aerospace manufacturing, maintenance, and repair industries will also benefit.

WITNESSES

- Ms. Heather Krause, Director, Physical Infrastructure, U.S. Government Accountability Office
- Mr. Nicholas E. Calio, President and Chief Executive Officer, Airlines for America
- Capt. Joe DePete, President, Air Line Pilots Association, International
- Mr. Peter Bunce, President and Chief Executive Officer, General Aviation Manufacturers Association
- Mr. Lance Lyttle, Managing Director, Aviation Division, Port of Seattle, on behalf of American Association of Airport Executives
- Mr. Edward M. Bolen, President and Chief Executive Officer, National Business Aviation Association

[91] *COVID–19 Vaccines*, Dept. of Health and Human Services (Updated: Feb. 2021) *available at* https://www.hhs.gov/coronavirus/covid-19-vaccines/index.html.

[92] *Covid-19 Tracker*, Bloomberg (Visited: Feb. 24, 2021) *available at* https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/.

[93] Zeke Miller Jonathan Lemire, Biden says US is securing 600 million vaccine doses by July, Associated Press, Feb. 11, 2021 *available at* https://apnews.com/article/vaccine-biden-600-million-doses-july-b7845a7d0f709199265d9243598b629e.

[94] Mina Kaji and Amanda Maile, *Experts say vaccine rollout, cheap fares may lead to more rapid air travel rebound*, ABC News, January 12, 2021 *available at* https://abcnews.go.com/Politics/experts-vaccine-rollout-cheap-fares-lead-rapid-air/story?id=75202169.

[95] *Id.*

[96] *Id.*

COVID–19'S EFFECTS ON U.S. AVIATION AND THE FLIGHTPATH TO RECOVERY

TUESDAY, MARCH 2, 2021

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:02 a.m. in room 2167 Rayburn House Office Building and via Cisco Webex, Hon. Rick Larsen (Chair of the subcommittee) presiding.

Present in person: Representatives Larsen, DeFazio, Kahele, Lynch, Stanton, Garamendi, Graves of Louisiana, Massie, Perry, Mast, Stauber, Burchett, Nehls, Van Duyne, and Gimenez.

Present remotely: Representatives Cohen, Carson, Davids, Johnson of Georgia, Titus, Brownley, Payne, DeSaulnier, Brown, Allred, Lamb, Delegate Norton, Johnson of Texas, Fitzpatrick, Balderson, Van Drew, and Steel.

Mr. LARSEN. The subcommittee will come to order.

I ask unanimous consent that the chair be authorized to declare recess at any time during today's hearing.

Without objection, so ordered.

I would note that we are expecting votes today, the first votes between 11 o'clock and 11:30. We will be continuing the hearing during the votes. And I will have people sit in as chair, as necessary, so that people can vote from the committee room, get from the floor and back.

For Members participating remotely, I want to remind you of key regulations from the House Committee on Rules. Members must be visible on video to be considered in attendance and to participate, unless experiencing connectivity issues.

Members must also continue to use the video function for the remainder of the time they are attending this meeting and hearing, unless experiencing connectivity issues or other tech problems.

If a Member is experiencing any connectivity issue or other technical problems, please inform committee staff as soon as possible so that you can receive assistance. A chat function is available for Members on the Cisco Webex platform for this purpose. Members can also call the committee's main line, 202–225–4472, for technical assistance by phone.

Members may not participate in more than one committee proceeding simultaneously. However, for security reasons, Members may maintain a connection to the software platform while not in attendance.

It is the responsibility of each Member seeking recognition to unmute their microphone prior to speaking, and to keep their microphone muted when not speaking to avoid inadvertent background noise. Let me repeat that last phrase. It is your responsibility to keep your microphone muted when not speaking to avoid inadvertent background noise.

As the chair of today's meeting and hearing, I will make a good-faith effort to provide every Member experiencing connectivity issues an opportunity to participate fully in the proceedings.

And finally, to insert a document into the record, please have your staff email it to DocumentsT&I@mail.house.gov.

I will now start with my opening statement. I would ask unanimous consent for my opening statement be entered into the record in full.

Without objection, so ordered.

Because of our votes coming up, I will just give you a truncated version of my opening statement and move to a few of the things I want to hear from our hearing witnesses today.

First, following the 2014 Ebola virus outbreak, the GAO recommended the Department of Transportation work with relevant Federal agencies to develop an aviation preparedness plan for communicable disease crises. Although these agencies did not dispute the GAO's recommendation, they took no significant action to develop a preparedness plan. So from Ms. Krause at the GAO I look forward to hearing about the benefits of a national aviation preparedness plan, and GAO's other recommendations to improve the safety of the traveling public, and to minimize disruptions to the national aviation system.

Moreover, the COVID–19 pandemic has created fragmented travel requirements, resulting in a confusing system for passengers, U.S. airlines, and flightcrews to navigate. These challenges range from various acceptable COVID–19 test results to inconsistent quarantine periods. To address these issues, digital vaccine and testing passports are gaining popularity. And recently, major carriers such as United Airlines and American Airlines launched mobile apps which can enable passengers to show immunization records and recent testing results when traveling abroad.

So, Mr. Calio from A4A, I am interested in learning more about U.S. carriers' efforts to develop these passports, and what standards are necessary to scale up deployment, if necessary.

Further, I often say that the public health response will lead economic recovery. And since last December, the Food and Drug Administration has issued EUAs [emergency use authorizations] for three COVID–19 vaccinations. The President has recently pledged to make nearly 600 million doses available by the end of July. So, as we think about vaccine distribution and administration across the country, frontline aviation workers must be appropriately considered for access. So, Captain DePete from ALPA, I look forward to hearing more about the essential role of airline pilots in U.S. aviation's recovery, and how improving access to vaccinations is critical to ensuring the safety of flightcrews.

And as the U.S. aviation industry embarks on a flightpath to recovery, the Nation needs a bold, FDR-like investment in infrastructure to drive local economies, to create jobs, and to fight climate

change, something I think the full committee will be taking up very soon. So I am pleased that Mr. Lance Lyttle, the managing director of Seattle-Tacoma International Airport in my home State of Washington, is here today on the panel on behalf of AAAE. I look forward to hearing more about the importance of Federal investment in airports' growing infrastructure needs, and efforts to improve environmental sustainability.

Also looking forward, the U.S. aviation system is undergoing a historic shift with the continued growth of unmanned aircraft and the emergence of new airspace entrants such as Advanced Air Mobility. So, while collaboration between the Federal Government, the aerospace industry, and other stakeholders is ongoing, the safe integration of new entrants is far from complete. And I know that Mr. Bunce from GAMA has comments in his written statement about those issues. And I would like to hear more from him about Congress' role to establish a comprehensive policy framework and investment necessary to foster innovation in the U.S. airspace, as we look forward to recovery.

But a recovery is only possible with continued Federal support for the hard-working women and men of the aviation workforce and the next generation of engineers, pilots, mechanics, and technicians. So, Mr. Bolen from NBAA, I look forward to hearing more from you about ways to improve access to STEM-based apprenticeships, skills training, and career and tech education programs to diversify and grow the U.S. aviation pipeline, comments I know that you have included in your statement.

So I will conclude there, just to say the American people are sacrificing greatly to combat COVID–19. We recognize that. They are counting on us in Congress to do our part to keep people safe and get the country to the other side of this pandemic. And I am confident that, with Congress' continued support, the U.S. aviation industry and workforce will be able to move toward long-term economic recovery.

[Mr. Larsen's prepared statement follows:]

Prepared Statement of Hon. Rick Larsen, a Representative in Congress from the State of Washington, and Chair, Subcommittee on Aviation

Good morning and thank you to today's witnesses for joining the Subcommittee's first hearing of the 117th Congress on "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery." Before we begin, I would like to thank my colleagues re-electing me to serve as Subcommittee Chair. I look forward to working with Ranking Member Garret Graves to address the pressing challenges and new opportunities facing U.S. aviation.

The pandemic has tested the resiliency of the U.S. transportation network like never before, and the aviation sector is no exception. In my conversations with constituents and stakeholders, I hear about tragic loss, economic anxiety and profound challenges. I have heard from airports like Bellingham International in my district, which experienced a 71 percent decline in enplanements last year when compared to 2019, and is expecting a cumulative loss of nearly $11 million in revenue. I have heard from local aerospace manufacturing suppliers like Hexcel Corporation in Burlington, struggling to keep its doors open and employees on payroll due to halted production and stalled deliveries. I have heard from a regional airline pilot from Marysville who is concerned about paying off his student loan debt, while caring for his growing family. While these issues in total may seem insurmountable, U.S. aviation, as it has done before, will persevere.

Last week, the House passed the *American Rescue Plan*, a comprehensive aid package that gets more vaccines in arms, gives Americans a long overdue raise, en-

ables working families to return to their jobs, and ensures communities can continue to maintain crucial services. The package also provides urgent relief to sustain U.S. aviation and aerospace during the pandemic, and protect workers and restore lost manufacturing jobs, including:

- A $15 billion extension of the successful Payroll Support Program through September 2021 to keep frontline aviation workers on payroll with benefits;
- $8 billion to help keep U.S. airports and airport concessionaires operational; and
- Language from my bipartisan bill, the *Aerospace Manufacturing Jobs Protection Act*, providing $3 billion to help retain and rehire aerospace supply chain workers.

As the nation works to safely get to the other side of this pandemic, ensuring safety and restoring confidence in air travel is key to the nation's long-term economic recovery. Keeping the flying public healthy from COVID–19 is even more difficult because of the lack of coordinated federal leadership by the previous administration. The Biden administration has since taken actions to reinforce public health, including the requiring of masks on in airports and onboard commercial aircraft. I was also pleased the Federal Aviation Administration is taking a zero-tolerance enforcement policy against unruly passengers who disobey flight and cabin crew instructions during flight. However, the federal government can—and must—do more.

A national aviation preparedness plan would ensure the safety of aviation crews and passengers in the event of a future public health crisis. Following the 2014 Ebola virus outbreak, the Government Accountability Office (GAO) recommended the Department of Transportation work with relevant federal agencies to develop such a plan for communicable disease crises. Although these federal agencies did not dispute GAO's recommendation, they took no significant action to develop a preparedness plan. Ms. Krause, I look forward to hearing about the benefits of a national aviation preparedness plan and GAO's other recommendations to improve the safety of the traveling public, and minimize disruptions to the national aviation system.

Moreover, the COVID–19 pandemic has created fragmented travel requirements, resulting in a confusing system for passengers, U.S. airlines and flightcrews to navigate. These challenges range from various acceptable COVID–19 test results to inconsistent quarantine periods. To address these issues, digital vaccine and testing "passports" are gaining popularity. Recently, major carriers such as United Airlines and American Airlines launched mobile apps which can enable passengers to show immunization records and recent testing results when traveling abroad. Mr. Calio, I am interested in learning more about U.S. carriers' efforts to develop these passports and what standards are necessary to scale up deployment.

I often say that the public health response will lead economic recovery. Since last December, the Food and Drug Administration has issued emergency use authorizations for three COVID–19 vaccinations. President Biden recently pledged to make nearly 600 million doses available by the end of July. As COVID–19 vaccine distribution and administration continues across the country, frontline aviation workers must be appropriately considered for access. Captain DePete, I look forward to hearing more about the essential role of airline pilots in U.S. aviation's recovery and how improving access to vaccinations is critical to ensuring the safety of flightcrews.

As U.S. aviation embarks on a "flightpath to recovery," the nation needs a bold, FDR-like investment in infrastructure to drive local economies, create jobs and fight climate change. I am pleased Mr. Lance Lyttle, Managing Director of Seattle-Tacoma International Airport in my home state of Washington, is on today's witness panel on behalf of AAAE. Mr. Lyttle, I look forward to hearing more about the importance of federal investment in airports' growing infrastructure needs and efforts to improve environmental sustainability.

U.S. aviation is also undergoing a historic shift with the continued growth of unmanned aircraft and the emergence of new airspace entrants such as Advanced Air Mobility, including electric aircraft which can help reduce traffic congestion by moving people and cargo at lower altitudes across regions. While collaboration between the federal government, aerospace industry and other key stakeholders is ongoing, the safe integration of new entrants is far from complete. Mr. Bunce, I would like to hear more from you about Congress' role to establish the comprehensive policy framework and investment necessary to foster innovation in U.S. airspace.

However, full economic recovery is only possible with continued federal support for the hardworking women and men of the aviation workforce and the next generation of engineers, pilots, mechanics and technicians. Mr. Bolen, I look forward to hearing more about ways to improve access to STEM-based apprenticeships, skills training and career and technical education programs to diversify and grow the U.S. aviation pipeline.

The American people are sacrificing greatly to combat COVID–19. They are counting on Congress to do its part to keep people safe and get the country to the other side of this pandemic. I am confident that with Congress's continued support, the U.S. aviation industry and workforce will be able to move toward long-term economic recovery. Thank you again to today's witnesses. I look forward to our discussion.

Mr. LARSEN. So I want to say thank you to today's witnesses, and turn to Representative Garret Graves of Louisiana for an opening comment.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Chairman, and I want to thank all the witnesses for being here. I appreciate the opportunity to have this hearing today.

This pandemic has been extraordinary, in terms of the impacts to everyday Americans. Everything from mental health challenges, an increase in suicides, an increase in opioid dependence, lost jobs, lost economic activity. Of course, folks in nursing homes unable to have their loved ones come visit, causing mental health as well as physical health problems.

The good news, as the chairman noted, is that 130 million vaccines have already been prepared and available for Americans as of the end of this month. And we are on track right now to have access to vaccines by the summer for all Americans, which is great news.

Mr. Chairman, as you well know, back in April of last year, passenger flights were down 95 percent—95 percent—year over year. Looking at 2019 to 2020, flights were down 60 percent. It is estimated that somewhere between $1.6 and $1.8 trillion in additional savings were realized as a result of the extraordinary drop in economic activity and in flights.

Congress has stepped up and twice now provided the Payroll Support Program, supporting workers, because what is important is that we actually have the bandwidth, we have the capacity of our airline industry, we have the ability to have business and recreational travel, tourism travel available for when the economy picks back up again. And so those investments have gone to help ensure that we have that bandwidth, we have the capacity.

We have also made investments in airports to ensure that the infrastructure is there, is ready, and ready to go. And I am going to say it again, this is absolutely integral to our economic recovery.

Now, something else that we need to be thinking about and considering—and I am interested to hear from some of the witnesses on this—is the fact that, since airline passenger flights and travel has been down significantly, are we ready, in terms of a safety perspective, the equipment that has been in storage or mothballed, the pilots that aren't getting the number of hours that they normally get, the other airline support workers, flight attendants, and others, are we ready to go, and to do it safely, and to ramp back up quickly to 100 percent capacity?

As the chairman noted, we don't need to just get back to where we were before. We have had extraordinary challenges in the aviation industry with some of the safety issues associated with the 737 MAX, as well as all the statistics I just covered, including the 95-percent reduction in flights dating back to April of last year. But we have some amazing opportunities on the horizon within the

aviation industry. And, of course, one of the biggest being unmanned systems and integration into our airspace.

So I am looking forward to hearing the witnesses' testimony, and I just want to again reiterate what the chairman said in regard to helping us to think forward and project some of the needs out of this body to ensure that we are ready to go from a capacity and a safety perspective whenever the economy fully opens back up.

Thank you, Mr. Chairman. I yield back.

[Mr. Graves of Louisiana's prepared statement follows:]

Prepared Statement of Hon. Garret Graves, a Representative in Congress from the State of Louisiana, and Ranking Member, Subcommittee on Aviation

Thank you, Mr. Chairman, and I want to thank all the witnesses for being here. I appreciate the opportunity to have this hearing today.

This pandemic has been extraordinary in terms of its impacts—everything from mental health challenges, increased suicides, increased opioids dependence, lost jobs, lost economic activity, and of course folks in nursing homes unable to have their loved ones come visit, causing mental health as well as physical health problems.

Some good news, as the Chairman noted, is that 130 million vaccines have already been prepared and are available for Americans, as of the end of this month. And we're on track right now to have access to vaccines by the summer for all Americans, which is great news.

Mr. Chairman, as you well know back in April of last year, passenger flights were down 95 percent. Ninety-five percent. Year to year, looking at 2019 to 2020, passenger counts were down 60 percent. It's estimated that somewhere between $1.6 and $1.8 trillion dollars in additional savings by Americans were realized as a result of the extraordinary drop in economic activity, including reduced flying.

Congress has stepped up and twice provided the payroll support program—supporting workers—because what is important is that we actually maintain the capacity of our airline industry and the ability to have business, recreational, and tourism travel available for when the economy picks back up again.

And so, those investments have gone to help ensure that we have that maintained capacity. We've also made investments in airports to ensure the infrastructure is there and ready to go.

And I am going to say it again: this is absolutely integral to our economic recovery.

Now something else that we need to be thinking about—and I am interested to hear from the witnesses on this—is that since airline passenger flights and travel have been down significantly: Are we ready? In terms of safety, are we ready? Equipment has been in storage; pilots aren't getting the number of hours they normally get; and what about other airline workers, flight attendants, and mechanics? Are we ready to go, to do it safely, and to ramp back up quickly to 100 percent capacity?

As the Chairman noted, we don't need to just get back to where we were before. We have had extraordinary challenges in the aviation industry with some of the safety issues associated with 737 MAX, as well as all the statistics I just covered, including the 95 percent reduction in flights dating back to April of last year.

But we have some amazing opportunities on the horizon and within the aerospace industry. And of course, one of the biggest being unmanned systems and their integration into our airspace.

I am looking forward to hearing the witnesses' testimony, and I just want to again reiterate what the Chairman said in regard to helping us to look forward and project what some of the needs might be from this body, to ensure that we are ready to go from a capacity and safety perspective whenever the economy fully opens back up.

Mr. LARSEN. Thank you, Representative Graves.

Representative DeFazio, you are recognized for an opening statement.

Mr. DEFAZIO. I thank the gentleman.

It seems like we have been here before, about once every 10 years. We had the Gulf War. We saw the failures of Pan Am and Eastern, and bankruptcy filings. We lost a lot of jobs. The 9/11 terror attacks resulted in bankruptcies of numerous airlines, and a loss of a lot of jobs, and a lot of people lost their pensions and everything else.

But this time, it is a little different. Congress rose to the occasion, and we created what I think is the most successful part of the CARES Act or anything we have done during the pandemic to support working Americans. The Payroll Support Program, totally scandal free, unlike the Paycheck Protection Program—where some major chains and others scammed the system and other problems with that. Not a penny went to the airlines; there were restrictions on executive pay, bonuses, stock buybacks, dividends; and we have saved, in the aggregate, I would say, tens of thousands or up to 100,000 jobs, including contractors—and that kept people in their homes, kept their health insurance and other benefits.

To be ready for the return of the aviation industry, which is beginning to look better and better—last April there were 3 million passenger boardings in the month; in November, we were up to almost 30 million. I am hopeful, with this current program—which is included in this COVID package pending over in the dysfunctional Senate, with stupid rules written by Senators who have been dead for 10 years. But PSP is not challenged under the dead guy rule, so hopefully it will go through as written. I am hoping by September 30th we are not going to need another extension.

There are ongoing concerns. We do not have comprehensive, long-term plans in place. They were first proposed by GAO to the Obama administration, to come up with comprehensive plans for modes of transportation. They didn't. Four years of the Trump administration didn't. I, numerous times, asked the FAA Administrator to impose a mask mandate, and he refused, saying, "Oh, you couldn't do that."

So we left it up to the airlines, who did come through. But it is one thing to have the airlines say, "This is our rule," and it is another thing to have the announcements at the beginning, which are getting better. These need to be emphatic, particularly for the jerks who get on and suck on a lollipop or sip a bottle of water for 6 hours. They need to hear that you can remove your mask briefly—briefly—for food or drink or to take a medication. They need to hear about the fines that will be imposed if they don't follow the mask rule. They need to hear about being banned from flights by the airlines, which a number of the airlines took their own initiative to do. We have to be emphatic.

And the chair and I introduced a comprehensive bill last year, the Healthy Flights Act of 2020. We will be informed by this hearing on changes, potential changes to that legislation. And I still think we need to put those strictures in place, because the FAA doesn't seem to take much initiative.

And I have also been working with Homeland Security Committee Chair Thompson to get the TSA to strictly enforce the mask rule at the checkpoint. That is the best place, much better than getting to the gate and having the gate agents having to deal with

unruly people. They still haven't gone as far as I want, which is to have posters that show people what they can and can't wear. We have to inform people that a lot of things people are using routinely are not allowed on airplanes. You can't have just a gaiter, a single layer, or you can't have a kerchief, and you have to actually cover your nose and mouth, which a lot of people don't quite seem to get.

We don't want to move too quickly, as we recover, to remove these precautions. And we want to know that, long term, we have a strategy to keep people safe when they fly during this, the end of—hopefully—the end of the pandemic and in future pandemics.

With that, Mr. Chair, I yield back the balance of my time.

[Mr. DeFazio's prepared statement follows:]

Prepared Statement of Hon. Peter A. DeFazio, a Representative in Congress from the State of Oregon, and Chair, Committee on Transportation and Infrastructure

Thank you, Chair Larsen, for calling today's hearing on the aviation industry's recovery from the COVID–19 pandemic, and I welcome all of our witnesses.

Last month this country passed the dreadful marker of half a million deaths from COVID–19. But now that we are starting to see the faint glow of a light at the end of the tunnel, it is appropriate to, even at this early stage of the Nation's emergence from the pandemic, start thinking about the aviation industry's recovery.

As our witnesses know all too well, the aviation industry has suffered financial crises about once every 10 years since deregulation. In 1990 and 1991 we saw the failures of Pan Am and Eastern Air Lines, with numerous others filing for bankruptcy, amid a recession and the first Gulf War. Ten years later, the 9/11 terror attacks sparked a financial crisis that resulted in the loss of roughly 128,000 aviation jobs and the bankruptcies of United, Delta, Northwest, and US Airways, as well as the failures of several smaller airlines like Aloha. Shortly less than a decade later came the global financial crisis, when roughly 25,000 airline workers lost their jobs.

And now, unfortunately, here we are again.

This time, however, Congress rose to the occasion by creating the Payroll Support Program: a pass-through program to pay airline workers' salaries, wages, and benefits, keeping them off unemployment lines during the first six months of the pandemic without a penny going into the pockets of company executives or shareholders. We extended this highly successful program in December through this month, and a further extension through the end of September is included in the "American Rescue Plan Act of 2021," which the House passed and sent to the Senate early Saturday morning.

Moreover, passenger traffic is recovering slowly but surely. While U.S. airlines reported a drop to only 3 million passenger boardings at the outset of the pandemic in April 2020, by November the number of boardings had rebounded to 29 million, although that's still less than half of the 73 million boardings recorded during the same time in the previous year. I'm hopeful that by September 30th when the pending Payroll Support Program expires, the airlines will find that sustainability is in sight, for the benefit of those who rely on them, including their workers.

While the Payroll Support Program keeps airline workers on the payroll, those workers must occasionally deal with unruly passengers who refuse to wear masks.

That's why last year, I along with Chair Larsen, introduced the "Healthy Flights Act of 2020," which, among numerous health and safety measures, explicitly gave the FAA Administrator the authority to require passengers to wear masks and also imposed a standalone mask requirement on board airplanes and in airports. Based in part on what we learn from today's hearing, I plan to reintroduce that legislation in the near term.

Meanwhile, I want to commend the Biden administration for issuing Executive Orders requiring mask use in transportation, including air transportation. While I believe an express statutory mandate is appropriate, this was a necessary step to protect aviation workers and passengers.

I, along with Homeland Security Chair Thompson, sent a letter last month calling on the Transportation Security Administration to strictly enforce the President's new order by denying entry at screening checkpoints of any travelers refusing to wear masks and calling on the FAA to work with U.S. airlines to ensure there's ap-

propriate and proactive messaging about face masks well in advance of a flight, including at ticket purchase and during mobile check-in. I hope to hear from today's witnesses about how the Federal mandate has helped the airlines, airports, and aviation workers across the system.

Separately, the FAA must continue to take strong enforcement action against passengers who become unruly when told they must wear masks while on board aircraft. Just last week, the FAA announced a $27,500 fine against a Delta passenger who struck a flight attendant in the face after the passenger's companion refused to follow crewmember instructions and wear a mask. The FAA must continue to enforce a zero-tolerance policy and use the regulations in its toolbox, such as the prohibition on interference with the duties of crewmembers, to go after people who recklessly endanger the lives of their fellow passengers.

Finally, as vaccines become more prevalent and the country returns to a healthy state, we must ensure that the aviation industry has a plan in place to transition safely from current mitigation techniques to future ones. If the industry is too eager and moves too fast to remove certain precautions, the health and safety of workers and passengers could be negatively affected.

Meanwhile, if issuance of new guidelines is too slow, we run the risk of perpetuating uncertainty and becoming the victim of a patchwork quilt of standard procedures. With mass vaccinations already underway, the Federal Government must utilize science and develop a strategy ahead of time, to ensure that regulations are uniform and our transition back to "normal" is a safe one.

The aviation industry that emerges from this pandemic will not be the same industry that was flourishing on January 1, 2020. I look forward to hearing from our witnesses as to what that industry will look like, and how Congress can support the needs of workers and users of our air transportation system to ensure that more than 1 million aviation workers remain employed and that the risk of catching the coronavirus on an airplane is de minimis.

Again, thank you, Chair Larsen, for calling today's hearing.

Mr. LARSEN. Thank you, Chair DeFazio.

Before I go to witnesses, I just want to make one acknowledgment today. I want to acknowledge my senior legislative aide, Alexandra Menardy. Today is Alex's last Aviation Subcommittee hearing as a member of my personal staff. She is not going far. She is actually going to the professional staff for this subcommittee. So I want to thank Chair DeFazio for his wisdom in hiring her, and also I will send him the bill.

Alex, though, has been a valued member of my staff for nearly 4 years on aviation policy, on energy policy, on Tribal and environmental policy in the Pacific Northwest. So I want to thank Alex for her hard work and dedication, and she will do a great job here, at the subcommittee.

With that let's move to the witnesses. To save time, rather than to run through introductions and titles, we will just go one at a time. I think folks have the information about the individual witnesses. We are going to start with Ms. Heather Krause from the GAO.

So, Ms. Krause, you are recognized for 5 minutes for an opening statement.

TESTIMONY OF HEATHER KRAUSE, DIRECTOR, PHYSICAL INFRASTRUCTURE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE; NICHOLAS E. CALIO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AIRLINES FOR AMERICA; CAPTAIN JOSEPH G. DEPETE, PRESIDENT, AIR LINE PILOTS ASSOCIATION, INTERNATIONAL; PETER J. BUNCE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, GENERAL AVIATION MANUFACTURERS ASSOCIATION; LANCE LYTTLE, MANAGING DIRECTOR, SEATTLE-TACOMA INTERNATIONAL AIRPORT, ON BEHALF OF THE AMERICAN ASSOCIATION OF AIRPORT EXECUTIVES; AND EDWARD M. BOLEN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL BUSINESS AVIATION ASSOCIATION

Ms. KRAUSE. Chairman DeFazio, Chairman Larsen, Ranking Member Graves, and members of the subcommittee, thank you for the opportunity to discuss our ongoing work on the effects of the COVID–19 pandemic on the aviation industry.

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 all aspects of the aviation industry. According to the Department of Transportation statistics, as was noted, passenger traffic was down 60 percent systemwide in 2020, compared to traffic levels in 2019. The ripple effect from this unprecedented and sustained reduction in demand has affected airlines, industrywide employment, and the entire aviation supply chain.

Congress and the administration have taken a number of actions to help the Nation's aviation industry respond to and recover from the economic effects of the pandemic, most notably providing over $100 billion in economic relief to aviation businesses. In return, recipients were required to generally maintain their employment levels, among other requirements.

My testimony today is based on our continued work overseeing CARES Act and other funds to the aviation industry, and the industry's response to the pandemic. It focuses on three areas: one, actions that businesses across the aviation industry have taken to respond to reduced passenger demand; two, factors that may affect industry recovery; and three, considerations for any Federal actions.

First, in response to reduced passenger demand, aviation businesses quickly built their cash reserves to weather the downturn and implemented measures to reduce their costs. These actions included leveraging Federal assistance; raising money in the private markets; and reducing labor, operating, and capital expenditures.

For example, airlines, airports, and others leveraged Federal assistance provided in two Federal coronavirus relief laws to support payroll and other expenses. In addition, industry associations and credit rating agencies said that Federal assistance increased confidence in the aviation industry, enabling aviation businesses to raise money in private debt and equity markets to strengthen their cash reserves.

Even with these and other actions, the U.S. aviation outlook remains uncertain. The industry's eventual recovery to prepandemic passenger levels is highly dependent on factors outside the industry's control. According to several industry forecasts, public health

factors affecting the recovery include the success of COVID–19 vaccinations, the spread and impact of potential COVID variants, and public confidence in the safety of air travel, among others.

In addition, recovery in some aviation sectors will depend on how the airline industry responds to the financial pressures and changes in demand associated with these uncertainties. For example, one aviation manufacturer we spoke with said 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 demands. In turn, this would affect demand for aviation manufacturing and aircraft maintenance services.

While many are optimistic for a postpandemic economic recovery, the speed and degree to which the aviation industry will be able to rebound is likely to vary across different sectors. For example, credit rating agencies told us that low-cost, leisure-oriented airlines are likely to recover faster than network airlines that are more dependent on business and international travel.

As we enter the second year of the pandemic and the pace and duration of the recovery becomes clearer, Congress may contemplate additional actions to support the industry's recovery. GAO has identified three fundamental principles that can serve as a framework for considering future assistance. They include, one, identifying and defining the problem; two, determining the national interests and setting clear goals and objectives that address the problem; and three, protecting the Government's interests.

In applying these principles, some issues emerge that may help inform how best to design any response. For example, when addressing the longer term public health implications of the pandemic, the Federal Government plays an important role in working with the industry to mitigate the effects of the pandemic and understand how various technologies and processes could help protect the health of air travelers.

In addition, the entire aviation industry could benefit from the development of a national aviation preparedness plan for communicable diseases; a recommendation, as was mentioned, we made to DOT in 2015, and have since urged Congress to require DOT to develop such a plan.

In closing, the challenges facing the aviation sector are unprecedented, and many uncertainties remain as to the pace and extent of recovery. We will continue to support Congress in understanding and addressing these pressing issues.

This concludes my statement. I look forward to answering your questions.

[Ms. Krause's prepared statement follows:]

Prepared Statement of Heather Krause, Director, Physical Infrastructure, U.S. Government Accountability Office

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 en-

tire 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.[1]

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,[2] 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:

- $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.[3] 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.[4]

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.[5] Nonetheless, some 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

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[1] 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 nonscheduled 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.

[2] Pub. L. No. 116–136, 134 Stat. 281, 470.

[3] Pub. L. No. 116–260, 134 Stat. 1182.

[4] 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.

[5] 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.

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

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

In response to reduced passenger demand brought by the COVID–19pandemic, 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.[6]
- 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.[7]
- Airports received approximately $10 billion in grants under the CARES Act, and FAA is currently allocating another $2 billion provided under the Consolidated Appropriations Act, 2021.[8] These grants allow airports to fund their operations and meet their ongoing debt payments.[9]

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[6] 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.

[7] Of the $21.2 billion in loans, most of the loan assistance—nearly $20.8 billion—was provided to seven major passenger air carriers.

[8] 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.

[9] 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,

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- 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.[10]

Representatives from airlines and manufacturers also reported using the tax provisions in the CARES Act to bolster their liquidity.[11] In addition, commercial aviation operators benefited from the CARES Act provision suspending certain commercial air transportation taxes, including those on passenger tickets, cargo, and fuel.[12]

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 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.[13] Airlines also accelerated the retirement of older aircraft to reduce maintenance costs and streamline their fleets. For example,

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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.

[10] 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.

[11] 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.

[12] 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.

[13] 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.

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' publicly 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 nonlabor 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 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.

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.[14]

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 sector.[15] 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.[16]

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 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.

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[14] GAO, *Aviation Workforce: Current and Future Availability of Aviation Engineering and Maintenance Professionals*, GAO–14–237 (Washington, D.C.: Feb. 28, 2014).

[15] 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).

[16] 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).

- *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.[17] 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.[18] 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 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.[19] 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.[20]

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[17] 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).

[18] Pub. L. No. 116–260, div. M, tit. IV, 134 Stat. at 1941.

[19] Promoting COVID–19 Safety in Domestic and International Travel, § 5(e), 86 Fed. Reg. 7205, 7207 (Jan. 26, 2021).

[20] 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 Trav-*

Continued

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.

GAO CONTACT AND STAFF ACKNOWLEDGMENTS

If you or your staff have any questions about this statement, please contact me. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement.

GAO staff who made key contributions to this testimony are Jonathan Carver (Assistant Director), Amy Abramowitz, Sarah Arnett, Paul Aussendorf, Melissa Bodeau, Kim Bohnet, Jean Cook, Jessica Du, Camilo Flores, Joanie Lofgren, Gail Marnik, Justin Reed, April Yeaney, and Susan Zimmerman.

Mr. LARSEN. Thank you, Ms. Krause, and I want to commend you for taking 5 minutes, and only 5 minutes, to set a great example for not just the panel, but for Members of Congress. So thank you very much.

Next up, Nick Calio with Airlines for America, you are recognized for 5 minutes.

Mr. CALIO. Thank you very much, Mr. Chairman. And thank you, Ranking Member Graves and Chairman DeFazio.

I would like to start by acknowledging everything that this committee, led by the chairman, the two chairmen, and the ranking members have done for the aviation industry and the airline industry over the last year. You have been great partners, and we are forever in your debt. It is a model of the way things should work when help is needed.

Right now, the state of the industry, it has been referenced, a year ago we were in the golden age of flying. We were flying 58,000 tons of cargo and 2½ million passengers a day. The bottom fell out very, very quickly.

In April of last year, as Chairman Larsen pointed out, we were flying about 5 percent of the people that we had the year before. And domestic is doing better than international.

Right now, we are still down significantly. We are flying about 40 percent of the passengers that we used to. We were hoping that it would be better by now, but it hasn't, and we have learned that you can plan with this virus, but you can't forecast very well.

Currently, we are flying 50 percent fewer flights, which I am sure you have noticed, than we were a year ago. Booked revenue is down 80 percent. And most critically, we are still losing $150 million a day. That is a lot better than it was at points last year, but that is not sustainable as a business model. We hoped by now we would break even. We are hopeful that, by the end of the year, we will break even. That is going to depend on the cooperation of the virus, the vaccines, and many other factors.

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el and Communicable Diseases: Comprehensive Federal Plan Needed for U.S. Aviation System's Preparedness, GAO–16–127 (Washington, D.C.: Dec 16, 2015).

In the meantime, the PSP has been a lifeline to the industry. When it first happened last March, it gave us the ability to go to private markets, even though the money was passing through directly to our employees. And I agree with Chairman DeFazio, the PSP is the single most successful part of the CARES Act. The money has gone directly to employees to keep them on the payroll.

By keeping them on the payroll, they continue to pay taxes, they are not in the unemployment lines, they continue to spend money. And most critically for our industry, they are ready to get back on the planes and fly when they can. And that is important in our industry, because of the training and certification requirements that are constantly ongoing in terms of how you can get on an airplane and be able to fly and protect the public.

Throughout this pandemic we have worked hand in glove with our employees and with our labor partners. It has been a very good match, working with all of you to get this done. It hasn't been easy. We are very grateful that the House has moved to extend the Payroll Support Program. Again, things could look very different than they do now. It is not going to be a miracle cure, but it could look different come September 30th. So we hope that the Senate will pass that bill quickly. We saw last October what happens when you dawdle: tens of thousands of people can lose their jobs.

The other thing is, throughout this, and in terms of, Chairman Larsen and Chairman DeFazio, your bills about airline preparedness, the changes that the airlines have made are going to stay in place forever. We took a lot of self-help measures early to protect ourselves. We cut executive compensation, even before the CARES Act was passed. We went to the private market. As the GAO has pointed out, we were able to raise over $70 billion. We suspended capital return programs and, unfortunately, had to suspend a lot of capital investment programs. We sold or retired aircraft earlier than was expected, and we worked with our employees in terms of voluntary paid leave and early retirements. It kept the industry online.

We are still struggling, however, and in dire straits.

Throughout this, when you talk about measures that are going to stay in place, we leaned into the science very heavy. All of our member carriers hooked up with one clinic or another, or one university or another. We put in place enhanced cleaning and disinfection procedures. We imposed the face mask requirement, and we are glad that the Government now backs that up. We required health declarations before you get on the airplane. We made announcements, we enforced, and a lot of people are not flying our airlines now because they wouldn't comply with the requirements.

Most importantly, we tried to educate the public about the air filtration systems on aircraft, which give you hospital-grade air and make it safer to fly, to be on an airplane than it is to be in a grocery store, a bar, a restaurant, or in your own home, actually. And I just want to say a word about that. USTRANSCOM did a study about seated people seated next to each other and the risk of transmission, if you were wearing a face mask, given the air filtration system: .003 percent risk of transmission.

We thought what we were doing was good. But we knew if we said it, it wouldn't be credible. So with some other aviation stake-

holders, we engaged the Harvard School of Public Health. We told them they had free rein. They gave us some recommendations. They were independent. They gave us some recommendations, which are now in place, in terms of air filtration during boarding and deplaning, and boarding and deplaning procedures. Every one of our——

Mr. LARSEN. Mr. Calio, I am going to have to ask you to wrap.

Mr. CALIO. OK. In wrapping it up, I just want to say thank you again to this committee.

Chairman DeFazio, I just wanted to, on a personal note—and this is a compliment—you have worked like a farm animal throughout this pandemic, plowing through on behalf of the industry.

And we are grateful to you, Chairman Larsen, Ranking Members, and this entire committee. Thank you very much.

[Mr. Calio's prepared statement follows:]

Prepared Statement of Nicholas E. Calio, President and Chief Executive Officer, Airlines for America

THANK YOU

Airlines for America (A4A) appreciates the opportunity to testify today to share with you the impact of the COVID–19 pandemic on the commercial aviation industry. At the outset, I would like to thank Congress, including many on this Committee, for your leadership and bipartisan support of the aviation worker payroll support program (PSP). The PSP was first established in the Coronavirus Aid, Relief, and Economic Security (CARES) Act and subsequently extended in the COVID Relief package passed in December. Those provisions have supplemented the U.S. airline industry's ability to make payroll and exclusively protect the jobs of flight attendants, pilots, gate agents, mechanics and others. Without the PSP, the economic impacts of the pandemic would have been even more devastating to our workforce.

Given the effectiveness of the PSP and its material benefit to our workforce, we are hopeful the extension of the program that is currently under consideration is enacted into law. We appreciate that Congress has recognized that our employees are the backbone of the industry and its greatest resource, along with being an important component of any broader U.S. economic recovery.

Congress has truly been a champion of the U.S. aviation worker and we sincerely thank you.

WHAT IS PAST IS PROLOGUE

This is the most challenging period in aviation history, but prior to the pandemic we were experiencing what many have called the "Golden Age" of air travel. U.S. airlines were flying 2.5 million passengers and more than 58,000 tons of cargo each day. In 2019, U.S. airlines carried an all-time high 927 million passengers in scheduled service. Those record numbers were in large part because of two main factors: affordability and accessibility. Accounting for inflation, and including ancillary services, average domestic ticket prices fell 15 percent from 2014–2019, 22 percent from 2000–2019 and 44 percent from 1979–2019—the 40-year period following the Airline Deregulation Act of 1978. Those lower fares made commercial air travel accessible to nearly all Americans. In fact, 42 percent of Americans who flew in 2019 had family incomes under $75,000. Further, in 1971 only 49 percent of Americans had ever flown commercially; by 2019, that figure had climbed to 86 percent.

In February 2020, before the onset of the pandemic, U.S. passenger and cargo airlines directly employed 757,000 workers and commercial aviation supported 10 million U.S. jobs and drove over five percent of the U.S. gross domestic product.

Air travel was opening doors and connecting loved ones across all walks of life and economic circumstances, not just an affluent few. It was also providing well-paying professional-level careers for hundreds of thousands of employees, all dedicated to an industry that is truly a modern-day indispensable manifestation of free-

dom and mobility. Our industry is working every day to rebuild the foundation necessary to restore and recover, but much has passed over the course of the last year.

THE IDES OF MARCH—ECONOMIC DEVASTATION

Almost overnight, in March 2020, the COVID–19 pandemic hit the U.S. and the bottom fell out of the airline industry. As travel restrictions and stay-at-home orders were implemented, demand for air travel declined sharply and suddenly. Though air cargo volumes have held, the pandemic eviscerated passenger air travel. Coming off all-time highs in 2019, passenger traffic on U.S. airlines rose five percent in the first two months of 2020 only to fall by 96 percent six weeks later, to a level not seen since the dawn of the jet age in the 1950s. There was a slight uptick over the summer and into the fall, but passenger levels remain 60 percent below year-ago levels.

Years of work to strengthen balance sheets—recognized widely by analysts and investors—were reversed overnight by COVID–19, as evidenced by a series of downgrades by the major rating agencies. After 10 consecutive years of modest profitability, U.S. passenger carriers reported $46 billion in pretax losses in 2020, with analysts currently projecting $18 billion more in 2021. To put it into perspective, 2018 and 2019 were two years of modest profit for the industry. However, when combined with 2020 and 2021, the cumulative pre-tax losses for that four-year period are expected to exceed $30 billion. Quite simply, the losses have been swift and profound.

Collectively, U.S. airlines are hoping to achieve breakeven cash flow at some point in late 2021. To survive, they have worked at a furious pace to shed operating costs and trim capital expenditures. More alarmingly, they have been forced to sell assets and take on massive amounts of debt, up an estimated $59 billion from year-end 2019 to year-end 2020. This giant increase in debt translates to projected interest expense of $5 billion annually in 2021, 2022 and 2023—two-and-a-half times the amounts paid in 2018 and 2019.

Given the economic maelstrom, the U.S. airline industry will remain smaller for years to come. It took 10 years—from April 2010 to March 2020—for U.S. passenger airlines to add 83,000 workers to their payrolls. Sadly, it took just 10 months—from March to November—to shed 93,000 jobs. Rebuilding will take time. The return of demand, particularly from corporate travelers, will be key to that timeline.

PAYROLL SUPPORT PROGRAM FOR AVIATION LABOR WORKFORCE

On behalf of our employees, we remain eternally grateful to Congress for their role in establishing the PSP at the U.S. Treasury Department. However, I do feel compelled to clarify the practical and factual realities around what the PSP is and what the PSP is not, as some have erroneously referred to the program as an airline bailout. This simply is not true.

The PSP is, as the CARES Act and subsequent extensions clearly state, financial assistance provided to eligible air carriers that is "*exclusively for the continuation of payment of employee wages, salaries, and benefit*" for employees defined as individuals at those carriers that are not corporate officers. More simply, PSP funds are a pass-through to airline workers.

These aviation workforce funds are truly an investment in our economy. In fact, PSP could be used as an example of a government program that works, as it has effectively met the goals and intended purpose of the program to preserve jobs. The program also has the downstream benefit of helping federal/state/local income tax revenues, along with Social Security and Medicare tax contributions. The program also helps avoid billions of dollars' worth of unemployment claims at both the state and federal level. Finally, the PSP also supports multiple billions of economic spending in the U.S. economy—as every dollar spent of airline wages generates additional spending as the recipients spend that income in their local economy.

However, PSP is neither an airline bailout nor a panacea for addressing the economic impacts of the pandemic. As opposed to almost all other relief measures in the CARES Act, the PSP funds, under the auspices of being 'grants', came with significant eligibility requirements including workforce retention commitments, air service obligations, compensation restrictions, a repayment requirement of 29 percent of the funds with interest to Treasury, and the issuance of warrants to Treasury. Air carriers, despite only serving as simple pass-throughs of the funds, agreed to these terms in an on-going effort to support their labor workforce. Participation in the program comes at a price; for the nine largest passenger airlines—after deducting the amount repayable to the U.S. Treasury—the PSP funds covered 82 percent of payroll expenses, leaving them with a $3.7 billion shortfall for the applicable six-month period.

We mention this not to complain, but instead to explain and level-set what the PSP program has meant to airline ledgers. The same logic holds true for all iterations of PSP including the $14 billion currently under Congressional consideration. While the extension would be a welcome and needed respite for our workers, it is estimated to cover 60 percent of the industry's projected six-month full-employment payroll costs.

The fact of the matter is, without that supplemental relief, tens of thousands of aviation workers will lose their jobs—or experience reductions to wages and benefits—effective April 1. Support of PSP funding is an explicit recognition that the industry remains in dire straits, even before factoring in the certainty that it will be inundated with debt for years to come, some directly undertaken to support and maintain our labor workforces. PSP funds are an investment in our labor workforce, and they provide solace to tens of thousands of aviation workers who would otherwise lose their jobs or experience reductions to wages and benefits, as experienced by the temporary lapse last fall.

We appreciate your consideration of the program extension and hope there can be a universal understanding of the PSP and an agreed upon set of facts to drive future discussion of the inclusion of punitive measures on funds intended to be grants for our workers. Saddling air carriers with additional debt and making them suffer the loss of much needed management talent runs counter to the goals of recovery and international competitiveness of U.S. airlines.

CARES Act Loans

U.S. passenger carriers have also drawn down $19 billion in CARES Act loans. As opposed to the PSP financial assistance for workers, the loans are intended to help airlines continue operations while demand remains significantly impaired. Notably, and on top of the warrants issued on PSP funds, Treasury will also receive warrants to purchase common stock equal to ten percent of the total loan amount for each participating air carrier. Combined with the PSP funds, the federal loan eligibility came at a time when carriers were in most need of immediate flexibility to deal with the lightning speed at which the pandemic decimated demand for air travel. No carrier covets taking federal loans, but the industry is sincerely appreciative of the timely relief put forward at the beginning of this unrivaled global economic crisis.

Self-Help Measures and Private Financing

Air carriers have also engaged in significant self-help measures to bolster their liquidity which will be critical to survive this unparalleled economic event. These self-help measures include, but are not limited to:

- Accessing outside sources of cash such as, but not limited to, unsecured or secured loans amounting to more than $70 billion since late February 2020;
- Restructuring aircraft order books through negotiations with manufacturers;
- Announcing the accelerated retirement of more than 600 aircraft, more than half of which exited the fleet in 2020;
- Halting almost all discretionary (not operationally critical) capital projects;
- Trimming unprofitable flying;
- Redeploying some passenger aircraft to provide essential cargo-only service to transport medical supplies;
- Negotiating with vendors and airport partners to secure relief on payment terms and timing; and
- Securing voluntary unpaid leaves of absence or salary reductions.

To the last point, we are grateful for the strong collaboration between labor and management to address the realities of this crisis. In fact, to date, approximately 80,000 employees have opted for some form of compensation adjustment or early retirement which has brought much needed flexibility. We appreciate all employees who have dedicated their lives to the U.S. airline industry and are helping the industry to survive this public health crisis.

COVID + PSP + CARES Loans + Self-Help Measures + Private Financing = ~$150 Million Daily Loss

Even with all the public and private actions previously outlined, U.S. carriers are currently burning an estimated $150 million of cash every day, surviving only by taking on massive sums of debt that will burden the industry for several years. Despite significant reductions in operating costs and capital expenditures and despite federal assistance to preserve airline jobs and their wages and benefits, analysts are projecting daily cash-burn rates of $90 million per day in the second quarter and

$80 million per day in the third quarter of 2021. Though it is too early to project the fall, it appears that the industry will continue to hemorrhage cash through the end of the year. For most, breaking even would mark success.

PERSEVERANCE

Since the April 2020 low-water mark, demand has seen a slow climb, with the shape of recovery best described as a reclining "L" and bookings for the highly coveted corporate air travel segment down a staggering 86 percent from 2019 levels. In the most recent week, transatlantic air travel was down 90 percent, while transpacific and U.S.-Canada air travel are down 94 percent and 96 percent, respectively. While the advent of multiple vaccines is encouraging, we do not expect volumes to return to pre-pandemic levels before 2024, at the earliest. As traffic recovery eventually leads to revenue recovery, shoring up our financial condition will be paramount. Carriers will need to retire the massive sums of debt they have taken on to cope with the evaporation of demand and consequent depletion of cash reserves. It will take years, not months, to pay off that debt. Until that time, we will see a much smaller industry with fewer operations, aircraft and workers and scarce funds available for investment in their products.

The economic contribution of international travel and tourism cannot be overstated. According to the World Travel and Tourism Council, the U.S. is set to lose $155 billion from the economy due to the collapse of international travel. A strong and stable aviation industry is a key building block for a global recovery from the COVID–19 pandemic. In 2019, international travel imports totaled $196 billion, creating a $59 billion travel trade surplus. Importantly, international travel spending directly supported about 1.2 million U.S. jobs and $33.6 billion in wages.

RECOVERY

Our industry has a history of being resilient. The financial priorities for airlines are clear: reduce cash burn, restore profitability and repair balance sheets. And given the freedom to do so, U.S. airlines they will do just that; but the hurdle will be higher this time. Prior to COVID–19, the rule of thumb was to have a cash cushion that could withstand an event three times the magnitude of 9/11. With the reality of a pandemic now painfully apparent, boardrooms, workers and investors will all expect even stronger airline balance sheets than before, allowing these companies to tap capital markets fully and swiftly in the future—without depending on federal assistance—while avoiding extreme distress and painful cuts for employees. Time and again, our industry has proven its resilience and agility. With that in mind, we have every reason to believe that our nation's airlines will emerge from this crisis even stronger than before, in a way that helps empower the recovery of the U.S. economy and allows friends, family and businesspeople to meet face-to-face in a matter of hours once again.

APPLIED SCIENCE

As the devastating impact outlined above makes clear, the aviation industry understands we must get the virus under control in order to restore travel, preserve jobs and reignite the economic contributions driven by commercial aviation.

Since the beginning of this crisis, U.S. airlines have relied on science to help guide decisions as they continuously reevaluate and update their processes, procedures and protocols. U.S. airlines have implemented multiple layers of measures aimed at preventing virus transmission onboard the aircraft, including strict face covering requirements, pre-flight health forms, enhanced disinfection protocols, hospital-grade filtration systems, air exchanges onboard aircraft that remove viruses, and new boarding and deplaning procedures.

Research has also shown that this layered approach makes the risk of virus transmission onboard aircraft very low, specifically:

- US TRANSCOM released a study showing the low risk of COVID–19 transmission on commercial aircraft. Technicians ran 300 tests over six months with mannequins to reproduce breathing and coughing to determine how particles moved within the cabin when a mask was on or off. The study concluded that when masks are worn, there is a 0.003 percent chance that particles from a passenger can enter the breathing space of passengers sitting next to them.
- Harvard T.H. Chan School of Public Health's Aviation (APHI) further affirmed that the risk of onboard transmission is low. The Harvard APHI research was the first to evaluate the entire inflight experience including boarding and deplaning. The results confirmed that—due to the multiple layers of protection noted above—the risk of transmission on an airplane is "very low" and that

being on an airplane is "as safe if not significantly safer" than routine activities such as going to the grocery store and eating at a restaurant. Further, the Harvard researchers concluded that this multi-layered approach is so effective that the possibility of exposure to COVID–19 is reduced to a point so low that it "effectively counters the proximity travelers are subject to during flights."

The Harvard research team also published results from a second phase of their research in February. While the first phase of research focused on the "gate to gate" experience, the second phase broadened the scope to include the "curb to curb" experience at airports. The key takeaways of the second phase are also insightful, namely that airports have been proactive in implementing measures to combat the COVID–19 pandemic and that the application of a multi-layered approach significantly contributes to risk reduction.

If there is any silver lining to this pandemic, it is the fact that industrywide, from manufacturers to air carriers, we have come to together to share information and tackle issues head-on with science and data at a level unseen before. This experience has honed a focus on a common goal that will lead us out of this pandemic and provide the science and data to address future challenges.

AIR CARGO

In a year filled with layers of struggle and financial loss, and despite the devastating impacts of COVID–19 across global economies, the pandemic has shown the indispensable role that passenger carriers and all-cargo air carriers play in both the domestic and global supply chain. Domestic air cargo tons enplaned rose 13 percent in November and 9 percent through the first 11 months of 2020. U.S. airline international air cargo tons enplaned rose 10 percent in November—the fifth consecutive year-over-year increase.

Through close coordination with the healthcare community and federal, state and local governments, the cargo industry has delivered a staggering amount of personal protective equipment, diagnostic test kits, essential medical supplies, humanitarian aid and vaccines across the globe. They have played an outsized role during the pandemic and will most certainly be critical to paving the way toward global herd immunity and a return to a modicum of normalcy. Until one steps back to fully appreciate the logistical effectiveness and efficiency of our all-cargo operators, it is easy to take them for granted and thoroughly recognize the incredible contribution they make to our daily lives. Pandemic, or no pandemic, they are vital to our standard of living, but this crisis has shown the pivotal role they play in saving lives.

DO NO HARM

Over the course of the pandemic our industry has needed to remain nimble and vigilant to many well-intended, but sometimes unnecessary, misguided and/or untimely, legislative and regulatory proposals. As we continue to face the challenges of today and drive toward a time when we can cross the long precipice to actual recovery and growth, we respectfully request that policymakers restrain from adopting punitive policies such as tax or fee increases or onerous rules and regulations that will otherwise cause harm to our debilitated industry. Doing so will only hamstring our ability to recover and undermine the basic underpinnings and purpose of the relief provided to our labor workforce. This crisis was not caused or brought on by the airlines and should not be used for convenient legislative opportunism to reregulate or refashion what was a highly competitive and burgeoning well-paid job creator prior to the pandemic.

CONCLUSION

U.S. airlines have always been critical to our nation's economy and infrastructure. Now, as our nation looks toward the future, and resumes connecting American communities, families and businesses with each other and with the rest of the world, A4A and our member carriers stand ready to work with Congress and the new Administration to help speed the recovery of our industry, the nation and the world from the COVID–19 pandemic. Now, more than ever, the U.S. commercial aviation industry wants to lead the way to economic recovery.

Mr. DEFAZIO. What kind of farm animal? We will get to that later.

Mr. CALIO. A good, friendly one, Peter.

Mr. LARSEN. A good, friendly one. I think it is best to just take the compliment, and we will move to the next panelist.

Captain Joe DePete with ALPA, you are recognized for 5 minutes.

Mr. DEPETE. OK, thank you, Chairman Larsen, Ranking Member Graves, and the members of the subcommittee. I am Captain Joe DePete, president of the Air Line Pilots Association, International, which represents more than 59,000 pilots, and is the world's largest airline pilot union and nongovernmental aviation safety organization.

Since the pandemic began, airline pilots have been on the front lines in the fight against COVID–19. We have kept supply chains flowing, and the global economy connected. We have transported medical personnel, PPE, and life-saving vaccines, and we have worked to ensure that aviation can fulfill its critical role in the Nation's economic recovery, once the pandemic and public health crisis is behind us.

ALPA pilots have not allowed the pandemic to distract us from what is always our highest priority, and that is safety. For years, ALPA pilots have advocated a data-driven, risk-based approach to safety. During COVID–19, pilots have instituted a proactive safety culture on every flight. We got the data to identify the effects of the pandemic, and informed decisionmakers how to protect the traveling public. Backed by the data, ALPA was among the first to call for uniform, mandatory guidelines for cleaning and disinfecting aircraft, employee exposure notification, and the use of face masks.

We appreciate this subcommittee's support of these measures, and we are pleased that the Biden administration has mandated masks for public transportation, something that should have been done a long, long time ago.

In addition, ALPA has called for airline pilots to receive priority access to vaccines to ensure that they continue to support the public health response and economic recovery. Flightcrews are already deemed essential workers by the Cybersecurity and Infrastructure Security Agency, and they should be deemed essential workers regarding vaccine prioritization, as well.

Internationally, some countries have established COVID–19 policies that have disturbing consequences for U.S. pilots. ALPA urges our Government to ensure that U.S. citizens can be safely evacuated from any location, if necessary, and that we preserve the dignity of work by ensuring U.S. pilots are not subjected to unacceptable conditions related to the pandemic.

Research shows that a layered public health precaution has created very low risks of virus transmission on airplanes. Despite this evidence, the number of U.S. passenger flights is currently down 50 percent from prepandemic levels. DCA, for example, has experienced a 67-percent decline in scheduled passenger flights from 2 years ago.

Similar drop-offs across the country have resulted in shuttered airlines and aviation worker layoffs. Three ALPA carriers, Trans States Airlines, Compass Airlines, and ExpressJet have ceased operations, and their pilots are now jobless. Because airlines may seek reorganization, Congress must reform the broken chapter 11 process to protect collective bargaining agreements. And in the

meantime, ALPA pilots have stepped up to weather this storm by negotiating more than 100 agreements with our airlines to help stabilize our companies and fuel the recovery.

The COVID–19 crisis is unprecedented in its speed, magnitude, and duration. By passing a CARES Act Payroll Support Program, Congress kept tens of thousands of aviation workers on the payroll and connected to healthcare. ALPA pilots are indebted to Chairman DeFazio and Chairman Larsen and others for developing and extending the PSP.

And while the PSP has been a historic success, our industry remains in a precarious position. Many ALPA members and other aviation workers have received notices of furlough as soon as March 31st. Putting furloughed pilots back on the flight deck isn't as simple as flipping a switch. Airline pilots are subject to training requirements and medical certifications that take time to requalify. Keeping a strong U.S. pilot workforce is critical to our recovery.

Recently the importance of a strong pilot workforce and our Nation having two qualified, trained, and experienced pilots on board its airliners became clear once again, when a United flightcrew made a safe emergency landing following an engine failure on a flight from Denver to Honolulu.

With the hopeful trends in virus containment and vaccine rollout, and our collective work to position the pilot workforce and the airline industry for a successful rebound, we are cautiously optimistic about recovery. With continued leadership from Congress, we can make certain that the United States and its passengers and cargo shippers can count on a strong pilot workforce now and in the future.

Thank you.

[Mr. DePete's prepared statement follows:]

Prepared Statement of Captain Joseph G. DePete, President, Air Line Pilots Association, International

On behalf of the Air Line Pilots Association, International (ALPA), I want to thank you, Chairman Larsen and Ranking Member Graves, for inviting me to testify on COVID–19's effects on U.S. aviation and the flightpath to recovery. My name is Captain Joe DePete, and I serve as the president of ALPA. ALPA is the largest airline pilot union in the world, as well as the largest nongovernmental aviation safety organization in the world, with a history of safety advocacy spanning 90 years.

The airline industry is notoriously fickle. In good times, it is conspicuously cyclical and asset heavy, burdened by the vicissitudes of fuel expenses. Yet, in early 2020 the industry was in the midst of a banner year. Collectively, U.S. scheduled passenger airlines posted their 10th consecutive year of profitability, and passenger travel, both domestically and between the U.S. and abroad, was at all-time highs. Crucially, pilots and other airline personnel, who have historically borne a disproportionate share of industry burdens, were finally reaping the benefits of this success and stability, with employee wages and benefits at last recovering from post-9/11 carrier bankruptcies and the Great Recession. All the while, employment rose to more than 458,000 full-time equivalent employees in early 2020, an 18-year high. With the industry on firm footing, industry growth and employee morale looked to continue apace.

COVID–19's shocking arrival in the United States shattered this trend, as passenger volumes suddenly plunged 96 percent, demand for air travel virtually disappeared, and much of the nation shut down to mitigate virus transmission. This crisis is like nothing the industry has seen before. The speed, magnitude, and duration substantially dwarfed the financial fallout of the industry after the tragic events of 9/11, which primarily affected domestic and transatlantic markets rather

than the entire globe. Fortunately, Congress responded immediately with the most proworker industry relief package in the nation's history through the Coronavirus, Aid, Relief, and Economic Security (CARES) Act's Payroll Support Program (PSP).

THE PAYROLL SUPPORT PROGRAM

In the modern era, every congressionally authorized industry or company-specific relief package has, intentionally or otherwise, resulted in harm to employees or to their collectively bargained contracts and rights. From the 1979 Chrysler bailout to the restructuring of the so-called Big 3 automakers and, most notably, the post-9/11 airline relief program, employees and collective bargaining have been either major targets or collateral damage in such efforts. For example, after 9/11, Congress passed the Airline Transportation Safety and Stabilization Act (ATSSA), which provided cash, loans, loan guarantees, and insurance—among other tools—to help stabilize the airline industry under the auspices of the government-run Air Transportation Stabilization Board. The law contained no employee protections, as the carriers who were able to access assistance paid off their shareholders while essentially no money flowed through to frontline employees. Ominously, the Board used its credit instruments to wrest disproportionate wage and benefit concessions from workers, effectively entering the government into private sector collective bargaining to change labor contracts. The improperly drawn package was a major failure, dangerously intervening in collective bargaining and haphazardly distributing loans. Ultimately, most carriers went bankrupt in the ensuing years, with massive attendant employee harm.

Borne of this experience, ALPA and our labor allies worked with this Committee to completely change this antiworker dynamic through the PSP. The program is a three-legged stool in which collective bargaining is walled off from government interference, financial aid is *exclusively* subscribed to employee payroll and benefits, and strong furlough prohibitions maintain employment. As a result, despite the worst year in airline history, roughly 83 percent of employees remain in the industry; pilots and other personnel have ensured the continuity of vaccine distribution and travel; and a broader economic fallout, including to knock-on industries, has been blunted. Importantly, if not for this unprecedented program, the airline industry would be in tatters; this hearing would instead be about industry bankruptcies, devastating challenges to cargo and passenger throughput, and the potentially hundreds of thousands of unemployed pilots and other airline employees who would be unable to respond to eventual demand. ALPA, our labor allies, and the airline industry owe this Committee, its members, staff, and the rest of Congress an incredible debt of gratitude for the PSP and its successors. It has been a lifeline to workers, communities, and the economy. It shows the power of worker-centered industry relief and should serve as a template moving forward.

INDUSTRY AND EMPLOYMENT OUTLOOK

While the PSP has been an invaluable success, the industry remains in a precarious position. U.S. carriers posted huge losses in 2020, as revenue dropped by 62 percent and demand remains down by about 64 percent. Currently, we do not expect to see meaningful profitability in the passenger airline industry to return until at least 2022. For these reasons, we are deeply appreciative of the ongoing efforts of this Committee to include a third round of PSP in the American Rescue Plan Act of 2021. ALPA members at numerous carriers, in addition to the tens of thousands of notices sent to employees at other airlines, have received WARN Act notices of impending furloughs beginning on March 31. We estimate current employee payroll for the passenger industry at approximately $3.7 billion a month based on industry filings, with adjustments made for returning employees per the recall provisions of the PSP 2. PSP 2's precedent-setting provisions for recalling furloughed employees are succeeding, with the Bureau of Transportation Statistics reporting a December increase of 12,000 employees returning to payroll, suggesting a trend as the data lag and implementation of the recall continues. As such, the $14 billion in PSP 3 funds should last until approximately August; however, given the potential for increased demand and profitability later in the year, we hope the aid lasts through the program's scheduled September 30 date.

While the industry is on firmer footing, the economic dangers posed by COVID–19 remain. Three ALPA carriers have shut down as a result of the pandemic, causing incredible hardship for our members, their families and other airline employees. Historically, airlines have grossly abused the bankruptcy process with the consent of the courts, despite there being clear evidence that Congress never intended for this outcome. As just one example, after 9/11, 50 air carriers sought protection from the bankruptcy code. Because of the courts' misapplication of the law, airlines were

able squeeze $83.5 billion in wage and benefit reductions, the dissolution of nearly every defined benefit pension plan, and in some cases dictate 50 percent pay cuts and 7-year contracts in order to cement long-term employee losses. These draconian cuts were grossly disproportionate in substance and duration, far outlasting the immediate need to successfully reorganize, and did not reflect economic circumstances. Prior to COVID–19, these wage cuts were just beginning to recover while benefits did not. To prevent any replay of this, it is long past due for Congress to reform Chapter 11 of the bankruptcy code to protect airline collective bargaining agreements and retirement plans to prevent further judicial perversion of congressional intent. Specifically, we call on Congress to pass the bicameral Protecting Employees and Retirees in Business Bankruptcies Act of 2020.

PILOT AVAILABILITY AND TRAINING CAPACITY

Central to the rationale for the PSP is keeping pilots and other mission-critical employees available to respond quickly as demand returns to the industry. Pilots cannot simply return from unemployment to operate airline aircraft; they are subject to recency training requirements and medical approvals, and security clearances. Further, returning pilots from furlough or an inactive status triggers a complicated reallocation of labor, as employees are redistributed across aircraft types and even between captain and first officer ranks—all of which requires extensive training and, in some cases, moves to different bases. These frictional costs are expensive, and if you are an airline, the last thing you would want in the midst of the largest downturn in the history of the industry is not being able to fully satisfy a recovery in passenger demand because you cannot train pilots fast enough.

Right now, dismal long-term booking commitments and the near absence of business travel demand is leaving some carriers with too little certainty to reactivate and retrain furloughed or otherwise inactive pilots. Thus, pilot training may *potentially* serve as a constraining variable to an accelerated recovery in passenger demand. ALPA is closely monitoring the demand for pilot services, and we plan to help get pilots back into training as soon as necessary. Getting furloughed and inactive pilots fully qualified ahead of an accelerated demand curve will help mitigate the impacts from any potential chokepoints in the training process and ensure the speediest return to service.

HEALTH AND SAFETY

Airline pilots have been on the front lines of fighting the pandemic—and still are today. Since the beginning of the crisis, ALPA members at passenger and cargo carriers have been transporting essential workers, personal protective equipment, and other supplies and are now flying the vaccine from manufacturing plants to locations across the United States and around the world. At the same time, airline pilots are working to keep supply chains open and stabilize our industry to help stop the spread of the virus and ensure our industry continues to contribute to the recovery.

The COVID–19 crisis has forced our industry to continually adapt to and mitigate aviation risks and hazards, and the continuous, iterative process has helped make air travel safe. In collaborative partnerships with Federal agencies, airline and aviation unions, aircraft manufacturers and other nonaviation entities, the industry has developed and implemented policies and procedures to provide multiple layers of protection to ensure the traveling public is safe and confident about travel. In order to ensure capacity to provide a fully functioning air transportation system, the aviation industry has worked together with federal agencies to obtain exemptions from certain aspects of training, extensions for medical certification, and an increase in the required altitude when crewmembers must don oxygen masks when one pilot is on the flight deck.

The process has not always been simple or easy. Dating to early 2020, ALPA was one of the first organizations to call for a federal mask mandate and related mitigations to stop virus spread and help restore confidence in air travel. It was clear that masks mitigate transmission, the Federal Aviation Administration (FAA) possessed the statutory authority and responsibility to issue clear and mandatory guidelines, and noncompulsory standards were confusing and insufficient. While carrier policies eventually were implemented, coordinated government leadership and support was necessary to set clear standards and help crewmembers swiftly handle noncompliant passengers *before* any potential in-flight issues arise. We are thankful the Biden Administration immediately issued the Executive Order on Promoting COVID–19 Safety in Domestic and International Travel to finally and formally provide long-overdue leadership and certainty for the industry, passengers, and employees. Mr. Chairman, I also want to thank you for your leadership and your support for precursory

legislation, like the Healthy Flights Act, and long-term, strategic planning bills, such as the National Aviation Preparedness Plan Act, which are crucial to this success as well as future industry preparedness.

Industry Mitigation Tools and Strategies

As a globally interconnected industry with leisure, business, and cargo demand exposure, the industry has previous, relevant experience with health events and crises that have enabled aviation to quickly implement or get ahead of pharmaceutical interventions. From the implementation of mask wearing and hygiene protocols to airflow management and filtration, the industry has quickly responded to COVID–19 to ensure air travel remains operational, safe, nimble, and responsive to passenger and cargo needs.

Filtration Systems

Through the use of ventilation, filtration, and outflow, the airline industry is able to create a healthy cabin environment on aircraft. With manufacturers building ventilation systems that recirculate cabin air on commercial aircraft since the 1980s, the industry has had considerable time and experience to perfect such systems prior to COVID–19. As a result, the environmental control systems that filter the airflow on aircraft use hospital-grade High-Efficiency Particulate Air (HEPA) filters that are capable of eliminating pathogens and are effective against viruses and bacteria. Similarly, the use of aircraft outflow valves, which control the pressure inside the cabin, to the maximum extent possible ensure our aircraft are continuously resupplied with fresh air every 90 seconds to 2 minutes.

A November 2020 Harvard Aviation Public Health Initiative study supports the positive effects that HEPA filters have in aviation. The study notes that air travel is as safe as—or substantially safer than—other routine activities, such as grocery shopping. One reason is because the air exchange rates are higher on aircraft versus many indoor occupied spaces, meaning that the air supplied to the cabin is recirculated multiple times through the HEPA filter.

Activities to Ensure Continued Safe Travel

Recognizing the importance of data, at the onset of the pandemic ALPA implemented a Data Action Report program to specifically collect reports on COVID health, security, training, and jumpseat concerns. These reports allowed ALPA to use a data-driven approach to identify for the FAA, TSA, and airlines where changes were needed. Following the initial reports, ALPA saw dramatic improvements in airlines' compliance with government guidelines.

The FAA has developed several iterations of a Safety Alert for Operators (SAFO) on COVID–19. This SAFO provides guidance for airlines related to aircraft airworthiness and crewmember and passenger protections during operations. Each iteration of the document has been developed in close coordination with the Centers for Disease Control and Prevention. The FAA and industry, in an effort to ensure the aircraft environment is adequately cleaned, sanitized, and disinfected, worked within the nonprofit public-private partnership RTCA Special Committee (SC–241) to develop guidance on the benefits and hazards of disinfecting products and procedures for their use. The result was RTCA DO–388 guidance around chemical and nonchemical disinfection of aircraft for use by aircraft operators and service providers to make air travel safe during this and any future pandemics.

Similarly, the International Civil Aviation Organization (ICAO), on March 9, 2020, established the ICAO Council Aviation Recovery Task Force (CART) tasked to identify and recommend strategic priorities and policies. CART focused on three areas: coping with COVID–19 challenges; ensuring aviation operations are facilitated in a safe, secure, and sustainable manner taking into consideration evolution of the pandemic and decisions by public health authorities; and finally, building a more resilient aviation system in the longer term. ICAO CART work continues to be updated as we learn more.

The aircraft manufacturers have also been working on their own COVID initiatives. Boeing has developed its "Confident Travel" initiative, while Airbus has developed its own "Keep Trust in Air Travel" program to provide passengers and crews a safe and healthy travel experience. ALPA has been communicating and coordinating with both manufacturers throughout the pandemic and both were instrumental in the work accomplished by the RTCA SC–241.

RESEARCH RELATED TO DISEASE TRANSMISSION IN AIRCRAFT

In total, governmental sources and industry information show that mitigations in place have been effective. U.S. Transportation Command supported by Defense Advanced Research Projects Agency, Boeing, and United Airlines conducted one of the largest aircraft aerosol experimental tests to date. The study concluded that when masks are worn, aerosol exposure of particles exhaled by a passenger into the breathing space of passengers sitting next to them showed a minimum reduction of 99.7% of aerosol exposure. Similarly, data published by the International Air Transport Association shows that of the 1.2 billion airline passengers who traveled since the beginning of 2020, only 44 cases of in-flight COVID–19 transmission have been reported. In fact, the vast majority of cases occurred before face coverings were universally required.

DOMESTIC TESTING

Given the evidence of the safety of the airline industry, we are appreciative of the Biden Administration's thoughtful approach to travel, as provided in the mask mandate executive order and by the decision to forgo unnecessary and likely complicated domestic testing requirements. Testing provides only a snapshot at one point in time, and such a requirement would likely create meaningful logistical challenges and divert testing from more obviously necessary public health priorities. Additionally, with domestic departures approximately 17 times greater than international, the likely drop in air travel would be substantial. For example, since the international travel restriction went into effect, there has been a 47 percent reduction in the volume of tickets sold. A drop of similar magnitude in domestic ticket sales would precipitate a real crisis for industry employment.

COVID–19 VACCINES

ALPA urges Congress and the Administration to recognize the essential role of airline pilots in the supply chain. Flightcrews have already been deemed essential workers by the Cybersecurity and Infrastructure Security Agency. It is critical that, following the initial distribution, which has been mostly complete, airline pilots are provided priority access to the vaccine as well. Ensuring this prioritization will allow the logistical component of transporting the vaccine to continue unencumbered.

INTERNATIONAL CHALLENGES

While operations have continued to improve domestically, internationally our members continue to face significant challenges. Each country during the pandemic has created its own rules and policies, which has proved to be very difficult for airlines and crews to manage. For example, our crews who have flown through Hong Kong have faced uncertainties every time they layover. Crews are tested upon entry, and if they test positive, they are sent to a hospital or taken to an open bay facility at the Asia World-Expo, which has been described as deplorable. COVID-positive pilots have also been placed in the hospital settings in which they are locked in a room with another COVID-positive individual, although they were asymptomatic. The rest of the flightcrew are detained in substandard government quarantine facilities for in excess of 24–48 hours. Efforts to evacuate these crewmembers through an air ambulance have proven in many cases to be unsuccessful. Some of our members who have tested positive have been detained for more than three weeks. Work must continue to ensure that U.S. citizens are able to be safely evacuated from anywhere in the world and not be subjected to these unacceptable conditions. The U.S. government needs to intercede on behalf of these airline pilots who are transporting critical health supplies and vaccines to help the world recover.

CONCLUSION

ALPA stands by as a committed, willing partner as we continue to chart a path through the pandemic. We appreciate your recognition of the unique and critical role played by pilots and all airline workers to safely maintain our air transportation system, support our national economy, and position the industry for a seamless rebound when demand returns. Thank you for the trust you place in us and your commitment to preserving our industry and its workers.

Mr. LARSEN. Thank you, Captain DePete. I want to recognize now Mr. Peter Bunce.

You are recognized for 5 minutes.

[Pause.]

Mr. LARSEN. Mr. Bunce, you need to unmute yourself.

Mr. BUNCE. Chair Larsen, Ranking Member Graves, Chair DeFazio, thank you for letting me be with you today. We have talked previously about the aviation industry being one large ecosystem. And all working together, we can solve problems for the entire industry. The fortunes of what happens on the commercial side impacts those in business and general aviation greatly, especially our very fragile and interconnected supply chain.

When we were all together a year ago, we couldn't have anticipated that some of our manufacturing facilities would be shuttered for over a month as we worked on the local restrictions. And when we were able to bring workers back, we had to pivot, like we read about they did in World War II. Like the auto industry pivoted to making aircraft, we pivoted to making PPE gear, ventilator equipment, things like that because, basically, the supply chain was so disrupted that we didn't have the parts and pieces that we needed to either fix aircraft on the maintenance side of the house, or build new ones.

So what did that translate to? That was, according to our sister manufacturing association, about a 110,000-member job loss in this very highly skilled workforce that I know Ms. Krause and some of the work that was done with the GAO recognized how unique our aerospace workforce is, and how we cannot have these workers leave to other industries because of their very specific skill set.

How it affected us and business in general aviation is every one of our aircraft segments were down last year. We just reported on the numbers last week. Whether it is piston, turboprop, jet airplanes, or on the rotorcraft side, piston and turbine and rotorcraft, everyone was down. And that translated to about a $5 billion decrease in revenue, in billings, during 2020.

And during this whole time, the health and safety of our workers within our factory and those in our supply chain have been first and foremost. So we have had a lot of innovative workforce actions within our factories that we have been able to bring back some production to be able to separate workers, put them on teams, spread out the shifts, and be able to have them work safely at their workstations together.

When we look at what the Government can do to help our industry, there are several things. And the first I would like to start with, to compliment Chair Larsen and the work he has done with Representative Estes in being able to advocate for this 50/50 cost share, to help us bring back some of those workers, or not lay off, continue to lay off other workers, and have this cost share partnership translate to being able to make sure that those workers do not filter over time into some other industry, and bring them off of unemployment so they have the healthcare that we offer. So we are in strong support, and we thank this committee very much, and the House for passing that, and we hope that the Senate does, as well as reconciliation.

On the level of Federal agencies, we are very complimentary of what the FAA has done with video inspections and different workarounds that have happened during the pandemic that have actu-

ally allowed us to keep business functioning. But we do need the DOT to help us by allowing the FAA to have some of the regulatory roadblocks and backlog that filtered up to DOT during the last administration now get pushed back down to where the expertise lies within the FAA to be able to allow us to have the regulations to be able to build product. Versus other industries, we have to have regulations to be able to do things in aviation because of just the safety concerns that are involved. So that would be of tremendous help to us.

In addition, the National Interest Exception is a program that is administered by the Federal Government, and we have asked the FAA—and they have been very helpful with us—to be able to get all of the disparate views that the State Department takes at different embassies around to allow foreign nationals to come to the U.S. and train. We know we do the best pilot training in the world, also maintenance training in the world, and we need to facilitate them coming here to get that training, but also to accept new production aircraft that we put out.

And in the sustainability arena, we have got great efforts going on with sustainable aviation fuel. Congress can help us out with bio or blending credit that supplements the biodiesel tax credit. And I know we can talk about that later.

And then, Chair Larsen, you were talking about this new area of aviation that I think is just as exciting as the dawn of the jet age must have been in urban air mobility. And we are very complimentary of what Representative Davids has done, along with Ranking Member Graves, to be able to push this new legislation forward which will coalesce Federal agencies.

So I look forward to your questions.

[Mr. Bunce's prepared statement follows:]

Prepared Statement of Peter J. Bunce, President and Chief Executive Officer, General Aviation Manufacturers Association

Chair Larsen and Ranking Member Graves, on behalf of the General Aviation Manufacturers Association (GAMA) and its member companies, thank you for convening this hearing today which will be vital to understanding the impact of the COVID–19 pandemic on the aviation industry and what policies and initiatives can be undertaken to foster the recovery of business and general aviation manufacturing companies and maintenance providers.

We look forward to working with you, House Transportation and Infrastructure Chair DeFazio and Ranking Member Graves, members of the House Aviation Subcommittee, and the membership of the committee at large, on issues of critical importance to the future strength of our nation's aviation and transportation system.

I want to state the deep appreciation we have for this Committee and Congress for taking actions to support the aviation industry during this crisis.

GAMA represents more than 120 of the world's leading manufacturers of general aviation airplanes, rotorcraft, engines, avionics, components, and related services and technologies. GAMA members are also providers of maintenance and repair services, fixed-based operations, pilot and maintenance training, and aircraft management. Additionally, GAMA represents companies in the emerging sector of advanced air mobility, which includes the development of vertical take-off and landing aircraft as well as electric propulsion and autonomous systems for civil purposes. GAMA companies have facilities in 47 U.S. states and 15 countries. A recent eco-

nomic impact study determined that the general aviation industry supports $247 billion in economic output and 1.2 million jobs in the U.S.[1]

I appreciate the opportunity to highlight the impacts this pandemic has had on the aviation manufacturing and maintenance sectors. In addition to detailing the impacts, I would like to depict what can be done in the near-term and long-term to mitigate these effects and lead to a broader recovery in these sectors. I hope to portray the ways we can work with this Subcommittee, the Administration, other policymakers, and stakeholders to facilitate the sector's rebound, recovery, and reinvigoration through technological innovation and investments in sustainability.

At the outset, I also want to make it clear that GAMA recognizes these impacts go far beyond our critical sector of the aviation industry. We appreciate and respect the work of all our partners in the aviation ecosystem. Previously, I have stated before this committee that a crisis for one part of this industry typically has implications for all—unfortunately the COVID–19 pandemic has reinforced this assertion. Throughout this process, GAMA has supported efforts by all these aviation sectors to mitigate the effects of the pandemic.

THE PANDEMIC IMPACTS ON MANUFACTURERS, MAINTENANCE PROVIDERS, AND TRAINING

Prior to the pandemic, the outlook for the industry looked encouraging, particularly given that in 2019 piston airplane and business jet shipments reached decade highs.[2] The future of the industry looked even more promising, given ongoing development and innovations in manufacturing methods, aircraft design, avionics, automation, and propulsion systems.

Last week, GAMA released its 2020 year-end report of the shipments and billings of general aviation aircraft.[3] As expected, the COVID–19 pandemic negatively impacted general aviation and stifled the industry's growth. The value of aircraft deliveries decreased by 16% from 2019. Each segment of the industry suffered losses, some more than others. Piston airplanes fared the best as they only saw a 0.9% decline in shipments and a 7.3% decline in billings. Turboprop airplane deliveries saw a 15.6% decline in shipments and a 17.7% decline in billings. Business jet deliveries saw its lowest production since the great recession with a 20.4% decline in shipments and a 14.4% decline in billings. Preliminary civil-commercial turbine helicopters saw a 16.9% decline in shipments and a 16.2% decline in billings. Piston helicopters saw a 20.7% decline in deliveries and a 21.2% decline in billings. Despite the pandemic-related setbacks, the industry is very resilient, and we remain optimistic given the talent and strength of our phenomenal workforce and the history of industry leaders and its employees responding to challenges.

In the U.S., aviation manufacturing, maintenance and repair operations were deemed essential, enabling many to continue at some level of production throughout the shutdowns. Companies rapidly implemented a wide range of health and safety protocols in accordance with local, regional, and national level guidance. Unfortunately, this "essential industry" designation did not extend worldwide, and unique nation by nation health and travel restrictions put in place to respond to the pandemic, including the U.S., significantly impeded global operations, supply chains, sales, and deliveries.

Throughout the course of the COVID–19 pandemic, GAMA has sought to understand the impacts across our broad membership. While a survey is only a partial picture of the pandemic hardship, we thought it might be useful to highlight some key findings for the Subcommittee:

- Due to the pandemic, over 70% of the respondents had to undertake action regarding their workforce, including pay and/or hour reductions, furloughs and/or closure of operations. Just over half of the respondents indicated that additional workforce measures may still be needed, depending on the progress of relief and recovery efforts.
- Nearly 50% of the respondents indicated that they had to either limit or shut down operations due to national/regional/state/local decisions or for economic

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[1] *General Aviation's Contributions to the U.S. Economy*, 2018 Price Waterhouse Coopers Study on behalf of Aircraft Electronics Association (AEA), Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), General Aviation Manufacturers Association (GAMA), Helicopter Association International (HAI), National Air Transportation Association (NATA), and National Business Aviation Association (NBAA), February 19, 2020

[2] *General Aviation Manufacturers Association 2019 Databook*, General Aviation Manufacturers Association, March 2020

[3] *GAMA Announces 2020 Year End Aircraft Billing and Shipment Numbers*, Press Release by General Aviation Manufacturers Association, February 24, 2021

reasons. Several respondents indicated that international business relations were severely hampered due to international travel restrictions.
- Losses in revenue were reported by 86% of the respondents. On average, losses tended to be estimated around 24%, with some estimating losses as high as 50% and as low as 4%.
- Nearly 70% of the respondents reported experiencing supply chain issues, causing slowdowns in production and deliveries. Supply chain issues appeared at the outset of the pandemic and they have continued to persist, particularly with critical parts and equipment.

General Aviation Supporting Communities

Our industry has a rich history of quickly pivoting and adapting to help communities in times of crisis. Throughout the pandemic, the general and business aviation industry has played an integral role in the fight against COVID–19. Companies across the globe have supplemented ongoing activities to assist with the relief efforts through the production of masks, shields, gowns, and ventilator parts, while others have transported medical personnel and supplies for front line health care workers. We have also seen companies working with their supply chain partners to provide information about financial assistance opportunities as well as best business practices in areas like procurement.

KEY STEPS FOR THE INITIAL RECOVERY OF AVIATION MANUFACTURING, MAINTENANCE, AND TRAINING

As we continue to navigate the pandemic, I want to express appreciation for FAA Administrator Dickson and the FAA for quickly responding to immediate challenges that threatened to shut down U.S. manufacturing and maintenance activities. For example, FAA enabled implementation and expanded use of technology for inspections, test, and oversight. Without these collaborative efforts, the challenges faced by manufacturers, maintenance, and training providers would have been compounded exponentially. It is our belief that the use of remote technologies will have lasting benefits for the effectiveness of regulatory oversight.

Aviation Manufacturing Jobs Initiatives

As discussed earlier, the pandemic has had a profound impact on the workforce of the business and general aviation community. Overall, in the aerospace industry, according to a study commissioned by the Aerospace Industries Association (AIA), it is estimated that 100,000 workers have already lost their jobs, and 220,000 additional jobs remain at risk of furlough or layoff.[4]

Given these challenges, we are grateful for the action your Committee took on February 11, 2021 to provide $3 billion in support for aviation manufacturing employees as part of the budget reconciliation package. The provision is based on legislation introduced by Chairman Larsen and Congressman Ron Estes to create a temporary and targeted 50–50 cost share program between government and industry to retain, recall, or rehire aviation manufacturing employees. The funds can only be used to support the compensation of these employees. Senators Maria Cantwell, Jerry Moran, and Mark Warner have worked on similar legislation in the Senate and we have appreciated the strong bipartisan support we have received throughout Congress. Aviation stakeholders including GAMA, AIA, the Aeronautical Repair Station Association, and the National Defense Industrial Association have all endorsed this framework, and the legislation also earned strong support from the International Association of Machinists and Aerospace Workers, which represents workers and their families.

If enacted, we look forward to working with the Department of Transportation (DOT) and the Committee on ensuring successful implementation of this vital program for aviation manufacturing workers.

National Interest Exception

There is an urgent need for clear policy guidance from the Administration confirming that the Department of State will issue the National Interest Exception (NIE) waiver when travel by a foreign person to the U.S. is required to support business activities of businesses that are "Critical Infrastructure" (as defined by the DHS Cyber & Industrial Security Agency), including general aviation. Many aerospace companies have been attempting to handle these situations for the past year with mixed results and inconsistent interpretation and application.

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[4] *AIA COVID–19 Road to Recovery*, Avascent, Boston Consulting Group, and McKinsey & Company for the Aerospace Industries Association, July 31, 2020.

Clear and workable guidance will help reverse a growing concern about the lack of proficiency training for foreign pilots operating in U.S. and global airspace, supporting the safety of U.S. state of design aircraft, and avoiding further economic damage to the U.S. aviation industry and its highly skilled workforce. Given the type of economic activity being undertaken, combined with the required COVID–19 testing and related safety protocols, this presents an extremely low risk to public health.

The types of activity of activity which will be supported by such policy guidance include:

- The delivery of new aircraft and continued safe operation of aircraft manufactured in the U.S. requires initial pilot type training and regular recurrent training of pilots and maintenance personnel (as required by U.S. and international aviation safety regulators). This training is primarily conducted at facilities located in the U.S., including for foreign nationals, who purchase and operate U.S.-manufactured aircraft.
- Aircraft are routinely flown to the U.S. for maintenance. Flightcrews and maintenance technicians travel to the U.S. as passengers to pick up aircraft after maintenance is complete or observe maintenance activities performed on their aircraft. Travel restrictions have impacted the ability of aircraft owners worldwide to get their aircraft maintenance and safety checks completed at U.S. maintenance facilities.
- The worldwide export of aircraft manufactured in the U.S. requires the travel of small groups of foreign nationals to the manufacturer to inspect, take delivery, and fly the aircraft back to the country in which the airline or operator is based.

The use of NIE is essential to maintaining aviation safety during the challenges of the pandemic. Appropriately tailored safety protocols can help ensure that foreign travelers pose an extremely low risk to public health, especially since the number of travelers is relatively low. The current travel restrictions are having a significant negative impact on U.S. general aviation given the importance of international customers to U.S. manufacturers, and maintenance and training providers.

Regulatory Review and Implementation of Key Priorities

Actions taken in recent years have put in place procedural requirements for rulemaking and guidance that impose additional layers of bureaucratic review and substantially delay the FAA's issuance of regulatory guidance critical to aviation innovation and safety enhancing technologies in aircraft and equipment. It is essential that DOT and FAA work together to improve the effectiveness and efficiency of procedures to issue regulatory documents in such a way that the authority for review and approval rests once again with the appropriate technical and safety expertise at FAA. Achieving a more effective and efficient process for the FAA to promulgate new and updated guidance and accept consensus standards for compliance will encourage safety improvements in aviation, keep pace with rapidly evolving technology, and spur innovation while also providing the regulatory framework for industry recovery through new products coming to market.

Opportunities and Investments for the Future

As the general aviation industry looks to the future, there are key areas that need leadership and collaboration from both industry and government. Making these investments now will strengthen the industry as it emerges from the pandemic and moves forward.

Sustainability

Our industry's commitment to sustainability is a long-standing one. In 2009, general aviation industry leaders established the Business Aviation Commitment on Climate Change. The goals of this commitment are threefold: 1) improve fuel efficiency 2% per year from 2010 to 2020; 2) achieve carbon neutral growth from 2020; and 3) reduce CO2 emissions 50% by 2050 relative to 2005.[5]

To meet these goals, GAMA members have led the way for many years in designing, developing, testing, and manufacturing airframes, engines, aircraft components, and materials which produce improvements in fuel efficiency. Our members will continue to make upgrades to manufacturing processes and facilities including ones powered by clean energy as well as by using more sustainable materials.

[5] *GAMA and IBAC Joint Position on Business Aviation Tackling Climate Change*, General Aviation Manufacturers Association and International Business Aviation Council, 2009

The Environmental Protection Agency's (EPA) adoption of the first ever CO2 emissions standards for aircraft developed at the International Civil Aviation Organization (ICAO) was an important milestone. The standards will contribute to environmental progress, help ensure all global manufacturers have the same efficiency rules and affirm the centrality of multilateral collaboration in making these decisions. We ask the FAA to move forward in developing regulations this year to enable the certification of aircraft meeting these global standards.

Our industry remains committed to investing and developing new technologies to help reduce emissions. Congress can assist through robust funding of Research and Development (R&D) efforts for FAA's Continuous Lower Energy, Emissions and Noise (CLEEN) Program as well as the National Aeronautics and Space Administration's (NASA) Aeronautics programs which will help accelerate the development of new aircraft and propulsion technologies.

GAMA, along with other industry leaders, is also promoting the increased production, distribution, and uptake of Sustainable Aviation Fuels (SAF) given its potential importance in meeting the aviation industry's climate commitments. In the past two years alone, GAMA and other associations worked to promote the use of SAF through events in the U.S. and Europe and by publishing a comprehensive SAF Guide. Individual GAMA members have been using SAF in daily operations including flight-test programs, offering initial tanks to be filled with SAF for delivery, and announced agreements with fuel producers to establish a permanent supply of low emission fuel at key business aviation airports.

Despite these initiatives, SAF supply is currently inadequate to meet the growing demand and the price of SAF is still significantly more expensive than conventional jet fuel. Congress can take several steps to promote the wider production and distribution of SAF for aviation through a SAF Blender's Tax Credit and other financial incentives. Strong research and development funding for the FAA's Aviation Sustainability Center (ASCENT), which is exploring ways to produce sustainable aviation fuels at commercial scale, would also be welcomed.

Advanced Air Mobility

As we recover from the pandemic, we need to consider areas of opportunity that can add jobs and a renewed enthusiasm to the aviation sector. Advanced Air Mobility (AAM) is an emerging sector of the aviation industry which uses electric airplanes and electric vertical take-off and landing (eVTOL) aircraft to transport passengers or cargo at low/medium altitudes in urban, suburban, rural, and regional environments. This next frontier of aviation will facilitate better transportation options, advance environmental sustainability, and foster sustainable transportation, generate increased economic activity, and support natural disaster and emergency response services.

While the industry is working with the FAA on aircraft certification and initial flight operations to ensure safety, AAM stakeholders are also focused on addressing physical and digital security issues; leveraging existing infrastructure and facilitating targeted and coordinated investment; and supporting initiatives to achieve and build public awareness of the economic, transportation, and environmental benefits of AAM.

Given the potential of this industry, we want to commend U.S. Representatives Sharice Davids and Garret Graves for introducing H.R. 1339, the Advanced Air Mobility Coordination and Leadership Act, which will ensure the federal government is effectively engaged and coordinated internally with industry and other stakeholders to support the evolution of AAM. This bill authorizes the Secretary of Transportation to establish an interagency working group to plan for and coordinate efforts for the advancement of operating AAM aircraft. The working group will be tasked to review and make recommendations for the federal role in the AAM sector, beyond the initial critical stage of aircraft certification and operations which FAA is currently working, with a focus on economic and workforce opportunities, potential physical and digital security risks and mitigations, infrastructure development, and maturing AAM aircraft operations and concepts past initial operations. It will help leverage critical expertise and resources through the government to maximize the potential of this vital and exciting industry sector and take it to the next level.

We hope that other Committee members will join Reps. Davids and Graves in this effort and look forward on other initiatives to advance this exciting new and transformative industry.

GLOBAL COLLABORATION AND AVIATION SAFETY

As we move forward, international regulatory cooperation will be even more important in raising the level of aviation safety and dealing with challenges like the

pandemic. The U.S.-European Union (EU) bilateral and other arrangements are global cornerstones of international aviation safety cooperation and focus on promoting and improving safety and addressing potential hazards in the exchange of aviation products, parts, repairs, maintenance, and pilot training. We must ensure that these agreements continue to work effectively. There is increasing European Union Aviation Safety Agency (EASA) involvement in validations to re-review or recertify the FAA's work, particularly in areas focused on system safety assessment and human factors. The FAA is also increasing involvement on EASA validations in these same areas. These actions comply with procedures under the US–EU bilateral for involvement in safety critical and new/novel design or technologies. However, regulators must ensure that such involvement focuses only in these areas to the extent necessary to resolve technical issues and build confidence in their respective safety systems in accordance with the bilateral agreement. It is essential that this involvement does not migrate to all validation activities, which would squander safety resources and add unnecessary costs and delays to the process. Despite any public rhetoric, at the working certification directorate level, there is a good relationship and strong commitment between the FAA and EASA for continued cooperation and collaboration under the EU–US bilateral. GAMA and our member companies will continue to work with FAA, EASA and regulators globally to facilitate safety cooperation for the safe and effective certification of aviation products.

CONCLUSION

I appreciate the opportunity to testify today on the impact of the pandemic and what can be done to recover and build back the industry. Your Committee and Congress is already taking steps to spur this recovery and we are grateful for those efforts. We also look forward to working with you, in a bipartisan manner, to address these opportunities, and to build a stronger and more sustainable aviation community. Thank you, Chair Larsen, and Ranking Member Graves for convening this important hearing and for the other members who are participating and giving us their valuable time.

Mr. LARSEN. Thank you, Mr. Bunce, I appreciate that.

And now I turn to Mr. Lance Lyttle.

You are recognized for 5 minutes, and we will note you are speaking on behalf of the American Association of Airport Executives. Lance?

Mr. LYTTLE. Good morning. Thank you, Chair Larsen, Chair DeFazio, Ranking Member Sam Graves, and Garret Graves, and subcommittee members for the opportunity to testify today. While my testimony today highlights the unprecedented hardship that aviation continues to face during the pandemic, I am proud of the incredible efforts undertaken by our industry to keep passengers and workers safe and healthy, and to restore traveler confidence.

Clearly, the passenger and revenue declines have been historic at airports of all sizes, nationwide. Revenues and PFC collections are already off by more than $20 billion, with tens of billions in additional losses projected. At the same time, the airport's fixed costs remain, and the pandemic has required investments in enhanced public health. In response, SEA and other airports have taken steps to cut costs where possible. This includes pay freezes, hiring freezes, and project deferrals.

However, the levers that can be pulled are relatively limited. That is where carriers and the other Federal assistance have been critical. I can honestly say that we would not have been able to continue our operations and serve our customers without that significant and timely Federal support.

Businesses at airports have been significantly impacted, and SEA has taken decisive actions to help. We have deferred rent and fees, renegotiated leases, and accelerated payments to airlines to

help with cash flow. We are grateful that Congress has provided critical direct airport concessions relief.

I remain incredibly optimistic about our future and believe airports will emerge even stronger and more resilient than before, thanks to the help that this subcommittee and Congress has provided over the past year. Over the last year, airports have taken meaningful steps to enhance public health. A new Harvard study found that the probability of being infected at an airport is very low because of the consistent and impressive commitment airports have made to reduce the risk of transmission.

At SEA, we have increased cleaning, added hand sanitizer stations throughout the terminals; we have invested in innovative technologies for touchless travel, installed protective barriers, and contracted for traveler testing services. We also mandated mask wearing, airportwide, since last spring. Our goal at SEA is to prepare for and accommodate our passengers with 21st-century customer service. This includes improved facilities and new technologies to enhance airport experience. We are also committed to continuously enhanced health protocols.

Further investigation about the widespread use of health passport is worth additional discussion, as well. We deeply appreciate House passage of the American Rescue Plan, including additional relief for airports, airlines, and airport concessionaires. Moving forward, let me highlight a few additional areas where we hope to partner with you.

First, coordinate with us to prepare for and respond to public health emergencies such as through the National Aviation Preparedness Plan Act.

Second, resist new travel restrictions or domestic testing requirements, which we believe are unworkable and would impact the industry's ability to recover.

Third, restore customer confidence in air travel, which includes communicating broadly about our efforts to keep travelers healthy.

Fourth, maximize positive impacts of aviation industry, such as scaling sustainable aviation fuels, supporting small and diverse businesses, increasing workforce development, and continued noise mitigation efforts.

Finally, I urge Congress to pass a comprehensive infrastructure bill. It may seem strange for me to talk about upgrading and expanding airports after a 60-percent passenger decline. But when passenger levels inevitably return, we want to be ready to accommodate them, especially if upgraded facilities designed for touchless technologies and additional room for social distancing continues to be required.

Specifically, Congress should provide a path to sustainable airport investment through a long-overdue adjustment to the Federal cap on local PFCs.

Members of the subcommittee, we are in the midst of challenging times. But with your continued support, I believe we can emerge even stronger than before. Thank you for the opportunity to testify.

[Mr. Lyttle's prepared statement follows:]

Prepared Statement of Lance Lyttle, Managing Director, Seattle-Tacoma International Airport, on behalf of the American Association of Airport Executives

Chair DeFazio, Ranking Member Graves, Chair Larsen, Ranking Member Graves, and members of the subcommittee, thank you for your leadership during the coronavirus pandemic and for inviting me to testify at this hearing on "COVID–19's effect on U.S. Aviation and the Flightpath to Recovery." It is an honor for me to be back with you today.

My name is Lance Lyttle, and I am the Managing Director of the Seattle-Tacoma International Airport (SEA). I am appearing on behalf of the American Association of Airport Executives (AAAE) in my capacity as the Association's Federal Affairs Committee Chair. AAAE is the world's largest professional organization representing individuals who manage and operate at more than 850 public-use commercial and general aviation airports.

It is quite appropriate for me to be speaking to you today on this topic before Chair Larsen's subcommittee because we are both tied closely to this pandemic in so many ways. In mid-January of last year, a man returned from a trip to Wuhan, China through our airport, and traveled to his home in Chair Larsen's district—becoming the first confirmed case of COVID–19 in the United States. None of us could have prepared for such an event or known what was to come, but it is truly amazing to realize that we are now more than a year later and still struggling through the devastating impacts of this pandemic on the aviation industry, the country, and the world.

Prior to the pandemic, SEA was the 8th busiest airport in the United States based on passenger volume and the 19th busiest cargo airport in the country. At full capacity, SEA is the 9th biggest employment center in the State of Washington with over 19,000 employees contributing $22.5 billion in total business revenue. We also support an ecosystem of many other businesses—from airlines and concessionaires to taxis, hotels and warehousing.

Today, I look forward to providing you with a perspective on not only the unprecedented challenges the pandemic has created for airports but also the incredible efforts undertaken by SEA employees and their peers throughout the country to keep passengers and workers safe and healthy and to restoring traveler confidence in aviation. While my testimony today makes clear that airports and our partners across the aviation industry continue to face significant hardships in the wake of the pandemic, I also want to emphasize that I remain incredibly optimistic about our future and the coming recovery.

We will survive and rebuild in no small measure thanks to the help that this subcommittee and your colleagues in Congress have provided to airports over the past year. The CARES Act and the Coronavirus Relief and Recovery Supplemental Appropriations Act have provided a critical lifeline that has allowed SEA and other airports to weather the storm of the past year.

Airports are grateful for the funding in those two coronavirus relief bills and for the additional funding to support our airport tenants and concessionaires. We also deeply appreciate the additional funding that the Transportation and Infrastructure Committee approved as part of the pending budget reconciliation legislation. Chair Larsen, this much-needed assistance will allow airports to not only maintain our operations but also support our tenants and partners as we work toward recovery, and we thank you, Chair DeFazio, and other committee members for your strong support.

Like my colleagues at SEA, the men and women who work at our nation's airports care deeply about this industry and are committed to working with you to chart a path forward. This industry survived the terrorist attacks on 9/11, it survived the Great Recession in 2008 and 2009, and I am convinced it will come out of this pandemic even stronger and more resilient than before—with better knowledge, better training, improved facilities, enhanced public health measures, and a stronger working relationship between government and industry that will help us overcome future challenges.

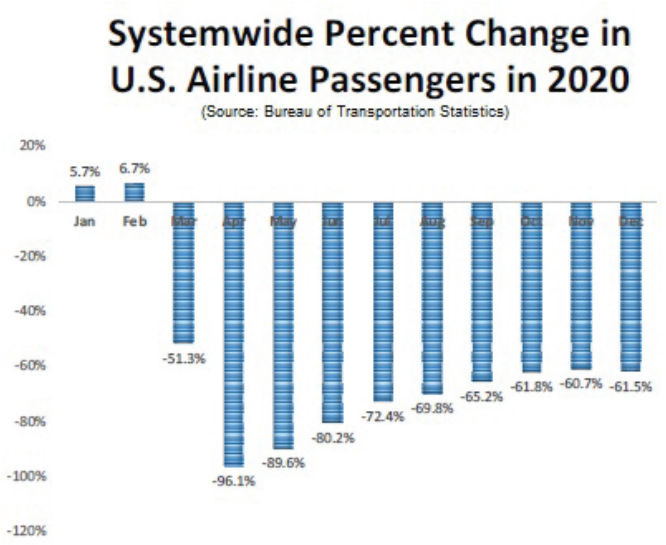
How the Coronavirus is Impacting SEA and Other Airports

The pandemic is continuing to have a devastating impact on airports, our concessionaires, our airline partners and the entire aviation system. But we have seen signs of gradual improvement over the last six months. With the acceleration of the coronavirus vaccination rate and falling case counts, SEA saw its highest passenger volumes since the start of the pandemic over this most recent President's Day holiday. Of course, new variants and a resurgence of coronavirus cases could slow progress, but I think we're headed in the right direction.

The Dramatic Drop in Passenger Levels: Passenger levels declined dramatically after the pandemic hit early last year. On April 14, 2020, fewer than 88,000 passengers traveled through security checkpoints nationally—a 96 percent reduction from the same date in 2019 and the low point during the pandemic. In fact, that month represented the fewest passengers through SEA since 1967.

We have seen a gradual uptick in the number of passengers traveling through our nation's airports since then. The Transportation Security Administration (TSA) screened more than 1 million passengers on several days during the past few months. But the agency also reported less than 469,000 passengers on January 27—the lowest number of travelers in six months.

Even with increased holiday traffic at the end of last year, passenger levels in November and December were significantly less than the same time period in 2019. According to the Department of Transportation's Bureau of Transportation Statistics (BTS), passenger levels were down almost 61 percent in November and about 62 percent December of 2020 compared to the same months in 2019. Overall, passenger levels nationally were down 60.1 percent in 2020, and 61.3 percent at SEA specifically. The last time our annual passenger numbers were this low was in 1994—26 years ago.



International Traffic Craters: International traffic has fared even worse during the past year. After experiencing slight gains in January and February of last year, international traffic all but evaporated due to COVID–19 and travel restrictions. According to BTS, the number of international passengers on U.S. carriers dropped more than 99 percent in April 2020 compared to the same month in 2019.

The holidays helped to boost international traffic somewhat toward the end of the year. But the number of international passengers on U.S. carriers still declined from 9.5 million during the month of December 2019 to 3.2 million in the month of December 2020—a 66 percent drop. Even after you factor in positive numbers in January and February, international traffic for the full year in 2020 was down more than 70 percent compared to 2019.

SEA experienced a similar decline with our international passenger traffic—down 76.1 percent in 2020. The dramatic drop in international traffic has had an enormous financial impact on SEA and other gateway airports that traditionally welcome large numbers of international passengers throughout the year.

Negative COVID–19 Testing Requirements: The fragility of international travel became even more evident in the fall of 2020 when new and more infectious coronavirus variants began to emerge in the United Kingdom, South Africa, and Brazil. These variants prompted new international border closures and additional testing requirements for international travelers.

Many countries, including the United States, prohibit the entry of non-citizens unless they are traveling for essential business, have proof a negative COVID–19 test result within a certain window of time, and/or quarantine for an extended period of time. These requirements tend to be inconsistent from country to country and change frequently, resulting in confusion for international travelers.

The Centers for Disease Control and Prevention (CDC) on January 12, 2021 announced an order requiring all air international passengers arriving in the United States to "get tested no more than 3 days before their flight departs and to present the negative result or documentation of having recovered from COVID–19 to the airline before boarding the flight." This order went into effect on January 26. We of course fully support efforts to defeat the pandemic and take necessary precautions to reduce the spread of dangerous new COVID strains, but these efforts have real world consequences on the economics of our industry.

Similar Declines in Airport Revenue: With unprecedented reductions in domestic and international travel, fewer passengers mean significantly lower revenues from aeronautical and nonaeronautical revenue and from Passenger Facility Charge (PFC) collections. Airports Council International—North America (ACI–NA) estimates airport losses of at least $40 billion from March 2020 through March 2022: $23 billion in the last year and $17 billion in the year ahead.

Airports have responded by cutting costs where they can. Among other things, airports have closed or consolidated non-essential facilities; instituted hiring, pay, and benefit freezes; reduced travel and training budgets; limited expenses to only those deemed essential; and deployed energy saving initiatives.

The loss of revenue is also having an impact on construction projects, with some airports having to resort to delaying or canceling projects. According to the FAA, airports collected less than $1.3 billion revenue from PFCs last year, a 66.2 percent drop from the more than $3.6 billion that airports collected from PFCs in 2019.

SEA generated approximately $350 million less revenue in 2020 than in 2019, and we faced millions of dollars in increased expenses as we implemented new health and safety measures. To compensate, we cut costs by reducing our 2021 budget by 10 percent and froze the hiring of 103 full-time equivalent positions.

We also tried to assist our airline partners by accelerating cost-sharing payments to help with cash flow, reducing our airline settlement to close to zero and lowering landing fees. In fact, overall airline costs will be lower in 2021 than in 2020, despite the new expenses that SEA will incur from opening two major new facilities this year. Again, I can honestly say that we would not have been able to continue our

operations and serve our customers without the incredibly generous and timely federal support that we received in the last two coronavirus relief bills.

A number of airports have also taken steps to assist the businesses that operate at their facilities, including concessionaires. We recognize that our tenants are key to the airport experience for our customers, and that it is significantly more expensive to replace a concessionaire than it is to help sustain them during this difficult period. At SEA, we have taken decisive actions to support these businesses, including deferring rent and fees and adjusted leases. We are incredibly grateful to our Congressional delegation and other leaders in Washington, DC for including airport concessionaire relief in both the last relief bill and the American Rescue Plan. This funding will allow us to provide rent and minimum annual guarantee relief to our airport partners.

AIRPORTS MAKING SIGNIFICANT INVESTMENTS TO KEEP PASSENGERS AND EMPLOYEES SAFE

As I mentioned earlier, airports have also made significant investments in public health enhancements over the last year to protect workers and passengers at their facilities, and to restore confidence in air travel. These measures include cleaning and sanitization improvements, such as better worker training and the utilization of UV technology, self-sanitization applications, and electrostatic sprayers; HVAC and air filtration upgrades; social distancing floor stickers, signage and announcements; and the deployment of touchless technology. Airports have also been active in encouraging the use of masks throughout their facilities.

SEA is proud of the work we have done to ensure the health and safety of travelers through our airport. We launched our FlyHealthy@SEA program, a series of operational changes and communications efforts in partnership with our airlines and tenants. As part of that effort we:

- Doubled down on cleaning at SEA with frequent disinfection with medical-grade cleaning products;
- Secured accreditations for cleaning practices;
- Required passengers, visitors, and workers to wear face coverings in the public areas of SEA in spring 2020, well before the federal mask mandate went into effect;
- Added over 280 hand sanitizer stations throughout the terminal;
- Invested in a wide variety of innovative technologies for seamless, contact-free travel;
- Installed nearly 650 plastic protective barriers that buffer interactions between travelers and airport employees;
- Displayed 8,000 signs to remind passengers of physical distancing; and
- Opened an on-site COVID–19 testing location for non-symptomatic travel testing needs.

AAAE has partnered with the Global Biorisk Advisory Council (GBAC) to encourage airports to pursue and achieve the GBAC STAR Facility Accreditation. This performance-based designation helps facilities establish a comprehensive system of cleaning, disinfection, and infectious disease prevention, which relies on GBAC's comprehensive training on protocols, correct disinfection techniques, and cleaning best practices for biohazard situations like the novel coronavirus. Sixty-three airports participate in GBAC, and 27 airports—including SEA—have received GBAC STAR accreditation.

These and other efforts at airports are having a marked impact. On February 11, Harvard's Aviation Public Health Initiative issued a comprehensive report about the risk of coronavirus transmission in airports. Researchers found the probability of being infected at an airport is very low because of the "consistent and impressive commitments" airports are proactively making to reduce the risk of disease transmission between passengers, employees, concessionaires, contractors, and visitors.

These multi-layered strategies cited by Harvard include enhanced cleaning and frequent sanitization efforts; the adoption of various means to ensure proper distancing (e.g., floor decals, barriers, signage, communication); the use of masks or face coverings throughout the facility; upgraded ventilation and air handling systems; investments in touchless technology; and other innovations to protect traveler and worker health and improve the airport experience.

The Harvard report made clear that there is no one-size-fits-all approach that works in all instances, given the nature of the virus and the complexity and diversity of airports across the country. SEA and other airports are committed to using these and other protective mitigation efforts to continue to ensure passengers and workers are as safe as possible.

CORONAVIRUS RELIEF BILLS: PROVIDING A LIFELINE FOR AIRPORTS IN THE NEAR TERM

Chair Larsen, I would like to thank you and your colleagues for quickly passing the CARES Act in March and the Coronavirus Response and Relief Supplemental Appropriations Act in December. Considering the dramatic drop in passengers and revenue over the past year, both bills are providing a lifeline to airports, concessionaires, airlines, aviation workers and so many others in the aviation industry.

Airports are truly grateful for the federal assistance during these unprecedented times. We realize that the $12 billion that Congress has already approved for airports and concessionaires is a significant investment. But those crucial funds have made the difference in our ability to maintain operations, support our tenants and partners, and play our essential role in helping to lead a sustainable and equitable economic recovery.

As you know, airports often rely on bonds to help finance critical and costly infrastructure projects. Airports at the end of 2019 held $107 billion in debt, and they had $7 billion in debt payments due in 2020 with little revenue coming in. Funding in the two coronavirus relief packages included welcome flexibility to allow airports to use those federal funds to pay for debt service and to ensure that airports did not default on their bonds.

At SEA, we have focused our CARES Act funding on debt service payments because we believe it is the best way for our airport to meet its current obligations and maximize benefits to the airport in the short-term. It also allows us to maintain our competitiveness in the bond markets so that we will be able to invest in future projects to build our capacity when air travel returns.

We also decided that the most prudent use of our CARES Act dollars was to split them over a two-year period, especially since additional federal relief was uncertain at the time. We did not want to use up all of our grant dollars in 2020 and then find ourselves unprepared for any unexpected coronavirus impacts this year. I should also point out that the FAA established a reimbursement program in which airports must incur an expense and submit receipts before drawing down funds; this system creates a reimbursement delay because airports submit reimbursements based on payroll cycles, debt payment cycles, and accumulation of various other expenses. As a result of the reimbursement mode, the FAA asked airports to map out a multi-year plan for how they intended to use their CARES Act allocations.

We have already spent approximately 77 percent of our CARES Act grants and have budgeted the remainder for this year. We are in the process of reviewing the newly released FAA guidance on the December relief package and plan to make decisions very quickly—particularly in order to help our tenants who are struggling to keep their doors open.

LOOKING FORWARD: SIGNIFICANT CHALLENGES REMAIN

It's unclear how long the coronavirus crisis will last, when passenger levels will return to pre-COVID levels, or the time it will take for airports and airlines to get back to the "new normal." Based on our previous experiences after 9/11 and the Great Recession, we expect the road to recovery will take years rather than months. It will also take substantial investment during the uncertain transition period.

I am optimistic on the long-term outlook for airports and the entire aviation industry. In the near term, however, the significant financial challenges that airports continue to face coupled with a great deal of uncertainty surrounding COVID–19 could make the road to recovery rocky and unpredictable. The spread of more contagious variants could also slow progress and increase calls for travel restrictions and quarantines.

Moody's on December 1, 2020 highlighted some of the challenges that airports and our airline partners face in the year ahead. Its 2021 outlook points out that "enplanement recovery remains uncertain because of the potential for renewed travel restrictions or weakened consumer demand as COVID–19 cases increase."

The rating agency predicts that enplanements could be down between 55 to 75 percent in the first half of the year compared to 2019. With so many unknowns, Moody's acknowledges that the outlook for the year is "highly uncertain." But it is slightly more upbeat for the rest of the year and estimates that enplanements will be down between 40 to 60 percent in 2021 compared to the pre-pandemic levels in 2019.

"Worsening virus spread in much of the U.S. poses threats to the nascent travel recovery in the first half of 2021 before any potential widespread vaccinations in the second half of the year," Moody's noted. "Lower passenger volumes will reduce non-airline revenue at U.S. airports and also put further credit stress on U.S. airlines."

The report, which the rating agency published before Congress passed the last coronavirus relief package and before the recent decline in coronavirus cases, also underscores the intense financial pressures on large hub airports with significant numbers of international travelers. Moody's indicates that "large hub airports with normally high international and business traffic will struggle the most in 2021 and will exhaust CARES Act grant allocations."

Between new testing requirements for international travelers, ongoing travel restrictions, vaccine shortages and the spread of new COVID variants, we have revised SEA's 2021 passenger projections down to between 30–40 percent of 2019 levels in 2021. This is still an increase from 2020, but we have a long way to go to return to pre-COVID passenger levels.

Yet, as I mentioned earlier, I feel confident that those passenger levels will ultimately return, even if it takes 3–5 years. Despite ongoing health concerns, tightening corporate travel budgets and the impact of new videoconferencing technology, people want to travel, to see friends and family, to explore the world and to build personal and professional connections that a computer screen will never truly be able to offer.

FLIGHTPATH TO RECOVERY: RECOMMENDATIONS TO FURTHER ASSIST AIRPORTS AND OUR INDUSTRY PARTNERS

I have stated several times already how deeply appreciative we are of the support we have received over the last year from Congress and our other federal partners. It is truly amazing how well we have weathered the storm, compared to how bad it could have been, and thank you again so much for your ongoing commitment to our industry. However, there are some additional investments and policies that we ask you to consider as we continue to work together to rebuild aviation and restore confidence in air travel.

Key Areas of Support in The American Rescue Plan of 2021:

- *Providing Additional Funding to Help Airports Respond to COVID–19*: AAAE, ACI–NA, and airports around the county have been urging Congress and the administration to approve additional relief to help airports through the coronavirus crisis during the next year. As the pandemic continues, airports face new operating demands and growing strains on their outstanding debt as they make major investments in public-health improvements and establish distribution hubs for the COVID–19 vaccine. These added costs, plus their reduced revenue, has created budget nightmares for airports that put some in significant financial peril. Many airports have exhausted their initial CARES Act funding.

  Getting more federal funds out the door and into local communities as quickly as possible will ensure airports can continue to keep airport staff employed, respond to new operational demands, afford debt service on their bond payments, and maintain their critical safety and security projects. We are grateful that the Transportation and Infrastructure Committee recently approved $8 billion for airports and concessionaires as part of the American Rescue Plan Act that lawmakers are currently debating. That proposed funding level will go a long way to ensuring airports and concessionaires have the resources they need to help offset some of their expected revenue losses and to continue to combat COVID–19.
- *Extending the 100% Federal Share*: I would also like to thank the full committee for taking steps to eliminate the local match requirement for capital projects funded from the Airport Improvement Program (AIP). This is a big issue for airports of all sizes and especially smaller facilities that often rely on PFC revenue to help pay their local match. The CARES Act included $500 million to cover the local match requirement for those AIP projects funded in FY20, and the American Rescue Plan includes slightly more than $600 million to eliminate the local match requirement for AIP projects funded in FY20 and FY21. With traditional revenue sources so low, it is exceptionally challenging for many airports to come up with a local match during the current crisis. I urge Congress to maintain the 100 percent federal share language as part of the coronavirus relief package that lawmakers are currently debating.
- *Continuing to Assist Concessionaires*: Airport concessionaires have experienced severe financial losses during the past year. As I mentioned, SEA and other airports have been trying to help our partners by providing relief from rents and minimum annual guarantees during the pandemic. The previous coronavirus relief package included $200 million to help airport concessionaires during these

challenging times, and the budget resolution includes an additional $800 million with a focus on small businesses.

- *Extending the Payroll Protection Program*: Airports strongly support provisions in the American Rescue Plan that would extend the Payroll Support Program for the airline industry. Specifically, the package includes $14 billion to extend the PSP through September 30 for airline workers and another $1 billion for contractors.

Helping Small Airports and Small Communities Impacted by COVID–19:

- *Preserve Small Community Air Service*: With the decline in passenger levels, carriers have reduced or eliminated commercial air service to small communities during the pandemic. Continuing support and increased funding for the Essential Air Service and Small Community Air Service Development Programs are more critical than ever to ensure that people in small communities and less populated areas have access to the national airspace system.
- *Provide Additional Assistance to Help Nonprimary Commercial Service and General Aviation Airports Impacted by COVID–19*: There are approximately 3,000 nonprimary commercial service and general aviation (GA) airports throughout the country that play a key role in our aviation system. The last two coronavirus relief packages included $145 million to help those smaller airports during the pandemic. Those funding levels are a welcome step in the right direction. But we urge Congress to do more to ensure that the thousands of nonprimary commercial service and GA airports—including those that traditionally have significant operations—have the resources they need to respond to the pandemic.
- *Help Airports that Participate in FAA Contract Tower Program*: I would like to thank members of this subcommittee for their longstanding support of the FAA's Contract Tower Program, which enhances aviation safety at 257 airports around the country. I would particularly like to commend Representatives Julia Brownley and Rodney Davis for recently introducing the CONTRACT Act, a bipartisan and bicameral bill that would address staffing challenges at contract towers by making it easier for retired federal controllers to continue working at contract towers. When the COVID–19 recovery takes off, it will be more important that we ensure that contract towers are fully staffed with experienced and highly qualified controllers. I urge the Transportation and Infrastructure Committee to approve this commonsense approach.

Recommendations Impacting our Federal Partners and Other Opportunities to Aid Recovery

Finally, I would like to share some thoughts on ways that we can partner with you and the federal government on key policies and programs to bring back aviation to pre-COVID heights, and to help us be even more resilient, sustainable, and impactful than before.

- *Ensuring our Federal Partners Have the Resources They Need*: I am optimistic that we will begin to see many more travelers as the vaccination rate continues to increase. It is critical that the TSA and U.S. Customs and Border Protection (CBP) have the staffing and resources they need to accommodate additional passengers when travel begins to pick back up. I am encouraged by TSA's recent announcement that it plans to hire 6,000 Transportation Security Officers (TSOs) by this summer. We need to ensure that there are enough well-trained TSOs, passenger screening canine teams, CBP officers, and innovative technologies to handle pent-up demand expeditiously to prevent long lines at security checkpoints and international arrival halls.

  TSA and CBP have faced substantial declines in their user fee revenues due to the steep decline in travel. For example, CBP estimates a $2 billion user fee shortfall in 2020 and 2021. These fees account for 40 percent of the resources used to hire and train CBP officers that work at airports and other ports of entry. Similarly, the aviation security fee passengers pay as part of their ticket covers about one-third of TSA's expenses. We cannot afford to have steep spending reductions to either of these agencies just when travel begins to rebound. Looking forward, we ask members of this subcommittee to work with your colleagues on the Appropriations Committee on ways to ensure that airports are as fully staffed as possible.
- *Helping Airports and other Stakeholders Prepare for Public Health Emergencies*: Chair Larsen, I would like to thank you and Representative Don Beyer for introducing the National Aviation Preparedness Plan Act. Your bill (H.R. 884) would require the Federal government to consult with airports, airlines, and

other aviation stakeholders on ways to help prevent the spread of communicable disease outbreaks in the aviation system. The coronavirus pandemic has made clear that this type of commonsense and collaborative approach, which you first proposed in 2015, is long overdue. Better coordination between the federal government and aviation stakeholder would help make our nation's aviation system safer for passengers and workers alike.

As I mentioned previously, we have implemented a wide range of new FlyHealthy initiatives at SEA. But the lack of consistent, enforceable national protocols throughout the entire air travel system has led to confusion and missed opportunities. It is imperative that we capture and incorporate the lessons from COVID–19 into federal guidance, and the Port of Seattle looks forward to working with you, DOT and other federal agencies to complete this important work.

I would also like to emphasize the need to continue to focus on ensuring access to vaccines and personal protective equipment (PPE) for aviation workers. I realize that the vaccine issue is largely up to state governments, but states like Washington have not yet prioritized critical frontline transportation workers for vaccination. Hopefully this issue will be addressed as supplies quickly increase, but your attention to this important need is very welcome.

- *Restoring Confidence in Air Travel*: Our goal at SEA is not just to get back to 2019 traveler numbers, but also to be even better prepared to accommodate our passengers with 21st century customer service. To us, that goal means improved facilities; new technologies to smooth and speed the airport experience; and a permanent commitment to enhanced health protocols. It also means renewed efforts to restore customer confidence in air travel, which is a mix of the actual steps we take to keep travelers healthy as well as communicating those steps to our customers. It will take an industry-wide effort to share information, data and studies about the effectiveness of our work to keep travelers healthy and safe, and we welcome the opportunity to partner with Congress and the federal government on that work. Further investigation about the widespread use of a health pass is worthy of additional discussion as well.
- *Avoiding Domestic Testing Requirements and Other Domestic Air Travel Restrictions*: As you know, the CDC has been considering a widescale domestic predeparture testing requirement. We appreciate that many members of the committee have been critical of this proposal, calling it "impractical and unworkable." Airports agree and believe that such a requirement does not make sense and would have lasting economic repercussions on the aviation industry—just as Congress and the administration are trying to find ways of assisting the industry. At a time where the number of cases is declining, face mask usage is mandatory, the number of people vaccinated is growing, and U.S. airport and airlines have instituted extraordinary precautions to ensure air travel is safe during the pandemic, we were gratified to learn that CDC decided in mid-February that a domestic pre-flight testing requirement did not make sense "at this time." We urge the committee to continue to communicate to the Administration your concerns about moving forward with a domestic pre-departure testing requirement or any other domestic air travel restrictions.
- *Investing in Our Nation's Infrastructure*: Chair Larsen, almost four years ago to the day, I testified before this subcommittee and discussed the need to provide airports with the tools they need to fix aging facilities and accommodate rising demand. During that session I described the importance of the AIP and the need to raise the outdated federal cap on local PFCs.

  I reiterate that message again today and urge you and your colleagues to pass a comprehensive infrastructure bill that will help airports prepare for the eventual return of passenger levels. It may seem strange for me to be talking about upgrading and expanding airport facilities after a year of 60 percent passenger declines, but now is actually the perfect time to invest in our nation's infrastructure. Building back better will support good-paying jobs and fix our crumbling infrastructure at time when interest rates are exceptionally low. As I have stated, we believe deeply that passenger levels will return to 2019 levels, and we want to be ready to accommodate them when they do—especially if upgraded facilities designed for touchless technologies and additional room for social distancing continue to be required.

  With guidance from leaders on the committee, the House took a great first step last year when it passed H.R. 2, the Moving Forward Act. If enacted into law, this proposal would go a long way toward helping airports pay for critical infrastructure projects in the years ahead, while focusing on resiliency and lowering greenhouse gas emissions.

The House-passed bill proposed to increase the annual authorization level for the traditional AIP program to $4 billion. It also called for providing airports with up to $4 billion in supplemental funding every year and much-needed flexibility to allow airports to use those funds for PFC-eligible projects such as terminals and debt service.

We deeply appreciate the provisions in the bill that would increase federal funding for airports in the near term. However, adjusting the outdated and arbitrary PFC cap would create a sustainable, long-term funding source to help pay for critical capital projects when there may not be enough federal funding to go around.

At SEA, we will celebrate the opening of two of our biggest capital projects in 2021: our new International Arrivals Facility and our modernized North Satellite. Despite the unexpected disruptions caused by the pandemic, we are thrilled that these projects are coming on-line after years of hard work and more than $1.5 billion in investment.

In the immediate term, these facilities will give us the space we need to offer more physical distancing during the pandemic. These projects will also provide SEA with additional capacity when passenger levels begin to rebound. We were already overcapacity in 2019, and we simply cannot wait for a full recovery of passenger levels to start planning for the future.

Part of our future plans include our Sustainable Airport Master Plan (SAMP). The SAMP near-term projects (NTP), including a new multi-billion terminal project, are a blueprint for changes that we need to make at SEA to accommodate future demand; the NTP are currently undergoing federal environmental review, and I'm pleased to report that we will release our draft environmental assessment this year. However, considering the significant declines in PFC revenue due to COVID–19 and our other cash flow challenges, we will need to find new ways to fund these projects.

- *Increasing Environmental Sustainability*: In terms of environmental sustainability, we are proud of our goals to become a carbon-neutral airport, and we have been leading innovators on everything from pre-conditioned air at all of our gates to electrification of ground service equipment and transitioning our ground transportation buses to renewable natural gas.

  But our biggest environmental initiative is our goal is to fuel every flight out of our airport with at least a 10 percent blend of Sustainable Aviation Fuel (SAF). We believe that full implementation of SAF has the potential to lower our airport's carbon footprint by as much as 80 percent, which is why we strongly support provisions in the Moving Forward Act that call for investing in SAF.

  SAF is a proven fuel alternative that is safe and plug-in ready. Now we must work together to figure out how to scale this industry so that SAF is plentiful and affordable. We believe that the federal government can help speed this outcome with infrastructure investments in refining, blending and pipeline facilities; support for farmers and other feedstock producers; incentives like a $2 per gallon blenders' tax credit; and other market-making efforts—such as increased utilization by the U.S. Department of Defense.
- *Enhancing Airport Communities and Shared Economic Prosperity*: Finally, we want to be sure that we are maximizing the benefit of the airport to the community. At SEA, we have been particularly focused on increasing our women and minority owned business participation, whether it be for dining and retail concessions, construction projects or janitorial contracts. Our 2019 Diversity in Contracting report shows that we're making progress on this front, but there is still much more that we can and must do. Similarly, we believe that we can do more to help people from a wide variety of backgrounds gain the skills to join the aviation workforce. Finally, we want to make sure that businesses and residents near the airport are thriving, whether it be through helping attract more travelers to stay in nearby hotels or continuing to invest more in residential noise insulation and air quality improvements. We welcome opportunities to work with Congress to find new ways to achieve these goals.

Chair DeFazio, Ranking Member Graves, Chair Larsen, Ranking Member Graves, and members of the subcommittee, thank you for inviting me to participate in today's hearing. I look forward to working with you as we continue to respond to the coronavirus crisis, make our facilities as safe as possible for passengers and employees, and turn our attention to recovery.

Mr. LARSEN. Thank you, Mr. Lyttle.

And before I introduce Mr. Ed Bolen I just would note, without objection, our witnesses' full statements will be included in the record today.

So without objection.

So I now recognize Mr. Ed Bolen for 5 minutes.

Mr. Bolen?

Mr. BOLEN. Well, thank you, Chairman Larsen. I appreciate the opportunity to be here today representing the National Business Aviation Association.

As everyone on this committee knows, business aviation is the use of general aviation aircraft for business purposes. In the United States, thousands of companies rely on business aviation to get products and people where they need to be when they need to be there. Business aviation is an industry that generates an enormous amount of jobs and economic development. It is an industry that helps foster productivity and efficiency. It also flies humanitarian flights. And during the COVID crisis we have flown an enormous amount of personal protective equipment and COVID tests.

Two thousand twenty has been an epically challenging year for our industry. At times, business aviation flights were down as much as 75 percent. Even today, at Teterboro, gateway airport for New York, flights are down 50 percent. But oftentimes, when things are at their worst, we have an opportunity to demonstrate our best. And I think that ecosystem, that aviation ecosystem that my colleague, Pete Bunce, talked about, has been on full display during the COVID crisis.

Congress' prompt action with the CARES Act was essential in providing critical help to our industry. Your investments allowed us to retain pilots, technicians, and other professionals in the aviation industry. You helped us find ways to come together and operate safely in a rugged environment that at times included ATC Zero operations. In short, we have come together to find our way forward consistent with our value of safety.

We are determined to not just survive this crisis, but to emerge stronger. On-demand air mobility, the ability to move people where they need to be when they need to be there, is one of America's great strengths, and we hope to emerge stronger. The COVID crisis gave us a view of the abyss, but we are focused on a vision for the future, a vision for the future that includes enhanced sustainability.

As my friend, Pete Bunce, said, we are focused on sustainable aviation fuel. It gives us an opportunity to dramatically reduce our emissions footprint. It is an opportunity for us to find a way forward together with Government help, including a blender's tax credit.

We are also working hard to bring new technologies to reality, to receive the benefit of new propulsion systems, hydrogen propulsion, electric propulsion, hybrid propulsion. We need an infrastructure that is capable of sustaining these operations, taking the magnificent airport infrastructure that we developed during World War II, and building for the future, creating the type of charging stations and operational environments that will allow the Advanced Air Mobility operations to thrive.

We also know that it is important for us to continue to invest in our human infrastructure, to be able to attract the best and the brightest, and that makes a requirement that we be diverse and we be inclusive. I know this committee has been supportive of PSAs to attract people to our industry. It has been supportive in the FAA Reauthorization Act at creating a Women in Aviation Advisory Board that NBAA is proud to have two members of its board of directors serve on.

It is imperative: for us to realize the future, we have to be diverse, we have to be inclusive, we have to be sustainable, and we have to take advantage of the technologies that are working their way through the certification system. And we need to create an operating environment that can get us there.

We are grateful for the leadership that has been demonstrated by this committee, by this Congress, and by the FAA to help us through a challenging time. But we want to set our sights forward. And we want to realize the full potential of aviation, moving forward. Thank you.

[Mr. Bolen's prepared statement follows:]

Prepared Statement of Edward M. Bolen, President and Chief Executive Officer, National Business Aviation Association

Chairman Larsen, Subcommittee Ranking Member Graves, and members of the Subcommittee on Aviation thank you for holding this hearing to discuss the significant challenges business aviation is facing due to the COVID–19 pandemic and how we are progressing on our path to recovery. On behalf of the National Business Aviation Association (NBAA) and our 11,000 member companies, we appreciate the opportunity to testify at this critical hearing.

The United States general aviation industry, including business aviation, supports 1.2 million jobs and $247 billion in economic impact. Across the country, thousands of small businesses that generate $77 billion in labor income are facing unprecedented challenges due to the pandemic. In addition, the companies that utilize business aviation, 85% of which are small and mid-sized businesses continue to face significant challenges.

Beginning in late February 2020, the GA industry began to suffer significant impacts due to COVID–19 related travel restrictions and shutdowns. During the depths of the pandemic last spring, GA aircraft operations dropped by an unprecedented 75% based on an analysis of FlightAware data. These substantial declines continue for our industry due to a sharp decline in business travel.

This severe and unprecedented reduction in flight activity had devastating consequences from fixed-based operators (FBOs) to maintenance shops, charter operators, and GA airports. For example, the U.S. aircraft maintenance industry has lost 50,000 jobs, and more than 80% of companies have seen revenue declines compared with 2019. At Hutchinson Regional Airport (KHUT) in Kansas, operations suddenly dropped by 80% last spring, and fuel sales declined by nearly 90%. The airport provides $20 million in economic impact to the community, and many of its small business tenants took out loans to survive.

At Teterboro Airport (KTEB) in New Jersey, a critical business aviation gateway, GA aircraft operations dropped by more than 65% in June 2020. Through the end of last year, fuel sales and operations were still down 50% from pre-pandemic levels. Teterboro supports nearly 5,000 jobs and generates more than $1 billion in economic impact, so these sharp reductions directly impacted families, small businesses, and the local community.

Despite these unrelenting challenges, the GA community continues its commitment to COVID–19 relief efforts. While the commercial airlines serve only about 500 airports, GA can reach more than 5,000 airports and communities, providing a critical link for pandemic relief. For example, GA pilots are flying COVID–19 test specimens from rural medical facilities to labs, cutting the wait time for results in half. In Vermont, business aircraft transported 600 test specimens a day to laboratories through a partnership with local hospitals.

One of the largest U.S. laboratories, Quest Diagnostics, relies on a fleet of 23 business aircraft to transport specimens to its labs across the country. The diverse fleet includes Beechcraft Baron piston twins and Embraer Phenom 100 light jets that can access a wide variety of GA airports. With the demand for COVID–19 testing, the company used its fleet and focused on logistics to increase efficiency and provide much-needed testing capacity.

More recently, organizations such as Patient AirLift Services were again able to provide volunteer medical flights and free patient air transportation with new COVID–19 safety protocols. As we continue to emerge from the pandemic, GA stands ready to expand our humanitarian efforts, use our connections to small communities to assist with vaccine distribution and perform other missions to help communities across the country.

CARES Act Provided Much-Needed Relief

We applaud this Subcommittee's continued leadership in providing targeted relief for business aviation as we recover from the pandemic. Your work to quickly pass the CARES Act last March provided a critical lifeline for our community, and we continue to access relief programs today. Leading up to the CARES Act passage, NBAA worked with members of the Subcommittee to make sure that GA commercial operators were eligible for the same relief programs as the major airlines. Thousands of small air charter operators that do not have access to capital markets were in desperate need of relief, and thanks to your leadership, the Payroll Support Program (PSP) passed as part of the CARES Act covered GA commercial operators.

In addition to PSP, many of our members are still in business today, thanks to the Paycheck Protection Program (PPP). Along with your quick action on Capitol Hill, we applaud the dedicated employees at the Department of the Treasury, Small Business Administration, and other agencies that rapidly stood up these relief programs and worked with our members to answer questions in real-time.

While the vast majority of PSP funds provide critical support to the major airlines, many GA commercial operators received support that kept their businesses going and prevented layoffs. Early on in the program, we worked with the Treasury Department to develop streamlined requirements for small air carriers, most of which requested less than $10 million in support. These requirements protected taxpayers while recognizing that small air charter operators often do not own any aircraft and do not have access to capital like the major airlines.

There are hundreds of stories about how PSP and PPP preserved GA jobs, but innovative charter, fractional, and aircraft management operator Airshare in Lenexa, Kansas, demonstrates the importance of these programs. Before the pandemic, Airshare was doing well, with around 200 employees and 50 GA aircraft. However, last March, the company realized the scale of its challenges and took decisive actions to adapt its business to ensure it could retain all of its highly skilled workforce. However, since business travel is a significant focus of Airshare's operations and immediately declined by almost 90%, the company needed additional relief.

Reasons behind the decrease in business travel are varied, but companies that own and operate business aircraft to transport their employees also feel the impact. For example, OFS, a family-owned furniture manufacturer headquartered in Huntingburg, Indiana, that operates a King Air 200 and King Air 350 turboprop, experienced significant business travel disruptions. In a typical year, the company flies more than 1,500 potential clients to its headquarters. The COVID–19 pandemic has profoundly impacted the company, with sales been down by more than 25%. Although OFS has been able to cut its expenses and adapt, flight operations have been virtually shut down due to travel restrictions and business challenges since March of last year.

With assistance from the PSP and PPP programs, charter fractional, and aircraft management operator Airshare did not layoff any employees and is looking towards the future. While there has been a recovery from the pandemic's depths, the company is still experiencing a sharp decline in business travel which is clouding the future.

In addition to connecting small towns and communities, air charter operators often perform critical and complex missions to transport human organs for transplant. For example, around 30 to 40% of the business for Ventura Air Services, a charter operator located at Republic Airport (KFRG) in Farmingdale, New York, involves transporting organs. When the pandemic hit, demand for other on-demand flights quickly declined, and Ventura struggled to retain the highly skilled workforce needed to perform organ transport flights. With support from PSP and PPP

to get through the crisis, the company continued to perform its critical missions and is currently adding two additional aircraft to its charter certificate.

Unfortunately, many air charter operators are continuing to face a decline in business travel, so we appreciate PSP and PPP's extension through the Consolidated Appropriations Act of 2021 to provide continued relief. While our members understand challenges for the Treasury Department in administering PSP, we have experienced significant delays in the second round of funding. Although many large airlines have received the relief, small operators are still waiting, and we respectfully request that this Subcommittee works with Treasury officials to expedite the process.

Along with charter providers and small businesses, FBOs provide a diverse range of services from aircraft fueling to maintenance at GA airports and have been negatively impacted by the pandemic. Many of these are family-owned businesses, like Epps Aviation located at DeKalb-Peachtree Airport (KPDK) in Atlanta. Founded in 1965 by Georgia aviation legend Pat Epps, the company has grown to around 150 employees at DeKalb-Peachtree, which is one of the top ten GA airports in the country.

Beginning last March, Epps experienced a significant decline in traffic at the airport, which has still not recovered to pre-pandemic levels. Revenues declined by nearly 60%, and fuel sales which are a key driver of revenue were down 30%. The company obtained PPP relief, allowing it to maintain its highly skilled workforce, but they remain very concerned about the decline in business travel, which makes up 70% of their traffic.

Thanks to your actions, many GA businesses have avoided layoffs, but the future is uncertain, and additional relief may be necessary. For example, operations are still down significantly at Charles B. Wheeler Downtown Airport (KMKC), a key GA airport in Kansas City that supports nearly 700 jobs. At New Orleans International Airport (KMSY) and King County International Airport—Boeing Field (KBFI) in Seattle, general aviation traffic continues to be down by 30%. The ongoing reductions in business travel and the potential for additional COVID-related restrictions creates significant uncertainty for our community, and we appreciate your consideration of future GA relief needs.

For example, NBAA and a broad coalition of GA groups have requested a temporary suspension of aviation fuel taxes to incentivize demand. Congress temporarily suspended the 7.5% tax on commercial air transportation but did not take similar action for the non-commercial GA fuel tax. As you consider additional relief measures, we believe that temporarily suspending the GA fuel tax remains an important policy. For small airports and FBOs that rely on fuel sales for a significant portion of revenues, the suspension of non-commercial fuel taxes would help reduce costs for operators, provide longer-term relief, and be consistent with commercial aviation policy.

In addition to relief for operators, we applaud Committee Ranking Member and House GA Caucus Co-Chair Sam Graves' leadership in championing dedicated relief for GA airports. Under the CARES Act and Consolidated Appropriations measure, GA airports received $145 million in relief, allowing them to continue operating safely through the pandemic.

Regulatory Challenges During the Pandemic

For every NBAA member, safety is the number one concern that drives all aspects of the flight operation. This commitment includes careful compliance with FAA-mandated training events, medical examinations, and other regulatory requirements. However, early in the pandemic, we realized there were significant health and safety barriers to complying with these regulations.

Working with the FAA, its dedicated staff, and the entire GA community, we developed Special Federal Aviation Regulation (SFAR) 118. This regulation is a comprehensive, safety-driven set of mitigations that reduced the risk of COVID–19 exposure while providing additional time to meet FAA requirements. The innovative regulatory approach facilitated needed relief while ensuring continued compliance with essential standards. Tens of thousands of pilots and hundreds of operators benefitted from this risk-based, collaborative approach that allowed the industry to adjust and implement additional safety measures without compromising standards.

The temporary relief granted under SFAR 118 will expire on April 30, and we appreciate the FAA's willingness to offer this relief. The FAA has indicated it will consider additional measures depending on how recovery from the pandemic proceeds. We understand the Subcommittee's interest and support of SFAR 118 and will keep in close communication on any future relief needed over the coming months.

Concern over Future Restrictions

Through leveraging relief opportunities and adapting business models, business aviation continues to be incredibly resilient during the pandemic. With airlines cutting service to many small communities, like Dubuque, Iowa, and Lake Charles, Louisiana, we have been able to fill part of the void and provide a potential travel option. This possible new business is helpful, but we remain concerned that future restrictions or COVID–19 testing requirements could be harmful.

Regarding domestic testing for air travelers, we believe that current testing protocols will not support on-demand flights, which are a vital part of business aviation's value proposition. NBAA members often fly to support critical infrastructure such as telecommunications networks and hospitals, meaning that delaying travel 24–48 hours to comply with potential COVID–19 testing requirements would have significant negative consequences. We support reasonable and science-based recommendations to control the spread of COVID–19 but urge a focus on improving the availability and turn-around time for testing before further discussions on this issue.

During the initial discussion of the domestic aviation testing requirement, we appreciated Chairman DeFazio's leadership in raising questions about the feasibility and effectiveness of such a requirement. Recently, it appears that the administration has paused its discussions on this policy, and we thank the Committee for its continued engagement.

GA Priorities for the Future

The remarkable development of effective COVID–19 vaccines provides a potential path forward for business aviation, even as we continue to deal with day-to-day pandemic-related challenges. With that in mind, we are looking to the future with a focus on advanced technology, sustainability, and diversity. This positive future will bring our country closer together and generate high-skill, good-paying jobs right here in the United States.

In a recent Deloitte study, the market for advanced air mobility (AAM) is estimated to reach $115 billion annually by 2035, with the potential to create nearly 300,000 jobs. Since at least as far back as World War II, we have been able to leverage an incomparable infrastructure of airports, airspace, technologies, and personnel to bring commerce and humanitarian services to over 5,000 communities. On-demand AAM provides a path for the U.S. to maintain its position as the world leader in civil aviation, and there are significant opportunities for GA and our talented workforce to fly people and products where they need to be when they need to be there. To that end, NBAA actively supports numerous FAA working groups tasked with integrating AAM operations into the National Airspace System and looks forward to continued collaboration with the agency.

To realize the full potential of AAM, including congestion relief, a reduced environmental footprint, and enhanced mobility, we must look towards the next generation of infrastructure needs. As this Committee considers infrastructure investments, we respectfully request that future investments for AAM operations are considered in terms of eligibility for funding and programs.

For example, as Congress reviews infrastructure grant programs such as BUILD, consideration should be given to multimodal investments that include AAM. Although funding through these programs might not be needed today, AAM companies are nearing aircraft certification, meaning that we should take advantage of this historic discussion on infrastructure to make forward-looking changes that position us for the future.

In addition to the sustainability benefits of AAM, GA is committed to reducing the environmental footprint of existing flight operations. Increasing the availability of Sustainable Aviation Fuel (SAF) is critical to achieving the aviation industry's goal of carbon-neutral growth from 2020 and a 50% net reduction in CO2 emissions in 2050 as electrification is not yet an option for many types of aircraft.

As a "drop-in" fuel, biomass-based SAF can be safely used in any turbine aircraft and is blended with conventional jet fuel. Studies indicate that SAF has the potential to reduce lifecycle greenhouse gas emissions by 80%. However, to achieve this potential, the fuel must be widely available at a competitive cost.

NBAA and a broad coalition of airlines, fuel producers, and industry groups believe that a $2.00 per gallon SAF blender's tax credit over 10-years would spur increased production. This credit would encourage fuel producers to invest in additional capacity, increasing the supply of SAF and driving down costs for operators. The existing $1.00 per gallon biodiesel tax credit does apply to some SAF pathways but will expire in 2022. While the biodiesel credit is helpful, its limitations and limited duration do not provide the long-term incentives needed to boost SAF produc-

tion. Should the $2.00 credit become law, SAF would no longer qualify under the existing biodiesel credit.

Recently, the House Select Committee on the Climate Crisis and the Atlantic Council endorsed the need for a targeted incentive to assist with overcoming the challenges of increasing supply and availability of SAF. To achieve those goals, we hope to see the introduction of legislation on the $2.00 per gallon blenders credit in the coming months and look forward to working with the Subcommittee on building support for this important policy.

While we understand this is not in the Subcommittee's jurisdiction, we want to underscore the importance of immediate expensing, also known as bonus depreciation, passed as part of the Tax Cuts and Jobs Act. This pro-growth tax policy allows taxpayers placing qualifying property into service, including business aircraft, the ability to deduct the full cost of their investment in new and used equipment in the first year of operation. Businesses can then deploy that capital to make other investments and grow their operations. In talking with aircraft brokers and manufacturers, we know that immediate expensing incentivizes aircraft purchases, leading to U.S. manufacturing jobs.

Unfortunately, starting in 2023, taxpayers will no longer be able to deduct the full cost of capital investments, and the incentive will end in 2027. The Tax Foundation has found that making full immediate expensing permanent would result in more than 170,000 additional full-time jobs. That is why NBAA supports legislation like the ALIGN Act, introduced in the last Congress by Senator Toomey and Representative Arrington to make immediate expensing a permanent part of the tax code.

In the areas of diversity and the aviation workforce, we continue to leverage NBAA's ability to bring together the GA community to make advancements. With leadership from Chairman Larsen and Congressman Don Young, we look forward to re-introducing the Promoting Service in Transportation Act during this Congress. This legislation would authorize the Department of Transportation to develop a series of broadcast, digital and print public service announcements to promote career opportunities and increase diversity in the transportation workforce.

Through these public service announcements, we will raise awareness of careers across all transportation modes, including aviation. There will also be synergies with efforts to grow the STEM workforce and related educational opportunities. While momentum around the future STEM workforce is vital, aircraft pilot and aviation technician careers are often not considered by students. That is why the legislation is critical, as it will help address these challenges by building linkages between STEM programs and the significant career opportunities for a diverse group of pilots and technicians.

At our virtual events over this past year, and when we return to live events, NBAA offers targeted educational programs by providing student-focused programming to educate young people about the many business aviation career opportunities. Utilizing our events to introduce a diverse group of students to business aviation allows us to build networking opportunities and expand a dedicated mentoring program—all of which create valuable connections between students and industry professionals.

During Black History Month, we featured stories of NBAA members that are using their careers and connections to their communities to increase diversity. For example, our members are reaching students of color through innovative programs like teaching middle school students how to fly and race drones. Through organizations such as the Experimental Aircraft Association and its Young Eagles program, the Organization of Black Aerospace Professionals, and its Aviation Career Education Academy, NBAA members volunteer their time and skills to build a more diverse business aviation industry. NBAA looks forward to partnering with the Subcommittee on similar initiatives around diversity, equity, and inclusion.

NBAA is also honored to have two of our Board members serving on the U.S. Department of Transportation's newly formed Women in Aviation Advisory Board. The purpose of this group is to recommend strategies to encourage women to pursue aviation careers. The board also identifies opportunities for education, training, mentorship, outreach, and recruitment of women in the aviation industry. We thank this Subcommittee for creating this advisory board and other groups that promote diversity and the aviation workforce through the FAA Reauthorization Act of 2018.

In closing, the COVID–19 pandemic has brought unprecedented challenges for business aviation and the entire GA community; however, it has also demonstrated our resiliency and critical importance to thousands of communities. From delivering test specimens to providing humanitarian flights, our industry continues to be a vital part of relief efforts. We thank members of this Subcommittee for recognizing the critical importance of business aviation when considering relief measures, and we look forward to continuing those discussions over the coming months. While

there are certainly challenges on the horizon, we are optimistic about the future and thank this Subcommittee for its continuing commitment to all aviation industry sectors.

Mr. LARSEN. Thank you, Mr. Bolen, for your comments. And I think that your last comments really wrap up—maybe one of the themes coming out of today will be that, although we are not out of the woods, there is some light there at the end of the tunnel. There are some opportunities to start thinking about the future of aviation, very different than what we would have been talking about even 6 months ago. And we still have work to do to get through the pandemic.

I would just remind people to mute, please. Everybody mute. Thank you very much. I appreciate that.

So I now recognize Members for 5 minutes. I will start by recognizing myself, and my first question is for Ms. Krause.

Also, I would recommend the Members to not ask questions generally of the panel, but to ask directly to panelists. It just makes it easier to manage the question time because of the technology.

So my first question is for Ms. Krause. It is about the national aviation preparedness plan.

Since 2015, following your agency's recommendation to create a national aviation preparedness plan to ensure all levels of Government, airlines, airports and frontline aviation workers are better equipped, we still don't have one. Representative Beyer and I have introduced H.R. 884 to direct the DOT to create a national aviation preparedness plan. Could you elaborate on the GAO's recommendation for such a plan, and what new issues should be addressed since your recommendation was released, Ms. Krause?

Ms. KRAUSE. Hi, this is Heather.

No, we also agree and, as I have said in my opening statement, urge Congress to take action to require DOT to implement a plan.

I think the COVID–19 pandemic illustrated some real challenges with coordination and communication. And a plan would, in designing one, you would want one that is scalable, adaptable, and has training built in, as well, so that you are prepared for future communicable diseases.

I think it also allows airlines and airports individual preparedness plans to align up with that national plan and have a more coordinated response.

Mr. LARSEN. Great, thank you. And again, it is H.R. 884, if any Members are interested in cosponsoring that bill sponsored by Representative Beyer and myself.

Mr. Bunce, you mentioned the Aviation Manufacturing Jobs Protection Act, which is a bill that Representative Estes and I cosponsored, and which Chair DeFazio helped get language in the reconciliation bill for its implementation; the idea being that we could ensure, in the long term, we have an aviation supply-chain workforce to call upon when the recovery comes. Can you elaborate a little bit more on your comments with regards to the job losses in the supply-chain industry, and what is needed to bring them back, Mr. Bunce?

Mr. BUNCE. Thank you, Chair Larsen. That supply chain, as I mentioned, is global in nature. So, even if we come back in the United States and are able to have some of our suppliers working,

you know the entire industry has transitioned to just-in-time parts and pieces because of the quality of our delivery companies in this country. Around the rest of the world it is not quite the same. And our supply chain is very fragile, in that a lot of these countries have had lockdowns. And as you get further and further down the supply chain, that then ripples through the system.

So what we have found lately is that our demand for aerospace products is actually forecast—is not only forecast, but we have orders that are extremely robust. But we have had to stretch out the delivery times, the anticipated delivery times, because of the fact that the supply chain is still very disrupted. So think about if airlines aren't flying, all that cargo that is below the floor is not able to be delivered. And we know that a lot of our cargo functions that are done by air are completely full with consumer goods, and goods that are ordered off of the big online stores. So we also have a capacity constraint, because we just don't have enough airline capacity in the air around the globe to move those parts and pieces. So that then translates to the loss of these jobs.

And with this legislation that you have helped us with, we can retain some of those workers, or bring back some of those workers in this cost share and get them off unemployment. And by that means we can keep them from filtering to another industry, because their skills are very precious to aerospace.

Mr. LARSEN. Yes, thank you.

So I have about 45 seconds left. Mr. Lyttle, could you address the issue of concessionaires at the airports, and the impact this has had on the folks who are running the shops at the airport, and what you are doing to assist them? And you have about 30 seconds, sorry.

Mr. LYTTLE. Thank you for that——

Mr. LARSEN. Your——

Mr. LYTTLE [continuing]. Mr. Larsen. Concessions at the airports rely heavily on passenger traffic coming through the airport. And passenger traffic significantly declined. We had a 61-percent decline in traffic. So our concessions community has suffered with the pandemic.

What we have done, we immediately responded by providing relief, both rent and relief, and we did that twice during the pandemic. And this allowed many of our concessionaires, particularly the small and minority- and women-owned businesses, to actually weather the storm and survive through the pandemic. And we are hoping that we will get additional relief with the next CARES package coming out, so we can continue to provide this type of support and relief for our concessionaires here at the airport.

Mr. LARSEN. Thank you. Thank you. With that I will turn to Representative Graves of Louisiana for 5 minutes.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Chairman. I would like to ask Mr. Lyttle, and perhaps Mr. Calio. There has been talk about a national preparedness plan. But I think, at this point, looking more toward a recovery plan might make the most sense. As discussed, we have carried a number of actions to try to help to sustain the capacity through this pandemic.

So, again, Mr. Lyttle, Mr. Calio, if we were to talk about a national recovery plan, what would those metrics look like in your eyes, in terms of moving toward an actual recovered industry?

Mr. LARSEN. Mr. Lyttle, go first.

Mr. LYTTLE. OK. National recovery plan, I think the first thing that we would have to do is to ensure that we do everything as an industry to ensure that we restore traveler confidence. I think, with all good intent, the airlines are doing something, the airports are doing everything in their best effort, as well. And I think, though, we have to have a coordinated approach. So we have to have, for example, the Government participating with the airlines, participating with the airport to have a collaborative and coordinated approach to do everything within our power to restore customer confidence.

So at the airport, for example, we will be doing the hand sanitizer stations, we will make sure we have social distancing. And the airlines, for example, will have mask mandates, et cetera. But I think we have to have a coordinated approach where—for example, the mask mandate is a very good example of that.

We have to also ensure that we collaborate with the CDC, as an example, and the FAA, and the Department of Health to not implement measures such as the one that was recently being discussed, whereby—we are looking at, for example, providing or requiring testing for domestic travel. Because that, I think, would not meet the requirements or the intent, but it would actually devastate the industry. And I think we need to really collaborate more so—the CDC, as an example—to understand exactly what the impact will be on the travel industry.

So, in my opinion, I really think we need to have a coordinated approach, where it is the Federal Government, the airlines, the airports that has a single plan, a single approach, similar to right after 9/11, where it was obvious that——

Mr. GRAVES OF LOUISIANA. OK, Mr. Lyttle, I am running out of time. I want to make sure we have an opportunity to get to Mr. Calio.

Mr. Calio, could you give a quick answer? I have got a couple more questions.

Mr. CALIO. Yes. First of all, public education is important. That is why we went to Harvard and worked with the airports and with other airlines and manufacturers, everybody in the industry. That education has to continue and spread.

We have to continue to create confidence by maintaining what we put in place to keep our passengers safe and the flying public safe. And that goes across the board. And I would recommend to everyone, look to the recommendations in the Harvard report.

Basically, we have got to rely on science and data, in terms of opening the markets and going forward, and we have got to continue the partnership with the Government that we have had over the last 12 months, and make sure that whatever gets put in place is based on science and data, and will not have unintended consequences.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Calio.

Captain DePete, there have been comments or questions about—and I mentioned in my opening statement—about whether pilots

were feeling, I guess, rusty, as a result of the decrease in flights and passenger travel. Could you speak to that a little bit?

Do you or your members have concerns about that, and could you talk about what you all are doing to help address that?

Mr. DEPETE. Sure. Thank you, Ranking Member Graves.

First off, I just want to say you helped solve that problem for us with the PSP. It has been—to say it is a historic lifeline, that it was a critical bridge to recovery, I mean, it is inherently a plan towards recovery you already built, and I thank you all for that.

In terms of the training, I am fully 100 percent confident in the ability of our pilots. Here at ALPA, training is just ingrained in us. It is in our DNA. And so we have been working with all the stakeholders, with our companies, with our regulators to ensure that the training is consistently up to date as we bring these airplanes back awake, as we get into recovery. We have already got a plan in place to deal with that.

The changes that we have had in our training have evolved over the many years since 1931, since the Air Line Pilots Association was first formed.

But I will say this: everything good that happens in aviation is a result of collaboration. I think Nick said it, Ed Bolen has said it. We came together as a team, and——

Mr. LARSEN. Captain DePete, you need to wrap up.

Mr. DEPETE. Oh, OK, sorry. I will just finish with that. I can't overemphasize the importance of PSP to remedy that situation.

Mr. LARSEN. Thanks.

Representative Graves?

Mr. GRAVES OF LOUISIANA. Thank you. Mr. Chairman, on June 2nd, Ranking Member Sam Graves and I requested GAO conduct a study to survey the aerospace stakeholders on COVID relief and recovery. We asked the GAO to have the preliminary results ready by March 2021, and the GAO will be discussing those results today, Chairman Larsen, and I ask unanimous consent to enter the request letter into the record.

Mr. LARSEN. Without objection.

[The information follows:]

Letter of June 2, 2020, to the U.S. Government Accountability Office from Ranking Members of the House Committee on Transportation and Infrastructure and Subcommittee on Aviation, Submitted for the Record by Hon. Garret Graves of Louisiana

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
U.S. HOUSE OF REPRESENTATIVES,
Washington, DC, June 2, 2020.

Hon. GENE L. DODARO,
Comptroller General of the United States,
U.S. Government Accountability Office, 441 G St. NW, Room 7000, Washington, DC 20548.

DEAR COMPTROLLER GENERAL DODARO:

On March 27, 2020, the President signed the Coronavirus Aid, Relief, and Economic Security (CARES) Act (P.L. 116–136) into law to address the COVID–19 public health emergency. This law, among other things, establishes loan and payroll assistance programs for air carriers and the aviation industry, which are administered by the Department of Treasury (Treasury) in coordination with the Department of

Transportation (DOT).[1] As the Committee on Transportation and Infrastructure oversees the implementation of the CARES Act, and more importantly, considers the potential for additional assistance for the aviation industry, we are interested in having the Government Accountability Office (GAO) obtain information on the effectiveness of the CARES Act and in receiving your recommendations for possible further actions by Congress, Treasury, and/or the DOT.

As you know, the CARES Act provides a significant amount of assistance in the form of loans and payroll assistance to the aviation sector. CARES Act loans and loan guarantees include $25 billion for passenger air carriers, repair stations, and ticket agents; $4 billion for cargo carriers; and $17 billion for businesses critical to national security.[2] The CARES Act aviation payroll assistance program makes available $25 billion to passenger air carriers; $4 billion to cargo air carriers; and $3 billion to airline contractors, including caterers, baggage handlers, and wheelchair pushers.[3]

Given the amount of aviation-specific assistance provided, the desire to ensure taxpayer value on any investment made, and the depth of the impacts of COVID–19 on the aerospace sector, we are requesting that GAO survey aerospace stakeholders to gather lessons learned and recommendations to assist in the recovery efforts. We would like to hear from a wide range of stakeholders including aviation labor, airlines, airports, general aviation users, drone operators, commercial space companies, and part 135 operators. Therefore, we request that the GAO conduct a survey of aerospace stakeholders, and gather input from aerospace experts on the following questions:

1. What are stakeholder perspectives on the effectiveness of the CARES Act loan and payroll assistance programs? What do they believe was effective and what could have made the programs more effective?
2. What are stakeholder perspectives on actions that need to be taken by the aerospace sector as it turns to COVID–19 recovery?
3. What are stakeholder perspectives on key issues to consider for any potential future actions by Congress, Treasury, or the DOT to assist in the recovery effort?

We appreciate your attention to this request. Should you have any questions or need additional information, please contact Holly Woodruff Lyons with the Subcommittee on Aviation staff.

Sincerely,

SAM GRAVES,
Ranking Member, Committee on Transportation and Infrastructure.
GARRET GRAVES,
Ranking Member, Subcommittee on Aviation.

Mr. GRAVES OF LOUISIANA. Also testimony from the American Car Rental Association into the record for the hearing, as well.

Mr. LARSEN. Without objection.

[The information follows:]

Statement of the American Car Rental Association, Submitted for the Record by Hon. Garret Graves of Louisiana

The Board of Directors and members of the American Car Rental Association (ACRA) respectfully submit this statement to the Aviation Subcommittees' hearing on "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery." ACRA asks that this statement be included in the official record of the hearing.

ACRA thanks you—Chairmen DeFazio and Larsen and Ranking Members Sam Graves and Garret Graves—for convening this important hearing. ACRA's members look forward to working with you and your staff as our industry—and the nation—moves toward recovery from the most economically devastating crisis ever faced by the nation's airport ecosystem—an ecosystem in which car rental companies play an essential role.

ACRA recently wrote to U.S. Department of Transportation Secretary Pete Buttigieg urging him to form an "Aviation Recovery Commission" to coordinate the recovery of the entire airport ecosystem—from airlines to caterers to airports to air-

[1] CARES Act, Pub. L. 116–136 (2020).
[2] *Id.* at 4001 et. seq.
[3] *Id.* at 4111 et. seq.

port concessionaires such as car rental companies—from the massive, negative financial impacts of the COVID–19 pandemic. ACRA respectfully asked that a representative of the American car rental industry be named to that Commission. ACRA encourages the bi-partisan leadership of the House Transportation and Infrastructure Committee to support the creation of such a commission and to consider action on recommendations made to Congress from the commission.

THE AMERICAN CAR RENTAL ASSOCIATION

The American Car Rental Association is the national representative for over 98% of our nation's car rental industry. ACRA's membership is comprised of over 300 car rental companies, including all of the brands you would recognize such as Alamo, Avis, Budget, Dollar, Enterprise, Fox, Hertz, National, Sixt and Thrifty. ACRA members also include many system licensees and franchisees, mid-size, regional and independent car rental companies as well as smaller, "mom & pop" operators. ACRA members have almost 2 million registered vehicles in service in the United States, with fleets ranging in size from one million cars to ten cars.

THE IMPACT OF THE PANDEMIC ON THE CAR RENTAL INDUSTRY

The COVID–19 pandemic and its impact on domestic and international air travel has hit the car rental industry as hard as any industry in the United States. The following statistics graphically summarize that impact:

- Car rental company concession fees paid to airports in 2020 were down 66 percent ($1.97 billion in 2019, $654 million in 2020), according to data collected by the Federal Aviation Administration;
- Car rental company concession fees paid to airports are 17.4 percent of non-aeronautical revenue at airports, according to the FAA;
- Car rentals at airport locations (which represent approximately 50 percent of all car rentals each year in the United States) in 2020 were down between 50 and 90 percent, depending on the location;
- ACRA members laid off or furloughed approximately 60,000 individuals in 2020—approximately 38 percent of the industry's U.S. workforce;
- Two of the nation's top five car rental companies in terms of fleet size sought protection under Chapter 11 of the bankruptcy code in 2020 and other smaller ACRA members have taken similar actions; and,
- In 2019, ACRA member companies purchased one of every eight new cars sold in the United States, or 1.74 million vehicles; this number dropped to 811,000 in 2020 (a 55 percent decline); while it is too soon to forecast accurately the 2021 numbers, new car purchases by ACRA members may be reduced significantly in 2021—causing economic ripple effects through the entire U.S. economy.

FEDERAL RELIEF TO DATE FOR ACRA MEMBERS

Four major COVID–19 relief bills have been enacted into law in the last 12 months. With respect to the airport ecosystem, the vast majority of economic relief included in these laws were directed at airlines and their employees and airports. Some ACRA members have been able to access the Paycheck Protection Act (PPP)program for small businesses initiated by the CARES Act in 2020. On paper, the $600 billion Main Street Program (MSP) from the CARES Act should have provided relief to larger car rental companies, but the Federal Reserve Board made less than $4 billion in MSP loans to medium and large businesses—none of them to ACRA members—and Congress defunded MSP in December 2020.

The Coronavirus Response and Relief Supplemental Appropriation Act (CRRSAA) enacted in December 2020 provided that $200 million of the $2 billion in airport grants in CRRSAA be used to provide rent and minimum annual guarantees (MAGs) relief for airport concessionaires, including car rental companies. ACRA has worked with the Federal Aviation Administration (FAA) on the implementation of the concessionaire relief program and commends the care and speed exhibited by FAA in implementing the program.

The CRRSAA also included a $2 billion grant program for "transportation service providers" (knows as "CERTS") for which car rental companies are eligible—but as of the date of this letter neither DOT and the Department of the Treasury have provided guidelines to implement the CERTS program. Car rental companies are regulated directly by the National Highway Transportation Safety Administration (NHTSA) in several ways, including a federal law prohibiting ACRA members from renting vehicles with open safety recalls. As a result, ACRA has a strong interest

in seeing the CERTS program implemented quickly and in a manner that provides an opportunity for ACRA members to apply for CERTS grants.

President Biden's COVID recovery proposal, passed on February 27, 2021 by the House of Representatives as the American Rescue Plan (ARP) (H.R. 1319) includes an additional $800 million in concessionaire rent and MAG relief funding recommended by this Committee. ACRA members large and small express their sincere appreciation for the support the members of this Committee have demonstrated for airport concessionaires in the past several months.

While ACRA applauds the larger concessionaire allocation included in ARP, our members hope that in a final bill sent to President Biden will follow the same approach adopted in CRRSAA so that the full $800 million is devoted to concessionaire rent and MAG relief—no matter the size of the concessionaire. The CRRSAA approach has proven comparatively easy for both the FAA and airports to administer and provides more certainty to both large and small concessionaires based on the revenues they contribute to our nation's airports.

POST-PANDEMIC RECOVERY

As President Biden and this Committee look toward post-pandemic recovery for the airport ecosystem, ACRA believes that an Aviation Recovery Commission that includes all of the major stakeholders in the airport ecosystem will provide an excellent and productive forum for government, industry and other stakeholders to come together on consensus solutions and recovery plans. ACRA's members are the largest non-aeronautical contributors to the financial health of our nation's airports and must be included in such a commission.

If members of the Committee or your staff have questions or need further information on ACRA and the American car rental industry, please do not hesitate to contact Greg Scott, ACRA's Government Relations Representative.

In advance, thank you for your attention to the information in this statement.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Chairman.

Mr. LARSEN. And before I call on Chair DeFazio, just a heads-up that Representative Perry and Representative Davids will follow Chair DeFazio. So Perry and Davids prepare, and the Chair recognizes Chair DeFazio for 5 minutes.

Mr. DEFAZIO. Thanks, Mr. Chairman.

Mr. Calio, as you noted, there are studies that show, if adjacent passengers are wearing masks on a plane, that the risk of transmission is very low. Have you heard from the airlines since the Biden administration adopted a mandatory rule, and are the airlines making announcements regarding that rule? Have compliance complaints and problems abated?

Mr. CALIO. Yes, Mr. Chairman, they have. As you know, we supported the Federal mandate to back up what we were trying to do. It puts it in a different perspective, and it has been very useful, and for—you know, in personal experience—and I know you have been flying a lot, as well—the quality of the announcements has gotten better. I think the quality of the enforcement has become easier, because it gives the flight attendants and the pilots another tool to talk to people who, as I think you put it earlier, like to put the lollipop in their mouth or sip on a bottle of water for 6 hours. And other passengers don't like that. So it has made a material difference.

Mr. DEFAZIO. Yes, I wish Mr. Dickson had had the initiative, when we asked—about a year ago. But anyway, thanks.

Mr. Lyttle, how about airport compliance after I made the request with Mr. Thompson to TSA? Do you feel that airport compliance is going well?

Mr. LYTTLE. Yes, and particularly at our airport, we are way above 95 percent compliance. And, from what I have heard in dis-

cussion with the other airports within the industry, compliance is extremely high. And people are, in general, adhering to the mask compliance. There are a few outliers, but that is very rare.

Mr. DEFAZIO. Great. And Mr. Calio, your airlines have been attempting to begin voluntary contact tracing. How is that going with the legal issues and CDC?

Mr. CALIO. We are still in the nascent stages, Mr. Chairman, but it is going well. We think it is necessary and can work, as long as there is an understanding between us, CDC, and CBP about what it takes to make the program operate. And providing uniform standards in place, further information, and working out the privacy concerns, we think it will be very helpful to opening up international markets.

Mr. DEFAZIO. OK, thank you. I am going to go off topic for a second.

Mr. Bunce, I have been in touch with the new administration regarding the misguided steps of the FCC on the C-Band auction, which could lead to RF interference. You know, we might have a few planes falling out of the sky, but, hey, people are going to have faster access to streaming movies on their cell phones. So would you expand on that just briefly, and how critical you think it is that we have some action restricting that?

Mr. BUNCE. Absolutely, Chair DeFazio. Thank you for helping us call this to the attention of the FCC. Unfortunately, they weren't listening in the last Congress.

And what we are asking for is some very comprehensive testing to the impacts, particularly to rare altimeters. We use those a lot, both in helicopters and in fixed-wing aircraft. And if you recall back to the LightSquared issue that we had many, many years ago, interference with the GPS, this is just a follow-on to that.

And we all know spectrum is precious, and we all know it is valuable, and we want this country to be very forward-leaning with 5G technology and that, but for the safety of the flying public and all of us that do fly, we have got to ensure that our equipment is not negatively impacted.

The FAA used to have a very robust frequency spectrum manager, who basically was the great authority. After a retirement and over time, that has kind of diffused into multi-offices within the FAA.

And so we are asking just for some very robust testing to be able to help us prove that we are not going to have problems with the altimeter equipment.

Mr. DEFAZIO. Great. Maybe we should suggest to FAA that they appoint a point person on this very critical issue, and really get their act together, so we can make a case to a more receptive administration and FCC. Thank you, Mr. Chairman.

Mr. LARSEN. So noted. Thank you, Chair DeFazio. I now recognize Representative Perry of Pennsylvania for 5 minutes.

Mr. PERRY. I thank the chair.

Mr. Calio, at one point the Federal assistance to airlines was to be contingent upon the airlines agreeing to fully offset carbon emissions by 2025—so that is 4 years—and reducing their own carbon emissions by 25 percent by 2035, and 50 percent by 2050. Now, in my view, this appears to be the convenient legislative opportunism

to re-regulate or refashion the airline industry in the wake of the pandemic that you raised concerns about in your testimony.

So the one question is, or the first question is, if the Federal assistance was contingent upon such nonpandemic factors, how would it have impacted the ability of the airlines to weather the crisis?

And would such a framework have impacted the number of employees able to keep their paychecks and health benefits over the past 12 months?

Mr. CALIO. Thank you, Mr. Perry. We think it would have negatively impacted the number of employees that we could keep on. We didn't think it had any place in COVID relief legislation that was designed to keep employees on the payroll, in which all the money was going directly to employees. And there is a place for everything, but putting these kinds of provisions—important, in some ways; extraneous in others—on that legislation would have had a negative impact.

I would point out that we were able to successfully fend it off because the flight attendants, the pilots, the machinists, the airlines all agreed that this legislation was about keeping people's jobs, not about trying to make advances on the environment, which I have to point out airlines have been doing for years to a significant degree, and continue to do today.

Mr. PERRY. And I agree with your answer. Now let me continue on.

Your testimony asks Congress to refrain from adopting punitive policies "that will otherwise cause harm to our debilitated industry," noting that "doing so will only hamstring our ability to recover and undermine the basic underpinnings and purpose of the relief provided to our labor workforce."

According to the Bureau of Transportation Statistics, fuel costs are one of the largest, most variable airline expenses, representing between 15 and 20 percent of total expenses. Now, given this large share of airline expenses, it would seem that punitive policies impact the price of jet fuel, and would have particularly devastating effects on the airline industry.

Industry analysts are projecting that President Biden's policies to restrict domestic oil production will put inflationary pressures on the price of crude oil. Indeed, the WTI crude prices have already increased since the Biden administration imposed a moratorium on new oil and gas leases, translating into higher fuel costs for airlines.

At the most extreme end of a potential hydraulic fracturing ban, as President Biden has called for in the campaign trail, it is projected to more than double the price per barrel of crude oil. Even less extreme options, such as extending the existing moratorium on new Federal drilling leases, would lead to a significant increase in crude oil prices over time.

So alternatively, the imposition of a low-carbon aviation fuel standard or some other alternative aviation fuel requirement would misallocate airline resources to higher priced fuels, leading to higher overall fuel costs for airlines. These just mandates out of thin air, while the industry is not prepared to deal with or provide that low-carbon fuel standard.

So the next question, can you expand upon the reasons why these policies would be contradictory to the purpose of the significant amount of relief this committee has provided to the industry during the COVID pandemic, specifically focusing on the impact such policies would have on the airlines' ability to repay the debt incurred during the COVID pandemic, keeping existing workers on the payroll, and offering low-priced ticket options, as well as keeping existing services level?

Mr. CALIO. Mr. Perry, obviously, fuel costs and labor costs are our two most important items. We are sensitive to any variation in those prices. If prices of fuel are lower, we can do better, flying more people and all of that. So we watch what is going on.

I am not sure that I am capable of forecasting what is going to happen, but anything that works to the detriment of keeping people in the air and keeping our employees on, has an impact. And we are at a—we, the airline industry and the aviation industry as a whole—are at a sensitive stage right now, a fragile stage. So, we are hoping that people will look at the impact of whatever they do, not only on the industry, but on the traveling public.

Mr. PERRY. I certainly thank the gentleman, and I yield back the balance.

Mr. LARSEN. Thank you. Before I recognize Representative Davids, just a heads-up for Representative Mast and Representative Titus—they will be next after Representative Davids from Kansas, who is now recognized for 5 minutes.

Representative Davids?

Ms. DAVIDS. Thank you, Chairman. Well, I think today's hearing shows us just how important and wide-ranging the impacts of the aviation industry has on our country and the world. And, as the Representative from the Third Congressional District in Kansas, I have to tout that Kansas is the proud home of a very skilled aviation workforce, and that is throughout the supply chain, including companies like Garmin, Thales, Selex, Spirit AeroSystems, the list goes on; I only have a couple of minutes.

I am really excited, as we look at this flightpath forward, about the prospects of burgeoning new sectors. And we heard that mentioned earlier during the hearing, particularly around Advanced Air Mobility, both because of the tremendous potential for new manufacturing in this country in places like Wichita, Kansas, and the potential to operate with low or zero emissions. And I am hoping that the bill that was also mentioned earlier that I am co-leading with Ranking Member Graves, H.R. 1339, will help set the foundation for how the Federal Government can help work with and promote Advanced Air Mobility.

So I think one of the things I would like to hear about, Mr. Bunce, you discussed the importance of the international safety cooperation under aviation bilateral agreement. And you also expressed a bit of concern about how validation programs are working. And I was hoping you could share with the subcommittee a little bit more detail around what your concerns are, and how this impacts your membership, specifically.

Mr. BUNCE. Thank you, Representative Davids. Our lifeblood is to be able to validate products across the globe, and we have bilateral partnerships that we have established to trust the safety com-

petencies of Europe, Brazil, and Canada, and very soon probably the U.K., as they stand back up their authorities.

But when it bogs down—and we know there is going to be a natural reaction to all of the certification scrutiny that happened over the last year. But what is happening is specialists on all the authorities are now diving into things that are not new and novel, and that they actually trusted each other previously. And what that does is it just really hampers the ability to deliver product across the globe.

And so what we have got to do, collectively, is we have got to build back that trust and confidence between the world's leading authorities, so that they can basically trust each other's work. And once we get that going again—because right now, our pathway for validation has been stalled, and we were seeing very good improvements up until 2020. And so this has been a setback, and we have got to work very diligently to bring it back to what it should be.

Ms. DAVIDS. Thank you, I appreciate that.

And then I guess I wanted to kind of switch over to a little bit—when it comes to the pilot preparedness—and I know the requirements, the safety requirements, and that sort of thing that Captain DePete, that you had mentioned. I am curious about, just going forward, how you view some of the requirements that we are hearing about, and what somebody like myself, who is not a specialist, should be thinking about, and questions that I should be asking when I have the chance to sit down with folks from, let's say, the CDC or other public health professionals who are trying to come up with what we need to do to get people comfortable with flying.

Mr. DEPETE. Well, thank you. Thank you, Representative Davids, for the question.

You know, airline travel remains the safest form of transportation known to humankind in the history of humankind. When you think what we have accomplished—and we have all done it by collaborating, I keep hitting on that. And it is no different here.

We have adopted a layered approach to handling the COVID crisis. I wish that there were earlier interventions on the part of Government to help us along, but when that didn't happen, we joined all together, and we created what we think is a really good series of mitigations.

And when you look at possible transmission, say, in the instance of a virus, it is very—I mean, out of 1.2 billion flights—and this was prior, now, prior to masks being mandated—there were very—I mean, like, a minute number of transmissions. So we have done a remarkable job, and our industry has done a remarkable job of instituting new technologies. We have worked with——

Mr. LARSEN. Captain DePete, I need to ask you to wrap.

Mr. DEPETE. OK, thank you. I am sorry.

Ms. DAVIDS. Thank you, Chairman.

We will talk more about it, Captain. I yield back.

Mr. LARSEN. Thank you.

Representative Mast from Florida, you are recognized for 5 minutes.

Mr. MAST. Thank you, Chairman.

Mr. Bunce, I don't have a question for you. I just wanted to say please tell Megan and Ashley that I say hello. For those of you that

don't know, he has two daughters that have done absolutely yeoman's work in helping injured servicemembers recover from their injuries. So just a truly patriotic family. I appreciate your work. Say hello to your daughters for me, if you would.

I want to go to Mr. Calio and Mr. DePete for a couple of questions here. And this is a little bit of a general question. You touched on it just briefly, Mr. DePete, saying you wish there had been some interventions earlier. And I look back at what some other agencies have said, such as the World Health Organization, advising against any sort of travel, or trade restrictions, at one point. And I would ask you guys to go back, just go back exactly 12 months, so that we can look forward for the next time that something like this happens—God forbid it should ever happen again.

Could we have prevented the distrust by traveling passengers to want to get on an airline?

Could we have prevented the businesses not having people travel around the country or the world?

Could we have prevented the $54 billion a year loss, if you do the math on what you were saying, $150 million a day, $54 billion a year.

What could have actually been done? Could that have been prevented, or only limited to some degree?

I would ask you two to espouse on that a little bit, if you could, for——

Mr. DEPETE. Thank you for that question, and a very important one. Yes, I absolutely would say yes. And that is why we support the National Aviation Preparedness Act. We did it in the 116th Congress. We are doing it again in the 117th, when it is, hopefully, reintroduced, because it is important for us to look back and see what we have learned and debrief this as we go forward.

However, let me just say this. Without a standardized set of guidelines, it was very confusing, in my estimation, and the view of the Air Line Pilots Association, for the flying public. Right? Having one clear standard, I think, would have allowed us to build trust early, OK?

And there was a lot of confusion. There was a lot of confusion, politically, about wearing a mask, and all these other associated problems that we dealt with. So the answer to your question is a most definite yes.

And I think we will be able to do a debrief, once this is said and done and recovery is complete, and I think we will all be able to learn from it through collaboration and coordination. Thank you.

Mr. MAST. Mr. Calio, I heard you speak. If you want to take about 30 seconds or a minute, I do have a few more questions, but please respond if you——

Mr. CALIO. Yes, I think we could have done better. There was a lot of confusion. It was a new issue, a new pandemic, so that is understandable in that regard. But right now, we are still sorting through that.

We have so many different standards within the United States and across the world that somehow we need to focus on how to standardize this, so people are not confused about where they can go, what they can do when they get there, and how the rules apply.

And that is a current problem. And we have to be prepared for that in the future, so we can avoid it, but we also need to sort through what is going on right now.

Mr. MAST. Yes, thank you, sir. And I would go back to both of you on this.

Now, there has been a lot of talk about requirements for testing, and I have heard various groups speak out against this. However, as you talk about this patchwork that exists around the country and largely around the world, whether pilots are being detained, or crew being detained for quarantine or other things, there are some airlines right now that are running apps—I believe Qatar, Emirates, a few others that are running apps right now—to verify whether passengers had a test or a vaccine.

Now, let me go on record as saying I do not think that these should be requirements at all for travel, a test or a vaccine. But with some airlines running apps to track whether this has occurred, and talking about standardization at the same time, what do you see going on, in terms of the potential of a push for that across the aviation industry, which I do not want to see?

Mr. CALIO. I think it is something that we are looking at, Congressman, in an effort to open up markets and give people the freedom to fly. We have some of our members looking at apps. We have a set of criteria, which I will be happy to share with you offline, about if there is going to be such a thing, what kind of standards have to apply and how you would do it.

All of these things are looking at limited timeframes in order to, again, deal with the current pandemic and to open markets so that people feel safe and are able to fly.

Mr. MAST. Thank you, Mr. Chairman.

Mr. LARSEN. Thank you. Before I move to Representative Titus, a heads-up—the next two after that will be Representative Van Duyne and Representative Payne.

I recognize Representative Titus for 5 minutes.

Ms. TITUS. Thank you, Mr. Chairman. I appreciate the hearing.

Mr. Calio, it is nice to see you back in front of the committee. It is good to see you, have you here. You have talked about how domestic travel is having a relative recovery. Businesses and the industries and attractions are all adapting to the COVID protocols. But international travel remains anemic, due to the restrictions here in the U.S. and abroad. Just in my district alone, international travel is down 93 percent from January of 2020. And I don't have to tell you how devastating that is to the economy.

We know that, although international travelers make up a small percentage of the market, when they come, they stay longer and they spend more. So it is important. We are moving into a new phase of the recovery now, as the vaccines roll out. Places are opening up, the hospitality is advertising, "Come back, we are back."

At some point, the international travel restrictions are going to ease, but I think we still have a public relations problem with international travel. We have had 4 years of a President who has alienated our allies and our business partners, trading partners, and then totally botched the COVID recovery. And now we are left here with a bad reputation and the worst death rate in the country.

So I wonder about things like Brand U.S.A. That was created over a decade ago as a public-private partnership, and it has been very effective. I wonder if you could talk about that partnership, and also maybe some of the other ideas that your organization and the industry have in order to bring back international travel once we get over this situation with the virus.

Mr. CALIO. Thank you, Congresswoman. And it is good to be before the committee again. I am looking forward to the time when I can do it in person again.

International travel is lagging terribly. And as you know, that is probably the most profitable part of our business. And so we have tried a number of things in terms of looking at testing, looking at contact tracing. We are working with the travel industry, in general. We are all working together to try to bring it back, to let people know that, at the appropriate time, it is safe to come here, and that you should come here.

That again gets back to, though, this patchwork, internationally. We are in close touch with our partners in the EU. And within the EU there are all these different standards. So it is going to take all of us, with an education process, going forward and making people feel welcome.

Ms. TITUS. Thank you, and I think it is a challenge, so let us know how we can help with that, and see if we can't beef up Brand U.S.A. and other programs like that to get that message out.

Mr. CALIO. Thank you.

Ms. TITUS. Thank you.

Mr. Bunce, I would like to ask you about general aviation. In Las Vegas, we depend a lot on general aviation. A lot of people come there for pleasure, or for business—or did. You mentioned in your talk that your sector is trying to be more responsive to your contributions to global climate change.

One of the things that we have found, unfortunately, is kind of a chicken and an egg problem. The manufacturers will create a product that uses alternative energy, but then on the ground we don't have the infrastructure for refueling or recharging. I wonder if you could discuss what role things like sustainable aviation fuel and electric airplanes are playing, and if you have established a symbiotic relationship.

Mr. BUNCE. Representative Titus, you called it exactly. As we look out to the future—and reality gives us the fact that we will not have large cabin aircraft running on electric any time soon. NASA just released a picture of an aircraft about the size of a Q–400, so a large turboprop, and they are saying about 2035.

So, if we are looking at larger aircraft, business jets and turboprops, but then on—in the commercial side, we have to have sustainable aviation fuel. And that is why your help in being able to spur supply for this product is very important.

As Mr. Calio mentioned, the airlines are very price-susceptible to that price of fuel. Our sector, in business aviation, there is a big effort right now on corporate responsibility and sustainability. So there is very high demand, and we are able to—although we use a small percentage compared to the commercial airlines, we are being leaders in the demand for this product, because we know our future is tied to being able to fly sustainably.

And so we are seeing a push in Europe. We are seeing a push in the U.S. Demand is high, but supply is just not there, and that is where this——

Mr. LARSEN. Mr. Bunce, if you could, wrap up, please.

Mr. BUNCE. That is why that blender's credit is very important to us.

Ms. TITUS. Thank you.

Thank you, Mr. Chairman.

Mr. LARSEN. Thank you. I want to recognize Representative Van Duyne from Texas, a new member of the full committee, and this being her first Aviation Subcommittee hearing.

Welcome to the subcommittee.

Ms. VAN DUYNE. Thank you very much, Chairman Larsen and Ranking Member Graves, for holding this necessary hearing today.

The district I represent, Texas' 24th Congressional District, is home to DFW Airport. It is also home to American Airlines. And right outside the district is Southwest Airlines, having the largest number of aviation employees in any district in the country. DFW Airport is also the number-one economic driver for the State, and it became the busiest airport in the world during the pandemic. But make no mistake, COVID–19 still wreaked havoc on it.

Two thousand twenty was the worst year for the DFW Airport in more than three decades. The 40 million passengers who traversed the airport last year were the fewest since 1985, and when planes aren't taking off and landing at the airport, it isn't just airline carriers being affected. The entire ecosystem supports the airport, but feels the pain, from the mechanics to the service workers, to the small businesses that depend on high passenger volume.

And obviously, through no fault of their own, the aviation industry is hurting. And while the stop-go solutions Congress has enacted during the pandemic have been helpful, the only long-term solution is opening the skies back up for business.

I am thankful for our witnesses being with us today, and I hope we can work together on this committee to support and not harm the industry as it rebuilds after this horrific pandemic.

Over the last several years, Government regulations have really helped erode the passenger experience. We have all seen videos over time of families, coming back from Orlando and having screaming kids that are kicked off the plane because their 2-year-old won't wear their mask. People have a choice to travel. And if it is painful, they are going to decide not to do that.

Mr. Calio, I am going to ask you. What effect do you believe that mandating flight attendants to enforce constantly changing pandemic requirements has had on these recovery efforts?

And do you believe adding additional policing requirements, such as mandatory testing, will help or hurt the recovery efforts?

Mr. CALIO. Mandatory testing was an easy one, Congresswoman. That would be devastating to the domestic market.

In terms of enforcing the face mask requirements, we think it is a necessity. And the videos that you see really represent a very small portion, a minute portion of what actually goes on in day-to-day flights. And there is a lot to every story. I can't speak to each one of those, but we do know that it is important for all of our passengers to uniformly enforce the face mask requirement.

Getting back to mandatory testing, we are doing it in an effort to—because it is scalable, currently, on an international level. But if it were to be imposed on a domestic basis, it would bring the market to a flat halt.

Ms. VAN DUYNE. What do you believe is an approximate timeline for a full return to normalcy for commercial airline passengers and passenger capacity and revenues?

Mr. CALIO. I would be in high demand if I could actually answer that.

[Laughter.]

Mr. CALIO. But as one of my board members—in fact, Gary Kelly from Southwest—said to me the other day, we can plan, but we can't forecast. And what he means is the forecasts have all been wrong. It depends on so many different variables. Yet the airlines have to plan.

So, you know, you are likely to see, probably, an excess—a number of seats in the market over the summer, in case people do come back. But if they don't get filled, that exacerbates the—I mean, we are thinking—we are hoping that there is going to be a significant uptick by the end of the summer and throughout the fall. We are not going to see anything close to 2019, we don't think, until 2023 or 2024. We would like to see it earlier.

You know, we need also—and part of that—leisure travel, domestically, will come back first. We need the international travel that Congresswoman Titus talked about to come back, and we need business travel to come back, where people will go again and sit down and cut a business deal face to face.

Ms. VAN DUYNE. Excellent. Thank you very much.

Mr. CALIO. Thank you.

Ms. VAN DUYNE. Mr. Bolen, like you, I am very concerned about the future of health-related regulations for airlines. In the full committee's markup on the budget reconciliation bill, I was proud to sponsor an amendment that didn't——

[Audio malfunction.]

Mr. LARSEN. Mr. Bolen, could you mute until the question is over? We are just getting some feedback out of your microphone. Thank you very much.

Ms. VAN DUYNE. Thank you. In the full committee's markup on the budget reconciliation bill, I was proud to sponsor an amendment that didn't allow funds in the act to go towards a program mandating that passengers provide a negative COVID test before domestic air travel.

What are some other regulations we should be worried about, both in the short and long term?

Mr. BOLEN. Well, I think that is a good example where we were looking at a requirement that was really not something that we have an infrastructure to address. And so I think, going through this entire process, we have been working on things that we can do together, ways to move forward with that layered approach that Captain DePete talked about. So we are learning as we go.

But I think it is important, when it comes to mandates and requirements, we make sure that we have an ability to actually go through with that. And that is why I think the testing requirements [inaudible] the domestic level are so important.

Ms. VAN DUYNE. All right. Thank you very much.

I yield back the balance of my time, Mr. Chairman.

Mr. LARSEN. Thank you. And next I will recognize Representative Payne from New Jersey.

Representative Payne, you are recognized for 5 minutes.

[Pause.]

Mr. LARSEN. Yes, Representative Payne, you are recognized for 5 minutes.

Mr. PAYNE. Thank you, Mr. Chairman. I apologize.

[Pause.]

Mr. LARSEN. Sorry, Representative Payne, are——

Mr. PAYNE. Let's see.

Mr. LARSEN. Yes.

Mr. PAYNE. Yes, hello?

Mr. LARSEN. OK, great. Go ahead, yes. Five minutes.

Mr. PAYNE. Thank you, sir.

Mr. Calio, I am deeply concerned about the pandemic's effects on the workers at my district's Newark Liberty International Airport. These workers depend on the Payroll Support Program during this historic decrease in air travel over the past year.

I am pleased that we have taken several steps to extend the PSP since the pandemic began, including funds in the American Rescue Plan that we passed last week. Can you please share with us how PSP has allowed companies to avoid massive layoffs?

And what steps can we take to guarantee the money continues to support workers?

Mr. CALIO. Congressman, thank you. Again, PSP, we believe, is the most successful provision in the CARES Act. It has done exactly what it was intended to do: it has kept workers online and on the payroll. That means they are not collecting unemployment, they are paying taxes, paying Medicare taxes, as well as Social Security. The program has worked as intended.

You know, if anything, if it could work better, it ended up being 70 percent grants, 30 percent loans. So it covered—you know, in the first tranche it covered probably about 70 percent of the airlines' costs and keeping their employees online.

The simplest thing to do is have the Senate pass the extension. It will keep people online again until September 30th, and it will avoid many, many layoffs. It is, again, successful at keeping people working and avoiding a lot of furloughs and layoffs that otherwise would have had to happen because of where demand is.

Mr. PAYNE. Thank you.

Mr. Lyttle, as you know, many of the workers that are employed by the airport and not one of the airlines, they can be forgotten when talk about financial support and job protection is spoken of. What specific supports are necessary for all the people who work at the airport and not just the airlines' employees?

Mr. LYTTLE. Thank you, Representative Payne. The industry, aviation industry, lost about $23 billion last year, and we are forecasted to lose $17 billion this year.

The CARES Act monies that were afforded to us allowed us, for example, to provide relief to our concessionaires at the airport, but not only the airport concessionaires. That allowed us to provide relief to the airlines, to taxi operators, to all the concessionaires, ba-

sically, at the airport, rental car companies, et cetera. That allowed them not to have to lay off any employees or to provide furloughs for a lot of the employees.

So it is critical that we continue to get this type of support so we can provide this relief to the other tenants here at the airport, because our survival actually depends on their survival, as well. So we lost about $350 million last year, and without the CARES Act we would have had to lay off people at our airport, as well, which, throughout the entire 2020, we did not have to do any layoffs.

Mr. PAYNE. Thank you. And I would just like to remind my colleagues that this PSP program, really, it does benefit passengers, but it is there to benefit the working people at the airports. And let's continue to make sure that everyone is considered during this pandemic, and not just the airline workers, but everyone at the airport.

With that, Mr. Chairman, I will yield back.

Mr. LARSEN. Thank you, Representative Payne. And I have got to tell you, not everyone can pull off a bow tie with a golf shirt, but you certainly can, sir.

Two announcements: First off is that, in order, we will have Representative Stauber, Representative Brown, and Representative Balderson; and the second is, although votes have not yet been called, there was a note that votes would be called sometime between 11:30 and 11:45. Just a heads-up for the committee folks.

So with that I will recognize Representative Stauber for 5 minutes.

Mr. STAUBER. Thank you, Chair Larsen, thank you, Ranking Member Graves, for holding this hearing.

You know, there are some concerns that that I have. And one of them is the CDC still recommends that people delay travel as much as possible.

And then there is the Department of Defense study that found—in quotation marks—"overall exposure risk from coronavirus is very low"—end of quotation—and that you would have to sit next to a COVID-positive passenger for 54 hours to get infected with airborne COVID–19.

Since this pandemic I have had the privilege to fly several airlines and out of my hometown of Duluth, Minnesota. I fly Delta. And I can tell you that I feel very, very comfortable, and not only in the airports, in the smaller airports that I frequent, but also boarding the plane.

I think the airline industry has done a real, real good job under difficult circumstances to make sure that the passengers and those feel safe. And I can say that it has been almost a year now, and I think the airlines have been put in a difficult spot, but coming out of it. And I appreciate all the professionalism that you have shown.

The HEPA filters, for example, these are the same filters that are in our hospital surgical rooms. And I think that it is important that we recognize the advancement made in not only aviation safety, but aviation air quality, as well.

I would like to just make a comment to the fact—and this is to Nick. I will ask the question in just a moment, but I also want to add that, as Governors across the State, when they shut down their

entire States, and the flying is limited or stated to delay your flying, that is also an economic hardship for those aviation workers. My colleague just mentioned the workers at the airports and the airlines, they get laid off. So there is a double whammy effect. You get laid off, you lose the income. So that is putting two negative things that happen. You get laid off, economy bad, you lose your income.

And I think that it becomes a public health crisis, in that the secondary effect of a shutdown is poverty. So we have two crises going on, not only COVID, but the poverty, because you are taking their livelihood away, the ability to make a paycheck, which we call paycheck justice.

I will say this to Nick. I just want to ask you something, and I may have talked to you before about this—and others. The wearing of the masks is extremely important while you are flying. Under the Americans with Disabilities Act and/or certain medical conditions—I am just going to give you an example. If you had a child who, for instance, has Down syndrome, a lower functioning child. Let's say the family goes on vacation, and the child can't wear this mask continuously because of the disability. How would most airlines respond to that, and how many cases has this happened?

Because I am reading that sometimes with babies or whatever, or younger children can't keep them on. But can you tell me, if there is a disabled individual on the flights, how would you handle that?

Mr. CALIO. Thank you, Congressman. All of our members operate in their own way, they all operate within the guidelines that the Government has provided. We are in the midst of a pandemic, and we hope that it is not going to go on forever.

But again, the members make their own determinations, and it is based on the science of mask-wearing, and what they can do. But there are guidelines from the Government, and we stay within those guidelines as we make a determination about who should and who should not wear a mask.

Mr. STAUBER. How about somebody who has a medical issue that actually can't put the mask over—let's say they have asthma, or something. Would the airlines association request that they not fly, or would there be any type of accommodations?

Mr. CALIO. Again, that is up to individual members. But for right now, I think many are saying that they should not fly. And the reason is because we have to protect the health of all our crews and all of our passengers. And the determination is that you need to wear a mask.

There is also an aspect of it where other passengers get upset if somebody is not wearing a mask.

Mr. STAUBER. Thank you, Nick, and thanks for all the good work.

And I yield back.

Mr. CALIO. Thank you very much, I appreciate it.

Mr. LARSEN. Thank you. I recognize Representative Brown of Maryland for 5 minutes.

Mr. BROWN. Thank you, Mr. Chairman. I want to thank our panelists for bringing your experience, your knowledge, your perspectives and observation to this committee today.

Captain DePete, I have a question for you. In your testimony you mention—this is your written testimony—that "central to the rationale for the PSP is keeping pilots and other mission-critical employees available to respond quickly as demand returns to the industry." You say that "pilots cannot simply return from unemployment to operate airline aircraft; they are subject to recency training requirements and medical approvals and safety clearances."

As a former Army pilot, I certainly appreciate and understand the idea, the concept of diminishing skills, and that time away from the cockpit can contribute to just that, and put at greater risk both pilot and crew and passengers in flight operations. So, Captain DePete, when a pilot is furloughed, how does that impact their ability to get back on the job once they are rehired? Kind of share with us a little bit about sort of diminishing skills, and why we need to keep pilots and aircrews flying.

Mr. DEPETE. Thanks for the question, Representative Brown. Good to see you again. Great question.

Thankfully, we can say that, through the hard work of this committee, with PSP, you have made that pretty easy for us. We haven't really had to deal with that too much. But, you know, if March 31st goes by and we don't have a solution, we may be looking at more of a problem there.

But however, the way the training works and the certifications work is that, the longer you are out, right, the more the training is required to come back in. However, saying that, the training is exactly the same. You will be 100 percent ready to go and do it again. I mean, we train to the very highest standards.

But I think that is the important thing to realize, is that, if we want a rapid recovery, it is so important that we get this next installment of the PSP so that we don't have to deal with those kinds of issues. Because the longer it takes to spool up, if we are faced with an accelerated curve here pretty soon, as we begin getting into recovery, we want to be ready for that.

And I would say just ask yourself one question. If it wasn't for the PSP, and it wasn't for a healthy airline industry, what would COVID have really looked like? It was bad enough. But could you imagine if we didn't have the PPE, the ventilators, we didn't have those supplies coming in, moving healthcare workers left and right, and saving the holidays for people to be able to ship things, and food on shelves. I mean, it would have been disastrous.

What I am trying to say, Representative Brown, is you did a great thing, and the committee needs to be rewarded for that. Hats off to you.

Mr. BROWN. Well, thank you. Thank you for your response. Let me go over to Mr. Calio.

In your written testimony you mention that U.S. airlines have implemented multiple layers of measures aimed at preventing virus transmission aboard the aircraft. You also outlined a number of those today, including strict face covering requirements, preflight health forms, enhanced disinfection protocols, and hospital-grade filtration systems. Can you talk a little bit about the challenges that the airlines are facing in sort of implementing those safeguards and those measures?

What has that experience been like?

Who is primarily responsible for implementing those, and what has been the response from the flying public?

Mr. CALIO. I guess I would start at the end, Congressman Brown. The response from the flying public has been very good. We all know that some people don't like to wear masks, but the visibility of the enhanced cleaning procedures has been very well received. Knowledge about the HEPA filters has been extraordinarily well received, because most people didn't know that, or didn't understand that.

And, you know, it takes more for us. It takes more—you know, using our employees more. It maybe takes a little longer to turn an airplane around. But these are all measures that we view as worthwhile, because of what they are producing in terms of the health and safety of our passengers and our crews.

And like I said earlier, we have leaned very heavily into the science. And any decision that is made is based on data and science. When we engaged this Harvard study, we made sure it was independent. That wasn't always easy. But they made some recommendations about ventilation during boarding and deplaning. We all now do that now, what they recommended.

In terms of how we board and how we deplane, we are trying—behavioral comes into that, because you can tell people to, you know, deplane by the row, but you still have people who want to get up and knock you over to get off the plane first. I can tell you that from personal experience, I am not that big a guy.

So at any rate, it takes a lot more effort, but they are not going away. They are going to be in place forever, because they made the flying experience better and safer.

Mr. BROWN. Thank you.

And thank you, Mr. Chairman. I yield back.

Mr. LARSEN. Thank you. I recognize Representative Balderson for 5 minutes.

Mr. BALDERSON. Mr. Chairman, thank you very much.

Thank you for our guests joining us today. My first question is for Mr. Bolen.

How are small business owners and operators recovering from the pandemic, and how does their recovery look, going forward?

Mr. BOLEN. Well, I appreciate the question very much, because, as I said before, 85 percent of the companies that rely on business aviation are small and mid-sized companies. And our infrastructure is often in small towns, individual airports. And so it is a very fragile infrastructure.

But the PSP program has been enormously important to us, the ability to keep general aviation airports with some degree of operational revenues coming in, the opportunity to keep aviation professionals who we have invested heavily in for their training, to keep them active, all of that has been fundamental to our ability to survive the COVID crisis.

Going forward, though, we need business travel to come back. We need the economy to be strong. And we are hoping that the steps that we are taking now can get us there.

Mr. BALDERSON. Thank you very much, Mr. Bolen. My next question is for Mr. Calio.

Mr. Calio, thank you for being here. We have previously discussed the ongoing pilot shortage in the United States. Even with the pandemic-related downturn airlines have faced in the last year, Boeing predicts North America will need over 200,000 new pilots by 2039. Do your member airlines remain concerned about a shortage of pilots and maintenance technicians?

Mr. CALIO. Thank you, Mr. Balderson. Right now, I would be candid and say that our main concern is survival. And the pilot shortage is not what it was, given the number of flights that are in the air.

Hopefully flying comes back, and it will be, and there is a number of steps that have been taken and are being taken to ensure that that pilot supply is plentiful, and that is reaching down to schools and educating people about the advantages of becoming an airline pilot or a machinist. These are really good, good-paying jobs with really good benefits. And they last a long time. Our average pay, all the way down the line, for all of our employees, is higher than most other industries.

I guess I would make kind of a comment that one thing that Congress could look at is, if you can get a student loan to become an accountant, why can't you get a loan, or why can't the Government back someone who wants to be a pilot? Pretty simple matter. Right now, it doesn't exist. So that may be something we can talk about that would help ease that pilot shortage, going forward.

Mr. BALDERSON. A followup, how can the Federal Government and your airlines work together to ensure there is a pool of qualified individuals in the aviation industry in the future?

And I think you just brought up a great point.

Captain DePete, I would also—if you could extend your thoughts on that same issue, since Mr. Calio gave a really good thought.

Mr. DEPETE. Sure. Thank you, Representative Balderson.

No one is more invested in the future of the profession than the Air Line Pilots Association. We have a professional pilot development group that consists of our leadership, membership, and education committees. We have various LOAs with schools around the country to encourage people to come into the profession. And we are constantly building and protecting the profession to make sure that it is a profession that people want to come to. Because when we talk about the word "shortage," I think we need to ask ourselves a little question as to, when this is all said and done, as to why. Where are the choke points for that happening?

When you look at what goes on in the smaller carriers right now, there is a tremendous amount of turmoil there. We have lost ExpressJet, we have lost Compass, we have lost Trans States. It is a very unstable entry point into the industry. So we think we need to really tackle some of the bigger issues as to what the real reasons for the shortage are.

And then now, when we do get—how am I doing on time? OK. When we do get the recovery going, I think, with all the people who took voluntary outs to help their fellow pilots and companies to survive, we will need to look at that question. But together with what we are doing with professional development, our diversity and inclusion efforts here at the Air Line Pilots Association, I think we will be in pretty good shape.

Mr. BALDERSON. OK, thank you very much.

Mr. Chairman, I yield back.

Mr. KAHELE [presiding]. Great. Thank you, Mr. Balderson. The Chair now recognizes Mr. Stanton for 5 minutes.

Mr. STANTON. All right, thank you very much, Mr. Chair. Thank you to each of the outstanding witnesses in today's hearing.

In my home State of Arizona, the COVID–19 pandemic has had a major negative impact on two key economic engines for our State and region: Phoenix Sky Harbor International Airport, as well as Phoenix-Mesa Gateway Airport. After a year in which Sky Harbor had a record 46 million passengers, boardings in 2020 dropped by more than half. We haven't seen that level of boardings in over 30 years.

March is typically one of the busiest months in Sky Harbor. Yet with many major events delayed, or with limited attendance, recovery continues to be slow. Fewer passengers, of course, means less revenue from concessionaire sales and revenue from parking, as well as fees from companies operating at the airport. Just to break even in this challenging time, the airport must reach 80 percent of the passenger boardings it had in 2019.

Even with the support provided to Sky Harbor and other airports under the CARES Act and the December COVID relief package, the airport has had to significantly trim costs, reducing its operating budget by $30 million this year and next in anticipation of sustained revenue losses.

In addition, Sky Harbor has placed on hold 80 percent, or $800 million worth of capital projects that were planned for the next 5 years. This not only delays much-needed infrastructure improvements, but thousands of potential construction jobs, as well.

Similarly, Phoenix-Mesa Gateway Airport has seen passenger boardings plummet, concessionaires operating on half capacity, and infrastructure projects delayed.

I have a question for Mr. Lyttle.

Mr. Lyttle, let's talk about infrastructure at airports for the moment. Can you discuss the importance of the additional airport funding in the American Rescue Plan to support current and future infrastructure projects at your airport and at airports across our country?

Mr. LYTTLE. Yes, thank you. The additional funding that we are hoping that we will get from the American Rescue Plan is going to go a long way to help us. We have a significant amount of debt service. These are fixed costs, debt service and operating costs, not only at my airport, but airports across the industry. We are really looking forward to getting, hopefully, that additional $8 billion for the industry.

We still have infrastructure, major infrastructure projects, that we are undertaking right now. Even at my airport we have $3.7 billion worth of construction. And we expect that traffic will return. The industry has always been resilient, and we know that it might take longer for this one, but traffic will come back, and we have to make sure that we have the facilities in place in order to accommodate the traffic that is coming back.

And so the American Rescue Plan additional funding that the airports will be getting will be sorely needed for us to continue our operations.

Mr. STANTON. Thank you very much, and a quick question for Mr. Calio.

As more COVID vaccines are administered, governments around the world are exploring the use of digital health passports to encourage travel and facilitate a return to normalcy. Congressmember Mast asked a similar question, but I wanted to follow up on that. What are your thoughts about a digital health pass, and what necessary safety elements need to be in place before current travel restrictions are lifted?

Mr. CALIO. Thank you. We think that verifiable testing and vaccination data is critical to the return of travel. We do believe that there are principles that should be applied across the board to make this workable and protect the rights of passengers.

We would be happy to brief the committee on where we stand on this, because we have laid out a series of elements that we think ought to be in place to make these health passports both workable and as easy on passengers as possible.

Mr. STANTON. OK, we will look forward to following up with you.

Mr. CALIO. We will do that.

Mr. STANTON. And there may be an opportunity for you to brief this committee, because I think digital health passes provide some optimism about speeding up the process of returning to normalcy in the industry.

I yield back.

Mr. KAHELE. OK, mahalo, Mr. Stanton. The Chair now recognizes Mr. Nehls for 5 minutes.

Mr. NEHLS. Thank you, Chair. My questions or comments are really geared towards Mr. DePete.

And I want to thank you for what you do, representing the 59,000 members in the airline industry. Your comments regarding this committee, this subcommittee, and the support that you have received with the PSP program, this is all about a partnership and doing everything we can to keep the airline industry and the American people flying.

My comments or questions are more geared to your written testimony as it relates to international travel. And in your written testimony you talk about some of the airline employees, whether they are pilots or crewmembers. You reference Hong Kong, and the horrible conditions, the substandard conditions in some of the hospitals where the pilots that have tested positive for COVID are locked in some of these hospital rooms with other patients in deplorable, substandard—government orders for days, one of the employees being detained for 3 weeks. And you mentioned in your written testimony that you believe that the Government should intervene or do something about this, and I wholeheartedly support that idea, that when American citizens—when your members, employees are in foreign countries, and they test positive for COVID, that we should try to find a way to help get those people safely evacuated back to the great U.S. of A.

It is not only those that have tested positive for COVID, but some of the stories I am hearing regarding employees that are fly-

ing into foreign countries. An example—I am hearing stories about, you know, Tokyo and Seoul, where the pilots and crews are being escorted to their hotel, and then they are locked in their hotel. And it can be for days, because these layovers could be 3, 4, or 5 days.

Even worse, I have heard a story—and whether—it is Sydney, Australia, where police are escorting the crew and the pilots to a hotel. They are locked in their hotel room without the key, and they can't leave their hotel room. And I can't imagine what it would be like to be in that condition for 3 or 4 days, knowing that you are eventually going to have to take the flight back.

How has this type of treatment overseas affected your members? Has it affected the morale, or maybe operations?

Are you seeing more employees saying, "I am calling in sick, there is no way I am going back to Sydney, Australia"?

If you could, help me with that. And what can we do to help you?

Mr. DEPETE. Thank you, Representative Nehls. That is a great question. And it is a problem. And you laid it out quite well.

Upon entry of our crews, say, for instance in Hong Kong, for example, they are administered a test. If they come up positive, they are put in Asian World Expo Center for an unlimited time, mixed up with other people who are COVID-positive. If they are in close contact with somebody who was COVID-positive, they are brought to Penny's Bay, another type of facility like that.

There are often times that we have heard from our crews that the conditions are deplorable. I have pictures of them that you just wouldn't believe.

In addition, if there is additional testing necessary, they are now drawing blood from these pilots, several vials, often, in a day.

This strikes at the very heart and the dignity of work. And in terms of the effect on the pilots' morale, it has a deleterious effect. I mean, our pilots are now—every time they start to let down and enter the airspace, they are wondering if they are coming home again. And we do need help. We have been talking to our carriers to try to work out a solution. The solution is to just stop the layovers in Hong Kong, in that specific instance, until the situation improves. And we could use the help of the committee, for sure. We can use the help of our carriers to consider that, as well.

But hopefully, in this new administration, we are looking for a glimmer of hope in this situation, because these are the very people who put themselves in harm's way to make sure that those PPE, ventilators, and healthcare equipment came back to us. So we do need the help, and I appreciate the question. I appreciate that.

Mr. NEHLS. Thank you, Mr. DePete, for that answer. And you have my attention, and I hope you have the attention of the other members of this committee. But thank you for being with us today.

Mr. KAHELE. OK, thank you. The Chair would now like to recognize Mr. Lamb for 5 minutes.

Mr. LAMB. Thank you, Mr. Chair, and thank you to all the witnesses for joining us today. I want to start quickly, if we could—and I apologize if you covered this while I was off—the issue of vaccinations for frontline airport workers, in particular the TSA.

I am aware that, at least in Pittsburgh International, where I represent, most of them have not had the opportunity to be vaccinated. I don't know if the picture looks different around the coun-

try, but, given the amount of contact that they have to have every day, and their importance to our national security—are you aware of how that process is going, overall, and anything we can do to speed it up, besides just increase the vaccine amount, which we, of course, are trying to do?

And that is just a question for any witness that can tell us about progress or challenges.

Mr. CALIO. OK, Congressman, I will take a crack at that.

TSA workers are, obviously, essential workers. They ought to be frontline, in terms of getting the vaccination, in our view, just as we believe that pilots and flight attendants and machinists should be, as well, because it is all part of an ecosystem. And it would be good to lend some rationality to who is and who is not a frontline worker. Given the demand for vaccination, you can understand the problems, but we do believe that we could do better, that the TSA workers ought to be frontline, as should our crews.

Mr. LAMB. I agree. My hope is that, with the addition of Johnson & Johnson now, TSA in particular will be prioritized, the way the teachers are in some States that are getting those additional vaccines.

My other main question—and there may be a couple of you that want to address this—is the area that I come from, represent, we still have a lot of steelmakers, a lot of people who split their business between defense work and aerospace work. And they have seen a big drop-off, obviously, in aerospace orders in the past year. My question is, I know that we have done a lot to try to support the payrolls of the airlines, to try to support the operations of the airports. Have we done enough to help companies continue to stimulate demand in aerospace manufacturing?

So to get orders of replacement parts and maintenance back online, to get new aircraft back on line, have we done enough there, or is there more that you think we can do to help that part of the steel and manufacturing industry recover?

Mr. BUNCE. Well, Representative Lamb—this is Pete Bunce—I will start. I think if we can get through the reconciliation process, this Aviation Manufacturing Jobs Protection Act that Chair Larsen and Representative Estes has championed—and I know we have good sponsors in the Senate, as well—that will help a lot. Because anyone in that supply chain will be able to qualify to help bring back those workers. And that is really important. As you pointed out, that supply chain stretches all the way down to raw materials. And once you qualify as being on a certified aviation product, you would qualify for this assistance. So it is very important.

Mr. LAMB. Thank you. Yes, I agree, that is a great piece of legislation by Chairman Larsen, and I hope we can get it through.

Mr. DEPETE. Representative Lamb, this is Captain DePete. I didn't get to my mute button, but would you mind if I just added my opinion——

Mr. LAMB. Please.

Mr. DEPETE [continuing]. About your first question? It gets back to what I just described internationally. The very pilots who are tasked with bringing the vaccine home for us, and charting the path towards recovery, are not prioritized to get the vaccine in such

a way. They should be higher, to protect the integrity of the effort to get it out to the public.

So it is just something to consider. I never could quite understand how pilots being tasked with doing that are not able to be prioritized in higher priority to get the vaccine.

Mr. LAMB. Yes, I agree that it is a big problem, and my hope is it is going to be fixed as the administration continues to add millions of doses a week that are being shipped out. But we will definitely keep our focus on it.

Thank you all for testifying today, and I look forward to working with you going forward.

Mr. Chair, I yield back.

Mr. LARSEN [presiding]. Thank you, Representative Lamb. The Chair recognizes Representative Massie. But before he is recognized—I am sorry—Delegate Norton and Representative Fitzpatrick will follow Representative Massie. Representative Massie is recognized for 5 minutes.

Mr. MASSIE. It looks like my buttons—OK, it is just not illuminated. Thank you, Mr. Chairman.

I want to offer this cautionary tale for anybody who is considering the misguided policy of requiring testing before boarding a plane domestically. I have some constituents who went to Cabo San Lucas. And before returning back to the United States, pursuant to the Executive order that went into place on January 26th, they took a COVID test. They were asymptomatic. They tested positive for COVID. They took another test. They took a third test after waiting some time. The family failed all three tests, and so they were told to quit testing and to wait 14 days.

Now, this is a family who was able to do that. So they decided they would wait 14 days, and then try to board the flight back to the United States. But they couldn't get a doctor in Mexico to sign off on that. And the airline requested that they get a doctor to sign off on the fact that they had, pursuant to CDC guidelines, been quarantined for 14 days. So they flew to Tijuana, walked across the border to the United States, got on an airplane in San Diego, and then returned to Kentucky.

Now, not every family or student or employee could afford to do that, but that is the kind of chaos that would ensue, I believe, if you had some kind of testing required for domestic flights. So I hope we don't do that. And I hope that some kind of common sense prevails in the face of this January 26th Executive order.

Mr. Calio, do you have any ideas for how we could clarify that Executive order, or implement it so that, if it is going to be in place, it could be more workable?

Mr. CALIO. Well, the order that is in place is for international testing, and I know you are using it in international, but, you know, we support the international testing requirement. It is a means of opening up borders and making everyone feel, including the governments, more secure. But I think the patchwork of requirements makes it very difficult and very uneven in its application, and that is one of the things we talked about earlier in the need to try to get a handle on that, so that these kind of situations do not occur.

Mr. MASSIE. Got it. Thank you. I hope there is not too much enthusiasm for this "immunity passport" as a requirement for traveling, because I think you made a good case here today that the likelihood of transmitting or receiving COVID on an airplane is less than being in a supermarket. So if you are going to make the case that you need this kind of passport for an airplane, then you are basically trying to make the case you need it everywhere, and I think that is misguided, especially since the CDC says that the vaccine doesn't necessarily imply that you won't transmit the virus, or have any sort of immunity. So I hope we abandon that idea, as well.

Mr. Lyttle, I want to ask you about the effect of indoor dining bans on concessionaires at airports. Our Governor saw fit to ban indoor dining for awhile. And yet you have passengers who are in airports—it is not like they have a choice that they could go home and eat—who couldn't eat. The solution in that case was sort of ridiculous, it was to move the chairs and tables outside of the dining area and into the common area, and then to serve the airport passengers, and that they would eat it out in the common area. Long story short, nobody was going home, or not dining.

Can you talk about the effect the indoor dining bans have had on the concessionaires who are already in an extreme hardship due to COVID, Mr. Lyttle? And maybe some solutions.

Mr. LYTTLE. Yes, thank you. The ban on indoor dining has been devastating. Thankfully, we are back to 25 percent right now.

And what I think the States, for example, need to understand is that dining within an airport is different than dining outside. Indoor dining actually helps with social distancing because, what you are doing, you are actually providing an additional space within the restaurant for people to social distance. If you do not have indoor dining, but you are still selling food and beverages, then everybody actually congregates at the hold room area, and it is very hard to social distance. So because you are in an airport, you are confined. You can't go somewhere else, as if you are outside. And I think the States really need to understand that the airport dining and retail is really different from outside.

So it is really devastating when you actually stop indoor dining, but it also defeats the purpose, because we are not able to do social distancing, because you have taken away a substantial portion of the airport that we actually need to facilitate social distancing.

Mr. MASSIE. Thank you. And I hope the Governors will listen to you. I think the ban on dining is ridiculous to start with. And if it is meant to discourage people from congregating at restaurants, and the only place you can eat in an airport is at a restaurant, then it is going to discourage people from flying.

Mr. LARSEN. Thank you.

Mr. MASSIE. I yield back to the chairman. Thank you.

Mr. LARSEN. I recognize Congresswoman Holmes Norton for 5 minutes.

Ms. NORTON. Thank you, Mr. Chairman, and I appreciate this hearing on COVID's effects on airline travel. And my questions are worker-oriented.

My first question is for Captain Joe DePete. I was concerned and actually a little surprised at the increase in pilot errors in the past

few months. Now, I know it is important to keep pilots employed, and to keep them trained. Before COVID, what were the training requirements for pilots, and have there been any changes in the flying time requirements since the pandemic?

Or how would you account for the increase in pilot errors, Captain DePete?

Mr. DEPETE. Thank you, Representative Norton, for that question. You know, I had not seen the same statistics come across, other than a few anecdotal comments in the press from time to time.

However, we have the highest training standards in the world, which has led to the safest national airspace ever known in the history of aviation. We are the envy of the world, and we have done that through constant examination, through a massive data collection that has allowed us to actually almost have a risk——

Ms. NORTON. Have there been any changes since the——

Mr. DEPETE. No, ma'am.

Ms. NORTON [continuing]. Since the pandemic in training at all?

Mr. DEPETE. No. Qualifications, ma'am, remain the same. And we are working with our carriers right now to ensure that we get the timely training we need, since there is less flying going on at the moment.

This is of highest priority for us is to maintain our currency. And it is by law, I mean, it is by regulation that we have to maintain our currency. So——

Ms. NORTON. So the pilots are flying the same number of hours each week? I mean, they are not flying as often.

Mr. DEPETE. Right.

Ms. NORTON. Now, how many hours would a typical pilot fly each week or each month?

Mr. DEPETE. Well, they are flying less, overall, but they still have to meet the mandatory requirements of our recency of experience, so many takeoffs and landings in a given time period within 90 days. And it is up to the carrier to ensure that the training takes place, and they meet those recency requirements, or else we go uncurrent. So——

Ms. NORTON. Well, you say you haven't seen the data we have on pilot errors increase in the past few months.

Mr. DEPETE. Right.

Ms. NORTON. I am going to ask the chairman to send you the data we have——

Mr. DEPETE. OK.

Ms. NORTON [continuing]. So that we can have an explanation of why there would be an increase in pilot errors, particularly with fewer people flying at this time.

Could I ask you another question, Captain DePete?

Mr. DEPETE. Yes, sure, yes.

Ms. NORTON. I noticed in your testimony you touched briefly on the power of worker-centered industry relief, and said that was more important than corporate trickle-down relief that has been employed in previous crises. So I wanted you to elaborate on that.

Would you mind sharing in greater detail why you think it is important to keep the workers affected by this crisis front and center?

Mr. DEPETE. Yes, ma'am. I would gladly—and I will just start right there, because I know that the investment in the workers, in keeping aviation healthy, is the pathway to recovery.

And to just juxtapose what it was before PSP, if you recall back in 9/11, the devastating effect that that had on the industry, when there wasn't a worker-forward, PSP-type package like the CARES Act provided initially, and the subsequent PSP payments, but the—back then, it was the Airline Transportation Safety Stabilization Act that formed a stabilization board. And the result of that exclusively being aimed at the industry and not at workers resulted in 50 bankruptcies and givebacks from workers—$83½ billion, including the very retirement security of many of those workers.

So it was a colossal failure, and that is why I have to tip my hat to this committee to say that PSP is, without a doubt, the most historic worker-forward, critical bridge to recovery. I think it showed great thought and planning. And it is the road, because if we do not have a healthy——

Ms. NORTON. Could I get one more question in?

Mr. DEPETE. Yes, ma'am.

Ms. NORTON. I was very concerned about what I read about traffic levels.

Mr. LARSEN. Congresswoman Norton, that is 5 minutes. If you want to ask the question, and we will take the answer——

Ms. NORTON. Yes. Actually, it is for Ms. Krause.

Mr. LARSEN. Unfortunately, we will have to take the answer for the record. So you can ask the question, we will take the answer for the record.

Ms. NORTON. OK, so let me get the question in, then. She testified that the levels may not occur—and I think this is very important, if this committee could find out—that traffic levels may not occur until 2023 or later. I think this committee needs to know how she came to that notion. We see already the progress that has been made—and that is 2 years from now for traffic levels in air travel. And I think this committee needs a response to that question. If you would submit that question to Ms. Krause, I would very much appreciate it.

Mr. LARSEN. Thank you very much. We will do that.

Ms. Krause, you have that question for the record.

And with that we will now move to Representative Fitzpatrick, followed by Representative Garamendi and Representative Burchett.

Representative Fitzpatrick, you are recognized for 5 minutes.

Mr. FITZPATRICK. Thank you, Mr. Chairman, for calling this very important hearing. Thank you for the panelists, for your time. My first question is for Captain DePete.

Sir, I recently reintroduced H.R. 911. Congress had previously passed this legislation that—Congress passed a requirement for the installation of secondary barriers on new aircrafts, and my bipartisan bill seeks now to make all commercial passenger aircraft have this important safety measure. Are secondary barriers still a necessary security tool, in your opinion?

As you know, sir, this was one of the 9/11 Commission recommendations [inaudible].

Mr. DEPETE. Representative Fitzpatrick, thanks for that question. And thank you for your leadership on this issue over the years. I know you see the value of this.

And, yes, we are extremely frustrated at the lack of progress. It is ever more important that we have secondary barriers to preserve the reactionary gap when that door is opened, to protect our flightcrews and the folks on the airplane. PIC has the responsibility for the safe and secure conduct of our flight.

And when you consider that this was in the FAA Reauthorization Act of 2018, 115–254 was the Public Law, and we still—I remember being part of this re-examination to take a look at it again, where they basically started with, well, what do we mean by a secondary barrier? That is how bad it got.

My hope is that—I think there are many that share this frustration—with this new administration, we can urge them to move forward and get this taken care of. I mean, it is a long time coming. Thank you.

Mr. FITZPATRICK. Thank you, Captain DePete. And secondly, regarding the PSP, I am a big believer in the program and extending it. And if you, sir, could just state for the record—we may have covered this ground, but I want to make sure it is on the record——

Mr. DEPETE. Sure.

Mr. FITZPATRICK [continuing]. You know, how this program has helped and benefitted your pilots.

Mr. DEPETE. Well, it has helped us by having a worker-focused effort for payroll and benefits to keeping people connected with healthcare and off the unemployment insurance rolls, supporting and contributing still to the economy, and providing a pathway to recovery. Because there is no recovery without a healthy airline industry. And PSP, like I keep saying, it was just a historic lifeline, not only for workers, but for our country.

Mr. FITZPATRICK. Thank you, Captain. Thank you for all you do to keep our airways safe. We appreciate your work, sir.

One last question for Mr. Calio.

Sir, if you could, also for the record talk about the PSP program, and what it has meant to the airline industry on the whole.

Mr. CALIO. Thank you, Congressman. The program was and is an unmitigated success. It allowed us to keep our workers on payroll. As Joe has indicated, it kept them out of the unemployment lines, paying taxes, spending money, and, most importantly, up to date and ready to help the recovery.

The flightpath to recovery is going to require airline workers and airlines to be able to fly people and packages. And, you cannot overlook the fact also, as has been mentioned before, flying around the PPE, the vaccines, and all of that. So the program has gone to keep people on the payroll. The airlines were more than happy to act as the Federal Government's and the State and local government's unemployment office, because it was a lot better than the alternatives. And keeping these people on and happy and employed is critical to us, because they are the backbone of our industry.

Mr. FITZPATRICK. Thank you, sir. Thank you to our panelists. We really appreciate all you have done for the industry. It is always a tough job you have. It has been especially challenging during COVID. So just know you are appreciated.

I yield back, Mr. Chairman.

Mr. LARSEN. Thank you. We are waiting for Members to return from votes, but I want to ask if Representative Eddie Bernice Johnson from Texas is on.

No? All right. Representative Johnson from Georgia?

All right, we will go with, then, back to the GOP side, and Representative Gimenez from Florida, you are recognized for 5 minutes.

Mr. GIMENEZ. Thank you, Mr. Chairman. And I represent Miami-Dade County, and in Miami-Dade County, Miami International Airport is the number-one economic generator in Miami-Dade County. It supports probably over 300,000 direct jobs or indirect jobs. So aviation is vitally important to us. So I have got a question for Mr. Calio.

From the height in 2019, what has been the drop-off in the number of flights around the country, percentagewise?

Mr. CALIO. Fifty percent.

Mr. GIMENEZ. So we are now operating around 50 percent capacity?

Mr. CALIO. No, we are actually operating at less capacity, in terms of passengers who are flying. We are flying about 40 percent of the passengers that we did in 2019. And we are operating at about 50 percent of the flights that we did in 2019.

Mr. GIMENEZ. And you expect us to be back to somewhat normal in 2023, 2024?

Mr. CALIO. We sure hope so. If it comes sooner, so much the better.

Mr. GIMENEZ. OK, let's talk about—what percentage of your passengers in 2019 were actually business travelers?

Mr. CALIO. Congressman, I can get that to you. I don't have it off the top of my head. But significantly more than we see now. Business travel is off really substantially, as is international travel. A lot of the international travel was made up of business travelers. So that usually lags in past—both after 9/11 and after the financial crisis, the business travel lagged leisure travel in coming back.

Mr. GIMENEZ. Do you think that with—look, what we are doing right now, normally you would be sitting in this Chamber, but you are not. Do you see a significant drop-off in business travel just because the COVID–19 has changed the way that we do business? Do you see that as having an impact on the airline industry?

Mr. CALIO. Potentially, it can. Our hope is that it won't, because I think a lot of people—I personally think a lot of people still like to do business face to face. There is a lot of Zoom fatigue going on right now. And so I think that business travel will come back, it is just going to take time.

Mr. GIMENEZ. Let's get back to international travel. At MIA, the airport that is in the county that I represent, 50 percent of the air travel is international in nature. When do you expect that to start to come back?

Mr. CALIO. That depends on what happens with vaccinations and quarantines and international testing. Right now, we still face this patchwork. As I mentioned earlier, you can't get the countries within the EU to agree with the European Commission. We have our

own—we are trying to do bilaterals to encourage people to go ahead and fly.

You know, you have got to be able to fly somewhere and then have something to do and somewhere to stay. The notion you are going to fly and spend 7 to 10 days in a hotel without being able to go out is not very conducive to making the trip. So it remains to be seen.

Again, hopefully, as we get the virus under control, as vaccines ramp up, things will get better. But we can't forecast when. We do expect it is going to be some time.

Mr. GIMENEZ. Is the airline industry doing something on an international basis to try to get some sort of international accords on getting back to normal, what it would take for international travel to resume again from country to country? Say, does the United States have something with the European Union?

I know, you told me right now, they are a little bit disjointed. Is there any way that we can help to try to unify this, and try to get a concerted strategy on how to get international travel started again?

Mr. CALIO. Well, the administration has been a willing partner, Congressman, and working on the testing and on health, for the vaccine requirements. And we think that is—starting, I guess, you know, you have—you need to start small, and that is on a bilateral basis, which we have done with the U.K., Germany, the Netherlands, so far, among others. And we are going to continue on that basis.

And that is a matter of we, as the U.S. airline industry, are working with individual countries. We are working with the European Commission, and we are working with our Government. A concerted effort on the part of all those governments to work together to open up those markets safely is what is actually needed.

Mr. GIMENEZ. And how can you accomplish that?

Mr. CALIO. Apparently, slowly. I would like to say otherwise, but it takes a lot of work because everybody is making their own decisions. It is just like within the United States, there are multiple jurisdictions with multiple quarantine requirements. There has to be a look at the whole picture. It is very difficult when——

Mr. GIMENEZ. Thank you very much. I am out of time, and——

Mr. CALIO. OK, sir.

Mr. GIMENEZ [continuing]. I yield back.

Mr. CALIO. Thank you for your questions.

Mr. LARSEN. And thank you, Representative Gimenez, and I wish every Member would respond like that to a gavel. I appreciate it.

Mr. GIMENEZ. I try to follow the rules, sir.

Mr. LARSEN. I think we are still waiting for folks to come back from voting, but I believe Representative Van Drew from New Jersey, his camera is on. If Representative Van Drew is available——

Mr. VAN DREW. I am, I am here.

Mr. LARSEN. Great, Representative Van Drew, you are recognized for 5 minutes.

Mr. VAN DREW. Thank you, Chairman. COVID has decimated America's aviation industry. We, as a Nation, must make robust upgrades to airports and aircraft across the country. We must adapt to COVID and build a stronger air travel system that is

more resilient to all communicable diseases. This process must be led by the industry, but the Federal Government has an important role to play in establishing clear, national standards.

My Health Smart Air Travel Act establishes a program that will have the Federal Government work with industry stakeholders to test technologies, identify best practices, and clarify policies so that we can modernize air travel. My legislation has been carefully crafted and has broad industry support. If enacted, it will ensure worker safety, restore consumer confidence, and put American aviation on the pathway to recovery. I will be reintroducing the Health Smart Air Travel Act in the coming weeks. I urge my colleagues to support this legislation in a bipartisan way, and to get us flying again.

To Director Krause, Director Krause, in your testimony you say several airports you interviewed told you 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 Federal Government support. Would a Federal program designed around partnering with industry stakeholders to develop, test, and evaluate public health risk mitigation technologies in airports and aircraft help address the needs of the airports that you previously interviewed?

Ms. KRAUSE. Thanks for the question. Yes, we spoke to a number of airports, and they are pursuing or considering and implementing a number of different technologies, a lot of touchless options, biometrics, UV disinfection, as well as different ventilation systems. It is important that these technologies be evaluated and tested to ensure their effectiveness, and also their risk mitigation effectiveness, as well.

You know, we are looking—to your question on the Federal role, we have some work ongoing for this committee, looking at DOT and FAA's role in supporting aviation or any research improving safety for the air travelers, as well as getting a sense of what R&D has been done, what R&D is needed, and what is FAA's capacity to support that research.

Mr. VAN DREW. OK, thank you very much.

Chairman, I yield back.

Mr. LARSEN. Thank you, Representative Van Drew. Again, we are still waiting for Members to come back and have that opportunity to ask questions, so I will formally go into a second round of questions, because there are a few things I want to get asked on the record.

First off for Ms. Krause, Congresswoman Holmes Norton asked a question earlier about the assumptions that GAO used to come up with its 2023–2024 timeframe for return to travel. Could you, for the record, discuss those assumptions now?

Ms. KRAUSE. That is based on a number of forecasts that we have seen. And that is really, when you talk about 2023–2024, that is to get to the prepandemic levels of 2019. A lot of that is driven by—I mean, certainly there has been some promising trends when it comes to domestic travel in some of those leader markets.

But the big driver, as other panelists have discussed, is really on the international travel and business travel, and when that is com-

ing back. And there are a number of factors that play into that, different nations' public health responses and increasing public confidence in making those types of trips.

Mr. LARSEN. Thank you.

Mr. Calio, a question for you. There was a report that CEOs of several U.S. air carriers recently met with Gina McCarthy, the head of the National Climate Task Force, and other key administration officials to discuss your industry's efforts to combat climate change. We had some questions earlier about that issue, but what priorities do you think the A4A members, carriers, share with the current administration on reducing emissions in the aviation sector?

And when I ask about the priorities, I don't necessarily mean goals. I guess I am focused more on the actions that you would share, Mr. Calio.

Mr. CALIO. Thank you. Thank you, Mr. Chairman. We have a sustainability climate as a very, very significant priority. We have for many years. We have made great progress over the last 30 years, but we realize there is more progress to be made.

What is interesting is that we have our board meeting actually this week, our March board meeting. And last year in March, March 2nd or 3rd, we had a half-day retreat with all of our board present, and spent the entire afternoon talking about our position on climate change, and what more we could do. Within a couple of days, the results of that retreat didn't go out the window, certainly, because our members have continued to work, as have we, but survival became a priority.

We are refocused. We have, like I said, our board meeting this week. A very significant amount of time is going to be set. We did have that meeting last week. We thought it was a good meeting. Everybody is on the same page. And, as we told the administration, we want to be part of the solution, and we want to work with them.

Mr. LARSEN. Just to follow up on that, the EU has set some pretty aggressive goals on sustainability in aviation. Would your industry consider those efforts in Europe a challenge, a threat, or a folly, or something in between?

Mr. CALIO. I am having a little bit of difficulty spooling up exactly what they have done, Mr. Chairman. So, if I may, can I get back to you on that?

Europe has been very aggressive, and—I am going to be really candid—in many ways they don't value air travel perhaps as much as we do, because of the distances between countries. So they have often pushed forward without consultation with the industry. And I think whatever you put in place ought to be something that you think can work and can be achievable.

Mr. LARSEN. Yes, thank you.

Mr. Bolen, on the theme of sustainability and thinking about future recovery, you touched on this in your comments, as well as your written comments, about the role that Advanced Air Mobility plays in addressing issues of congestion and so on. Could you expand on that a little bit, and why that is important to you all, as NBAA, Mr. Bolen?

Mr. BOLEN. Well, certainly mobility, that ability to get people and products where they need to be, when they need to be there,

is fundamental to our Nation's transportation system, and fundamental to our economy.

I think there is a lot of excitement about the vehicles that utilize electric propulsion, hybrid propulsion, and perhaps hydrogen propulsion. I think the opportunities there require us to look at our infrastructure, which is a very strong airport infrastructure with over 5,000 public-use airports in the United States, but recognize that we want those to be available to accommodate future uses, and that includes air mobility aircraft, but it also includes ultra-long-range aircraft flown halfway around the world, consistently doing so in a more sustainable way and perhaps even at supersonic speeds in the future.

So there is a lot of technology coming to the market. I think we have an infrastructure we can build on, but we want to make sure that we are building an infrastructure for the future.

Mr. LARSEN. Thank you very much. I will just ask if there is another Member on the GOP side available.

Apparently, no. OK, then I am going to recognize for 5 minutes Representative Kahele from Hawaii.

Representative Kahele, you are recognized for 5 minutes.

Mr. KAHELE. Thank you so much, Chair, and I really appreciate, Chair, you holding this committee today. My question is for Captain DePete, and it expands on Captain DePete's testimony and also previous questions from other Members that I don't want to repeat again. And it touches on the Payroll Support Program.

Because of the efforts of this committee and the previous Congress and what they have done for the industry, we have avoided mass furloughs and mass layoffs of the aviation industries, and specifically members of ALPA and the almost 60,000 pilots that work for our U.S. domestic carriers.

Now, many of those pilots have been able to keep their jobs and continue to receive their paychecks and their healthcare benefits for them and their families, and avoid extended leaves of absence or times when they wouldn't be able to fly because they have been granted a leave from the company. And obviously, from Mr. DePete's testimony, he talked about how difficult it is to bring a pilot back, to get them requalified, to get their security clearances, their badging, their currency, to get them flying again. And so the best thing we can do is continue to keep them with the company and on the payroll.

But what ends up happening is PSP allows airlines to do that. But for the last, let's say, 9 to almost 12 months, many of those pilots who have continued to stay on the payroll haven't been able to fly. A small percentage of them have continued to fly, but many of them have not continued to fly, and have either maintained basic currency in a simulator or through their annual recurrency training requirements.

So my question is what can we do to ensure that pilots that are on the books, continuing to be employed, but are unable to fly because we are just not flying airplanes, how can we, as a Congress, work with the industry to keep these pilots current and, more importantly, proficient?

We know consistency is key to flying. You can't just get in a plane, after not having flown for a period of time and not lose some

of those specific skills and training that we have. And so my question is for Captain DePete, what can we do for those pilots and the thousands of them across the country who are not flying, and are slowly losing some of those critical skills and technical skills that they have in the cockpit?

Mr. DEPETE. Thank you, Representative Kahele. And it is great to see you in the seat. Congratulations, again. Great question.

We hear from our pilots all the time about this. And ALPA is, as you know, actively involved in working with our carriers because, obviously, the training houses right now are pretty full, as we deal with the reshuffling as a result of some of the early outs that were taken.

But we believe that as pilots, we are probably our own worst critics, right? We always want to stay at the top of our game. There is no substitute for the minimum of two well-trained, experienced, well-rested pilots out there. But you are right, there are a lot of pilots who reach their own personal limit to say, you know what, I need to get back in the simulator again, or, I need to go out on a line, maybe with a line check airman again.

And we have been working through our training council. We have a training council that actually has input from all our 34 airlines. And we are working with our carriers to ensure that any pilot who wants to do more than just the normal check rides that we get, but wants to do more for proficiency, has access to be able to do that. So that is one of the areas, and we would like the support for that.

Mr. KAHELE. Great. Yes, like you said, Captain DePete, sometimes those three takeoff and landings every 90 days just doesn't cut it. And if we can get in the simulator more, or we can get a little bit more training, that will help. The most important thing for all of our airlines and America's aviation infrastructure, and that is safety.

[Pause.]

Mr. LARSEN. The gentleman yields back?

Mr. KAHELE. Thank you, Chair.

Mr. LARSEN. Thank you. So with that, I think that is a great way to end this hearing on COVID–19's effects on U.S. aviation and the flightpath to recovery.

I want to thank the panelists today, just for the sheer numbers of Members who were interested in participating. It shows that we have a keen interest on ensuring continued support for aviation and aerospace industry recovery. Recovery is multifaceted. It is likely to occur faster in some areas of aviation and the aerospace industry than in others, which means that we will need to continue to pay very close attention to the industry and to the women and men, importantly, who work in that industry.

As well, we were able to discuss some of the future of aviation and what might be some of the next steps that we will need to take to be supportive of continuing job growth in this industry. And that is likely to be a subject of a future hearing, as well.

So with that, no further questions from the Members?

Seeing none, I want to thank the witnesses again for your testimony. Your comments have been informative. They have been very helpful.

And I ask unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided answers to any questions that may have been submitted to them in writing.

I also ask unanimous consent that the record remain open for 15 days for any additional comments and information submitted by Members or witnesses to be included in the record of today's hearing.

Without objection, so ordered.

And with that, the subcommittee now stands adjourned.

[Whereupon, at 12:49 p.m., the subcommittee was adjourned.]

SUBMISSIONS FOR THE RECORD

Prepared Statement of Hon. Sam Graves, a Representative in Congress from the State of Missouri, and Ranking Member, Committee on Transportation and Infrastructure

Thank you, Chair Larsen and Ranking Member Graves, and thank you to our witnesses for being here today.

The COVID pandemic over the last year has had widespread and long-lasting effects, including a significant shutdown of the U.S. economy.

Today's hearing will focus on the pandemic's impact on the aviation industry, what recovery will look like, and how Congress and industry can best support that recovery.

Fortunately, it does appear that things are improving.

But, as all of us are painfully aware, the country is still dealing with the pandemic, and air travel remains below last year's levels.

Congress, in a bipartisan effort, authorized $113 billion over five different legislative packages to support different sectors of the transportation industry to ensure that workers stay on the job and that businesses stay afloat.

This assistance included relief totaling $60 billion for airlines, airports, and aviation contractors.

While Government assistance has been important to helping the aviation industry through this historic pandemic, recovery will take a significant amount of self-help and adjusting to the new, post-COVID realities.

Many analysts believe that there is pent-up demand for travel. I couldn't agree more.

We have all been shut in for a year now, and I am hopeful that with the increasing levels of vaccinations, the public will become comfortable with traveling again this summer.

That will be key in the overall pandemic recovery.

I am interested in hearing about what our witnesses think the industry's recovery is going to look like, what efforts they are making to remain resilient, and how we can work together towards a fast, but safe recovery in the coming months.

Thank you, Chair Larsen. I yield back.

Prepared Statement of Hon. Steve Cohen, a Representative in Congress from the State of Tennessee

Thank you, Chairman Larsen and Ranking Member Graves, for putting together this important hearing, and thanks to all the witnesses for being here today.

The aviation industry has been devastated by the significant decline in air travel because of COVID–19, and our Committee has responded to resuscitate the industry, providing billions of dollars in aid.

As we begin to look at the flightpath to recovery, though, I believe it is critically important that we not overlook the industry's consumer: the flying public.

Since the start of COVID–19 lockdowns, U.S. airlines' de facto policies have been to waive change fees and offer or extend vouchers. I believe that this has been woefully inadequate.

Millions of Americans will no longer take trips they booked in good faith. Conferences, conventions, weddings, graduations, and family reunions were canceled, not postponed.

In this economic crisis, consumers need the cash they extended to airlines, which have sat on more than $10 billion in interest-free loans for more than a year (in addition to taxpayer-funded relief).

Existing USDOT refund regulations are insufficient and contain numerous loopholes.

For instance, a refund is only issued when a person's flight is cancelled or significantly changed, not when an individual cancels because of COVID–19 concerns.

Even worse, Consumer Reports' analysis of ten U.S. airline vouchers found nine different policies. The language is confusing, hard to find and often contradictory.

And due to the federal preemption clause in the 1978 Airline Deregulation Act, the USDOT and Congress provide the ONLY protections for air travelers. State legislatures, state attorneys general, and even state courts cannot intervene on behalf of consumers.

Last Congress, I introduced the Cash Refunds for Coronavirus Cancellations Act with Senator Markey and Representative Underwood.

Our bill would offer full cash refunds for all cancelled tickets during the coronavirus pandemic, regardless of whether the airline cancelled an entire flight or the passenger cancelled their individual ticket.

COVID–19 has not gone away—many people are still hesitant to fly and should not be punished or have their money withheld to protect their health and safety.

It is clear that we need to continue working on this issue.

Prepared Statement of Hon. Michelle Steel, a Representative in Congress from the State of California

Thank you, Chairman, Ranking Member, and the witnesses today.

Orange County is home to some of our Nation's greatest community colleges, including Orange Coast College (OCC), located in Costa Mesa, CA.

OCC has numerous distinguished opportunities for post-high school graduates to obtain a cost-effective degree and find employment thereafter.

This college, located in my District, has many career-advantage programs in aviation including fields in aviation maintenance technology, aviation science, and airline travel careers.

Unfortunately, our students, in general, have been struggling during COVID–19 to finish school and find employment opportunities.

To help students complete their credits and graduate in ample time, as the Chairwoman of the Orange County Board of Supervisors, I helped reopen OCC's career advantage programs, especially in academics pertaining to aviation.

I have continued down this path with my colleagues in Congress to ensure our schools safely reopen so our students have the proper tools and resources for long-term success.

With this in mind, colleges like OCC, are continuing to diversify its career cluster programs.

Gaps in the aviation workforce need to be addressed and additional partnerships between industry and educational institutions are necessary to ensure our students are on the right flightpath for success.

I look forward to working with my colleagues in this subcommittee and the aviation community to ensure our businesses have the opportunity to grow and this includes bridging the skills gap.

Statement of Faye Malarkey Black, President and CEO, Regional Airline Association, Submitted for the Record by Hon. Rick Larsen

The Regional Airline Association (RAA) thanks the U.S. House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Aviation for holding the hearing titled, "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery." RAA submits this statement for the record to inform the Committee on the status of the regional airline industry, share with it the actions the industry is taking to safeguard our crewmembers, passengers, and support partners in response to the COVID–19 pandemic and highlight some of the actions we believe will be critical to preserving air service to our nation's smaller communities.

At the beginning of 2020, US regional airlines employed nearly 70,000 workers and operated about 40 percent of our nation's departures. Most importantly, regional airlines provided the only source of scheduled, commercial airline service to more than two-thirds of our nation's airports. Without regional airlines, these airports would lose their connection to the global air transportation network. Before the onset of the global pandemic, regional airlines had moved from a period of industry contraction into a period of growth, and by the end of 2019 were operating more departures and carrying more passengers than ever before. Alongside this regional airline industry growth, smaller communities were gaining or restoring air

service. This is not surprising, as the health of regional airlines and that of the small communities they serve is closely interconnected. Unfortunately, regional airlines are among the many businesses the pandemic has hit especially hard, and as a result, small community air service is at risk.

On behalf of our membership, I want to thank this Committee, along with the Senate Commerce, Science, and Transportation Committee and House and Senate party leaders for their leadership in providing over $75 billion in relief for air carriers in the Coronavirus Aid, Relief, And Economic Security (CARES) Act and the Consolidated Appropriations Act, 2021. Additionally, we are grateful that H.R. 1319, American Rescue Plan Act of 2021, contains $15 billion for air carrier and contractor worker support. To date, such funds have played a key role in helping to preserve jobs and support air service.

We particularly appreciate this Committee's support during the initial design of the CARES Act, in ensuring regional airlines could access payroll support grant programs. This crucial support has been a lifeline for tens of thousands of regional airline workers. The program, which came in the form of payroll assistance, has helped regional airlines meet the critical priorities of protecting their workers and maintaining safe connectivity for smaller communities. However, some carriers, including several regional airlines, saw a substantial portion of those grants turn into surprise loans, which they must repay. This means carriers surviving the pandemic will emerge weaker on the other side, with strained resources. Additionally, most regional airlines still have no access to programs outside of PSP to support their operating costs. Although the CARES Act created another program to meet this need—the Air Carrier Loan Program—most regional airlines were unable to use that program. Regional airlines' unique business models, which involve long-term, fixed contracts with major air carriers, limit the ability to generate excess cash flow to extinguish debt. Additionally, many regional airlines lease or sublease equipment and do not have substantial unencumbered assets with which to collateralize loans. Despite this Committee's clear directive to protect small community air service, the Department of Treasury (USDT) declined to utilize its authority under the CARES Act to make unsecured loans so that smaller carriers could participate. For these reasons, most regional airlines were unable to access the Air Carrier Loan Program to help save their businesses. Unfortunately, five regional airlines ceased operating last year under the pandemic's influence and without the ability to access the more diverse range of support accessible to larger air carriers. This inequity, which threatens small community air service and has decreased competition, has yet to be addressed.

At the same time, business harm continues under the pandemic. Last month, Airlines for America, the trade association for the major airlines, announced that for the week starting January 31st, revenue from airline bookings was down 82 percent compared to the same week in 2019. Where major airlines lose revenue through decreased passenger bookings; regional airlines lose revenue through reduced block hours. Block hours is industry parlance for how much an operator's aircraft are being utilized on behalf of their partner. When block hours are down, revenues are way down. In 2020, regional airline block hours plunged to a nadir, with some carriers down 90 percent. Although block hours were ticking back up more recently, carriers saw additional sharp decreases as the virus surged in December and beyond. In addition to reduced block hours, the same routes are now less efficient and more costly to operate. With fewer passengers traveling, regionals are being called upon to take extraordinary measures to tailor supply to demand more precisely than ever. The dynamic schedule swings that characterize the current market come with a heavy labor and cash toll; airlines are paying higher crew costs while seeing reduced aircraft utilization. Aircraft are not making money when they are on the ground waiting for the next tranche of passengers, or when they are being repositioned from one airport to another, which is costly.

The regional airline industry has been one of the hardest hit segments of air carriers during the pandemic. RAA members specialize in serving smaller communities that lack the passenger volume to support sustainable air service by larger airlines. Regional airlines serve these communities by partnering with larger carriers to help them reach passengers they could not otherwise serve, using smaller aircraft that are rightsized for markets with fewer passengers. These smaller markets happen to have some of the thinnest margins. There are far fewer passengers over which to amortize demand fluctuations or cost increases. This is why small community air service can be fragile and these markets are often hardest hit when network carriers are forced to retract service. Unlike large carriers, the vast majority of regional airlines are not publicly traded, and their business practices have more in common with a small business than a large multinational company. Most regional airlines do not have access to expansive outside lending while they wait for additional aid.

Furthermore, small carriers who do not file reports with the Department of Transportation pursuant to Part 241 received underfunded payroll support awards under the CARES Act relative to larger air carriers due to inequitable criteria applied to their award calculation. As a result, small carriers have had to make do with less aid for longer than their much larger counterparts.

We are grateful that other inequities in assistance have since been partially addressed; however, more action is needed. We are particularly grateful to this Committee's support, though the Consolidated Appropriations Act, 2021, in directing a technical correction to the Payroll Support Program (PSP), to address the inadvertent underfunding of certain small carriers, which occurred when a more limited calculation formula was applied to smaller carriers than to larger carriers. Under the CARES Act, small air carriers who did not file with DOT pursuant to Part 241 were directed to exclude certain salaries and crew benefit information that were included in the standardized calculation of PSP awards of larger air carriers who filed with DOT pursuant to Part 241. As a result of this calculation discrepancy, smaller air carriers were underfunded in initial PSP awards, relative to larger carriers. The Consolidated Appropriations Act, 2021 contained a technical correction to align air carrier compensation award calculations with the exact standards and criteria applied to air carriers who report to DOT pursuant to Part 241 and provided a true-up provision for carriers who were undercompensated under the previous calculation discrepancy. Unfortunately, the shortfall still remains because the prorate that was subsequently applied by the Department of Treasury to the PSP2 awards was applied to this correction. Under the American Rescue Plan Act, this shortfall will finally be fully addressed. Your staff worked tirelessly and closely with RAA to advance this solution, and we are deeply appreciative of your efforts to ensure regional airlines can more fully support their workforce.

Given the risk to small community air service, we are very grateful for the Committee's continued support of small community air service during the pandemic through supplemental investments in the Essential Air Service (EAS) and Small Community Air Service Development Programs. Additionally, the inclusion of minimum air service requirements in the second COVID relief package helped to ensure that small communities were not completely disconnected from the country's air transportation system. We likewise appreciate the Department of Transportation's thoughtful implementation of these minimum air service guarantees, balancing community needs and carrier health. Lastly, we appreciate your including eligibility requirement waivers for FY2020 and FY2021, to ensure that EAS communities experiencing passenger decline under the pandemic need not fear being removed from the program due to circumstances outside their control.

DEPARTMENT OF TREASURY'S ADMINISTRATION OF THE PAYROLL SUPPORT PROGRAM

Recognizing that harm has touched families, businesses and communities throughout the pandemic, RAA strongly supports the proposal for additional payroll aid through the American Rescue Plan that the Congress is currently considering. Simultaneously, we have substantive concerns with the Department of Treasury's current administration of PSP that is today jeopardizing the full recovery of a number of regional airlines. One enormous problem ongoing to this day is USDT's lack of communication and persistent delay in providing PSP2 payroll awards to small regional carriers—some of whom have had no communication from Treasury in over eight weeks despite filing well in advance of the early application deadline. Under the Consolidated Appropriations Act, 2021, USDT had ten days following the December 27th enactment to make initial payments to air carriers. The deadline for early consideration applications was January 14th. Prior to the deadline, the Department was in contact with twelve large carriers to ensure that their applications were processed as quickly as possible. On January 15th, the Department approved $12 billion in assistance to employees of these twelve large passenger carriers and dispersed $6.1 billion in initial payments.

While we are appreciative and grateful for the Department's quick processing of these applications to support the workforce of these carriers, RAA is deeply concerned that as of the writing of this statement, over 150 carriers and operators have not received their awards. Four of RAA's members have had either very minimal or no contact with the Department about their application and do not know when or if they will receive their awards. Because of this, these carriers have been unable to sufficiently plan their business operations. As this hearing takes place, some airlines have hundreds of employees still waiting to be recalled. Others, who have managed to avoid furloughing employees to date, have no choice but to contemplate furloughs because of this delay in relief. It is deeply inappropriate that the assistance made available to other carriers has not yet been made available to them.

Many of the carriers facing these circumstances are the same carriers who were initially undercompensated under the first round of relief. These same carriers are now experiencing untenable delays to their second round of funding, rather than the correction Congress intended. Overall, the rollout of PSP2 awards marks a notable departure from the Department's approach under the CARES Act, where it prioritized awards to small air carriers because they viewed them as the most vulnerable to the financial impacts and disruptions caused by the pandemic.

RAA believes that the Department has a very small window of time to speed up its awards processing or they risk doing further harm to small carriers. As you know, the American Rescue Plan Act contains a third PSP extension, and the Congress appears to be on a path to pass this third COVID relief package by mid-March. Under the legislation, the Department will have effectively until the end of March to process all PSP3 payments, which are entirely based on the PSP2 amount awarded to air carriers. However, if the Department has not finished awarding all PSP2 payments, PSP3 awards will be delayed for some, which could further imperil these small carriers' financial health. Given the dramatic decline in passenger air travel over the last year, small carriers do not have the cash reserves to support their full payroll for a prolonged period without assistance. RAA asks the Committee to communicate to the Department of Treasury the urgency of processing any remaining PSP2 awards immediately and, upon passage of the American Rescue Act Plan by Congress, processing all PSP3 awards before the end of March.

Lastly, utilizing discretionary authority granted to it under the CARES Act, the Department of Treasury imposed an additional condition on the payroll support awards for large carriers, which required carriers to provide financial instruments for compensation in the form of an unsecured loan for a portion of the PSP1 and PSP2 awards above $100 million. In short, carriers must pay back a portion of their award even though the carrier acts as distributor of the aid to its eligible employees, excluding corporate officers. While we greatly appreciate the appropriate exclusion of small regional airlines from these requirements, the categorization erroneously captured a few regional airlines because of the size of their payroll and subjected them to disadvantageous conditions of aid. However, unlike other large carriers, these regional airlines do not issue tickets or derive revenue directly from passengers. RAA's position is that the warrant requirement is completely counterproductive to the recovery of the industry and its workforce; carriers have taken on large amounts of debt in response to the pandemic and the industry has not yet achieved a breakeven cash flow. The Department's decision to add to this debt burden will only serve to further delay the industry's economic recovery and the return of air service and employment levels to those reached prior to the pandemic. Accordingly, RAA is very disappointed that the House Financial Service Committee turned this discretionary condition into a mandatory requirement as part of the American Rescue Plan Act. We hope that we can work with the Congress in the future to ensure that the warrant requirement does not impede the industry's recovery and the growth of our workforce after the pandemic abates.

SMALL COMMUNITY AIR SERVICE

RAA deeply appreciates the Committee's support of small community air service throughout the pandemic. While regional airlines provide valuable service to communities of all sizes, 409 U.S. airports (about two-thirds of our nation's commercial airports receiving scheduled air service) are too small to support air service from larger airlines with larger aircraft and are only served by regional airlines. While larger cities, with historically high yield, higher density traffic may be confident that air service will return with widespread vaccinations, those US airports served exclusively or primarily by regional airlines are vastly more vulnerable. This risk to small and medium sized community air service could have an outsized impact on state and local economies, where businesses need reliable air service to remain viable. The economic consequences of leaving these communities behind are not insignificant. In 2018, regional airline service to the nation's smallest airports alone (non-hub and small hub) drove a conservatively estimated $134 billion in annual economic activity and supported more than 1 million jobs, with $36.4 billion in earnings at the state and local level, according to Delta Airport Consultants.

The resource strain detailed above imperils air service to smaller communities moving forward. Historically, some markets may not have survived on their own but as part of the whole they brought value. In strong years, these marginal routes could survive if they supported the network overall. Under today's unparalleled resource strain, decisions are likely to turn on highest, best use. This means marginal markets are exposed to higher risk with faster consequences than before. A review of historical trends ratifies this concern. According to the DOT Working Group on

Small Community Air Service, between 2007 and 2016, as the industry grappled first with the Great Recession and next with workforce shortages, the impact on air service was sharply uneven between small and large communities. The Working Group found that non-hub and small-hub airports saw departures reduced by a factor *five times worse* than reductions at large hub airports. During the same period, smaller communities lost more than 31 percent of their scheduled departures and more than 50 airports lost scheduled air service altogether.

Thus, the Committee's inclusion of Section 4005, Continuation of Certain Air Service Language in the CARES Act and Sec. 407, Minimum Air Service Guarantees in the Consolidated Appropriations Act, 2021 prevented many small communities from completely losing air service during the pandemic. Air service data drawn from the period between the expiration of the Continuation of Air Certain Service Agreements associated with the CARES Act and the start of the Minimum Air Service Agreements associated with the Consolidated Appropriations Act, 2021 offer a glimpse of what might have taken place if the Committee hadn't insisted on the protection of small community air service. Four communities in Destin, FL; Morrisville, VT; Worcester, MA; and Meyers Chuck, AK completely lost air service during this short period. We further believe that the full impact of these air service drawdowns was substantially muted by the ongoing extension negotiations at that time, which influenced ticketing carrier decisions.

RAA understands that language related to Minimum Air Service Guarantees is not included in the American Rescue Plan as part of the PSP extension because of the legislative drafting limitation imposed by budget reconciliation and are aware that the Transportation and Infrastructure Committee and the Senate Commerce, Science, and Transportation Committee believe the Department of Transportation can utilize its existing authority under the Consolidated Appropriations Act, 2021 to extend the air service commitments until the end of September 2021 to align with the third PSP extension under the American Rescue Plan Act. Absent an extension of the service guarantees, many communities not presently EAS-eligible are at risk for total air service loss without intervention. While RAA does not advocate for hold-in policies, we firmly believe no community should face the economic peril of losing all scheduled air service due to the pandemic. As you know, The Federal Aviation Administration Modernization and Reform Act of 2012 (P.L. 112–95) provided that for locations outside of Alaska and Hawaii to remain EAS-eligible, they must have participated in the EAS program at some time between September 30, 2010, and September 30, 2011. This decision to restrict the EAS program could not have contemplated the air service risk communities would face in recovering from a global pandemic. RAA therefore urges the Committee to support expanding EAS eligibility to at-risk communities that would otherwise meet EAS program criteria but are restricted from the program by virtue of non-participation during the aforementioned dates. We envision this expansion as a temporary measure until market conditions stabilize.

Furthermore, as part of the FY2022 appropriations process, we hope that Members of the Transportation & Infrastructure Committee will continue to demonstrate strong support for the EAS and SCASDP programs by urging the House Appropriations Committee to include full funding in the FY2022 Transportation, Housing, and Urban Development Appropriations Bill. These programs are vital to protecting small community air service, which is severely threatened by the sustained drop in passenger air travel demand caused by the pandemic. Lastly, Congress should continue to urge DOT to work with carriers who participate in the EAS program to ensure flexibility and responsiveness in light of cost increases and plummeting revenues that impact underlying, fixed contracts.

Commitment to Health and Safety

Regional airlines have continuously taken substantial steps to protect the health, safety and wellness of their passengers and employees since the World Health Organization (WHO) declared the novel 2019 coronavirus outbreak and COVID–19 infection a public health emergency of international concern. On January 31, 2020, the President issued Proclamation 9984 directing the Department of Homeland Security and other executive departments to take certain actions in response to the coronavirus threat and to protect the interests of the United States. Since then, RAA has been at the forefront of daily interactions and discussions with multiple government agencies, including the Federal Aviation Administration (FAA), the Centers for Disease Control and Prevention (CDC), the Transportation Security Administration (TSA), and the Cybersecurity and Infrastructure Security Agency (CISA) to ensure all our member carriers have the latest information necessary to follow the public health guidance.

Following safety guidelines issued by the FAA in collaboration with the CDC, all RAA member airlines are proactively mitigating safety risks posed by the COVID–19 outbreak, both independently and by working closely with their mainline partners. These safety measures are either in compliance with or exceed CDC's recommended protocols. Such examples include, but are not limited to, crew members wearing face coverings and other PPE as appropriate, providing PPE kits and enhanced Universal Protection Kits (UPKs) on board aircraft, conducting aircraft cleaning with approved cleaning agents during operations and electrostatic cleaning or fogging during overnight maintenance. In addition, passengers are required to wear face coverings to uphold the overall safety and protection of the travelling public and crew members, which regional airlines initiated as airline policy and continue to support as a federal mandate.

RAA continues to facilitate member airline discussions, through our Councils and Committees, and sharing of information and best practices related to upholding the health and safety of employees and passengers. Further, RAA believes the utilization of crucial safety programs and systems in place today, namely through Safety Management Systems (SMS), allow airlines to quickly assess emerging and changing safety and health risks and implement mitigations using a data-driven approach. Airlines utilized existing safety programs such as the Aviation Safety Action Program (ASAP) to collect safety information directly from their employees and added COVID risk categories to their complex safety risk matrix to analyze and reduce those risks. RAA and our member airlines are key stakeholders in the national safety programs such as the Commercial Aviation Safety Team (CAST) and the Aviation Safety Information Analysis and Sharing (ASIAS) program. Recognized globally, CAST is particularly well-suited for advancing solutions given the broad participation and collaboration in the program by air carriers, manufacturers and employee groups who empower the industry to meet the urgency of emerging safety issues.

As our country continues to battle this ongoing public health crisis, regional airlines will remain vigilant, placing the health and safety of their crew and passengers first. Further, RAA will continue to work with this Committee, government agencies and our member airlines and their employee partners to help our members proactively meet and respond to evolving concerns with appropriate safeguards. We ask the Committee to view RAA as a resource as you consider proposals. Our team stands ready to assist and share our ideas, expertise and insights.

Mitigating Pandemic Harm to Supply of Commercial Airline Service

While it may seem surprising to discuss a potential shortage of airline pilots at a time when the industry is still contemplating tens of thousands of furloughs, we do expect the pilot shortage to return as a limiting factor during recovery. In fact, today's furloughs stand to worsen matters. If the Committee will recall, following the September 11th attacks on the United States, industry furloughs at that time correlated to reduced interest in the professional pilot career path. The resulting sharp decrease in new student pilots entering the pipeline meant far fewer eligible pilots were entering the career path than were needed, especially as a large complement of baby boomer pilots began to reach mandatory retirement age. While the pandemic has driven a temporary reprieve in the pilot shortage, a national crisis impacting the perceived attractiveness of airline career paths could deter another generation from the pilot profession, making the shortage worse when it returns.

The actions taken by this committee to protect aviation workers, and in support of healthy airlines, will help ensure the industry remains attractive to future generations. Additionally, today's lull in hiring presents an opportunity to open up education opportunities for pilots, including many who have been dramatically underrepresented in the flight deck and today cannot afford or finance training. RAA is backing legislation to make the pilot profession more accessible through the provision of additional federal financial aid to students seeking pilot training. Today, the cost of pilot education and training is higher than the available federal student aid dollars, which effectively reserves the career path for those with access to private wealth or capital. RAA has been working with lawmakers on the relevant House and Senate Education committees and anticipates legislation will be introduced this Congress. Given this Committee's jurisdiction over aviation and interest in the matter, we ask for your support. By shoring up outreach efforts and ensuring the pilots we reach can access the education and training for the profession, we can welcome new and more diverse aviators into the profession for generations to come.

CONCLUSION

Thank you for your leadership in securing the vital assistance needed by carriers in response to the COVID–19 pandemic over the past year. Your actions have stabilized the financial health of our country's aviation system and have ensured the preservation of our workforce so that we are in a position to support our country's economic recovery. As vaccination levels increase and passengers return to air travel over the course of the year, regional airlines will continue to treat the safety and health of our customers and crewmembers as our top priorities. We look forward to working with you to make sure we can continue to keep small community air service healthy and supported.

Thank you for this opportunity to provide comments.

Statement of the Travel Management Coalition, Submitted for the Record by Hon. Rick Larsen

Dear Chairman Larsen and Ranking Member Graves:

The COVID–19 pandemic has been nothing short of devastating to the aviation industry. Congress has rightly recognized this, appropriating $42 billion in relief directly passenger airlines and their contractors, as well as $12 billion for airports. And while the CARES Act authorized the Department of Treasury to provide loans to travel agents and others dependent upon aviation, the program authorized failed to meet the needs of eligible businesses that lack hard collateral or could not forecast future growth due to the pandemic.

As a result, travel management companies—companies that help businesses and individuals manage complex global travel needs—have seen revenue drop by some 95% and continue to live off debt. Congress, as it prioritizes vaccine distribution, COVID treatment, and other mitigation measures, such as masking requirements for air travel, should work with President Biden's administration to:

- Support electronic verification of international arrivals' negative COVID–19 tests;
- Examine risk-based, scientifically-supported alternatives to blanket quarantine requirements and countrywide travel restrictions; and
- Join the global community in adopting "health passports" and establishing internationally-recognized standards for vaccine and testing verification.

Since the outset of the COVID–19 pandemic, the U.S. air travel industry has worked closely with the federal government to formulate and implement an array of public health protocols to ensure the safety of the air travel experience. By applying an extensive, multi-layered set of biosafety measures, including enhanced cleaning, optimized ventilation, and masking requirements, the risk of COVID–19 transmission has been reduced to the extent that the World Health Organization (WHO) has acknowledged that air travel is safe, a conclusion supported by Department of Defense research.

Moreover, aviation industry leaders continue to pursue federal policy ideas that will reduce the human and economic cost of the pandemic, which is why we have persistently advocated for international testing requirements supported by a standardized, electronic-based verification framework. The Centers for Disease Control and Prevention (CDC) January 12 Order is a significant step, but implementation measures must be taken to guarantee that testing labs are able to send travelers' results electronically, via a QR code or similar function, directly to appropriate authorities. Relying on paper copies for COVID–19 (or vaccine) results is simply not scalable and is subject to fraud.

Given the complexity and dynamic nature of this crisis, economically-impactful policy measures should be continuously reevaluated. When more effective, less disruptive, and scientifically-supported measures become available, they should be quickly adopted in place of defunct measures. Blanket quarantines and country-wide travel restrictions must be reexamined accordingly.

A year into the pandemic, quarantine measures in the U.S. continue to hinder the recovery of the air travel industry, as they frustrate travelers and run counter to the purpose of travelling for business or leisure. These blanket quarantines are in

place, despite the WHO's recommendation that asymptomatic travelers should self-monitor for symptoms, rather than be required to undergo quarantine, and CDC's acknowledgement that vaccinated individuals do not need to quarantine. Similarly, countrywide travel restrictions were an effective tool to curb the early spread of the pandemic, but they are now far too blunt an instrument, especially since COVID–19 test and vaccine accessibility is continuing to expand worldwide.

To be clear, we do not expect all quarantine and travel bans to be lifted tomorrow, but the federal government should have a plan in place to lift these restrictions once established benchmarks or goals are achieved. The status quo of indefinite restrictions and ad-hoc decision-making is exacerbating our industry's financial plight and the job security of our workforce.

Furthermore, the future of air travel depends on the ability of governments to confidently determine the COVID–19 health status of travelers, which is why countries around the world are adopting health passports. Health passports are mobile platforms that enable travelers to demonstrate their receipt of a COVID–19 vaccination or negative test prior upon arrival at airports. The U.S. should join the international community in this effort, which we believe is essential to global economic recovery.

We are entering an exceptionally critical point in the pandemic, and urgent, risk-based thinking is needed from the federal government. Millions of American jobs and the $2.6 trillion American travel industry hang in the balance.

Although some of the policy measures outlined above are traditionally executive branch considerations, the House Committee on Transportation and Infrastructure can play an important role in advancing them, both legislatively and politically. We look forward to working with you and stand ready to assist in any way we can.

Letter of March 2, 2021, from Scott Kirby, Chief Executive Officer, United Airlines, Submitted for the Record by Hon. Rick Larsen

UNITED AIRLINES,
233 SOUTH WACKER DRIVE,
13TH FLOOR-WHQLA,
Chicago, IL, March 2, 2021.

Hon. PETER DEFAZIO,
Chairman,
2134 Rayburn House Office Building, Washington, DC.

Hon. SAM GRAVES,
Ranking Member,
1135 Longworth House Office Building, Washington, DC.

Hon. RICK LARSEN,
2163 Rayburn House Office Building,
Washington, DC.

Hon. GARRET GRAVES,
2402 Rayburn House Office Building,
Washington, DC.

DEAR CHAIRMAN DEFAZIO, RANKING MEMBER GRAVES, CHAIRMAN LARSEN, AND RANKING MEMBER GRAVES:

Thank you for holding today's hearing entitled, "COVID–19's Effects on U.S. Aviation and the Flightpath to Recovery." As you know well, the aviation industry was among the first to be impacted by the COVID–19 pandemic. Recognizing the devastating impact and the importance of the industry's workforce, the service we provide and our role as a driver of the economy, Congress acted quickly and in a bipartisan way to approve the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), which enabled the industry to survive the most disruptive crisis in commercial aviation. We are very grateful for the CARES Act and its Payroll Support Program (PSP) that provides much-needed relief to aviation workers. We are also very grateful for the extension of the successful PSP and support its further extension through September 30. While the financial path ahead for the industry is challenging, we are confident that with strong government and industry collaboration, innovative approaches to health and safety and a commitment to improving our nation's infrastructure, we can and will be able to provide service, jobs and significant economic contributions once the pandemic is behind us.

United is committed to the safety of our customers and our workforce. In response to the pandemic, United launched our CleanPlus program. Teaming up with Clorox

and experts at the Cleveland Clinic, we are putting cleanliness, health and safety at the forefront of the passenger experience and redefined our cleaning and disinfection procedures at each step of a passenger's journey. United also led the industry in requiring passengers and crew to wear masks onboard the aircraft and in the airport as a vital aspect of our layered approach to safety. Other highlights include using HEPA filters on United aircraft that circulate the air and filter out 99.97 percent of airborne particles. United is the first and only airline to maximize ventilation systems by running the auxiliary power on mainline aircraft during the entire boarding and deplaning process. We also deploy electrostatic sprayers to disinfect the aircraft cabin—floor to ceiling—before departures.

United's response to the pandemic also includes supporting the transport and delivery of the COVID–19 vaccine. In fact, United was the first airline to safely transport the first delivery of Pfizer and BioNTech's COVID–19 vaccine into the U.S. Through a combination of cargo-only and passenger flights, United has transported more than 401 million pounds of freight, which includes 87 million pounds of vital shipments, including 7 million COVID–19 vaccines, medical kits, PPE, pharmaceuticals and medical equipment. We also provided free transportation for more than 2,900 first responders and medical professionals to areas in need.

United continues to lead and innovate as we respond to the pandemic and the disruption it has brought to the industry and our customers. One example is our new "Travel-Ready Center"—a new, digital solution where our customers can review COVID–19 entry requirements, find local testing options and upload any required testing and vaccination records for domestic and international travel, all in one place. United is the first airline to integrate all these features into its mobile app and website, and the first airline to voluntarily collect contact tracing data for both international and domestic passengers in partnership with the Centers for Disease Control and Prevention (CDC). We are also committed to providing top-level service to our customers during this uncertain time, and United was first among U.S. global airlines to permanently eliminate change fees on all standard economy and premium cabin tickets for travel within the U.S. In addition, now any United customer can fly standby for free on a flight departing the day of their travel regardless of the type of ticket or class of service.

We believe accurate and reliable testing is essential in safely restoring global travel and promoting our recovery. We believe pre-departure testing is an important tool that can open access to global markets in lieu of existing quarantines and travel restrictions. That is why United is leading numerous pilot programs and investing in testing and digital data health management solutions. United launched the world's first free transatlantic COVID–19 testing pilot for customers; was the first U.S. airline to launch a COVID–19 testing program for customers traveling on United from San Francisco International Airport to Hawaii; and introduced customer COVID–19 testing from Houston to Latin American and Caribbean destinations.

As we focus on our recovery from the pandemic, United remains committed to operating the safest, most efficient, and most sustainable airline. We are encouraged by the bipartisan interest in an infrastructure bill and the Administration's Build, Back, Better Plan. We look forward to working with Congress and the Administration to modernize air traffic management through the Next Generation Air Transportation System (NextGen) to improve aviation fuel usage and efficiency. United remains focused on health and safety while ensuring that our company's priorities and future growth are managed in a sustainable and responsible manner. United has pledged to reduce greenhouse gas emissions by 100 percent by 2050 through industry-leading investments in carbon capture and sequestration technology and the use of sustainable aviation fuel—a first among airlines. We are committed to continue making Diversity, Equity and Inclusion a cornerstone of our culture—including through our new Aviate Flight School to establish the next generation of aviators—and making meaningful contributions in the communities we serve.

We are grateful for your support and interest in aviation and our workers during this immensely challenging time. As Congress works toward full public health and economic recovery, please know that United Airlines is ready to support your efforts.

Sincerely,

SCOTT KIRBY,
Chief Executive Officer.

APPENDIX

QUESTIONS FROM HON. GARRET GRAVES TO HEATHER KRAUSE, DIRECTOR, PHYSICAL INFRASTRUCTURE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Question 1. What kinds of long-term adjustments is the industry implementing to adapt to the new reality of a post-COVID world?

ANSWER. Based on our ongoing audit work reviewing the effects of the pandemic on the aviation industry, we have found that many industry stakeholders are still in the process of responding and adapting to the COVID–19 pandemic; however, some of the changes they are making in response to the pandemic are likely to be longer-term. For example, some representatives told us their airports are installing touchless technology—such as elevators with foot controls—and making improvements to their heating, ventilation, and air conditioning systems. In addition, according to representatives from one credit rating agency, airlines are likely to use fewer employees to provide services in the future due to the implementation of contactless technologies such as those at check-in and bag check. Representatives from one repair station operator told us that large repair station operators are likely to diversify their customers and offerings moving forward in an effort to reduce the economic risks they might face due to disruptions in the aviation industry, such as possible future pandemics.

Looking forward, as we noted in our statement, the federal government is exploring the use of digital health passports for use in international travel, but the standards, solutions, and information security issues for such digital health passports or other measures are not yet defined. Representatives from one airport association told us that airports are beginning to consider how they will integrate health passports into their operations, and that a number of airports have been working with airlines on the implementation of these passports. However, it is not yet clear if health passports or other proof of vaccination or COVID–19 testing will be a temporary or longer-term solution. Twenty-seven travel industry associations recently urged the White House COVID–19 Recovery Team Coordinator to partner with them to develop federal guidance for temporary COVID–19 health credentials.

Question 2. What kinds of assistance, outside of financial aid, can Congress and/or the Federal government provide to help in the industry's recovery effort?

ANSWER. Various industry stakeholders have expressed opinions about how the federal government could help the industry recover, such as implementing policies to improve the public's confidence in the safety of air travel. For example, representatives from two airlines we spoke with told us that policies and assistance that increase the public's confidence in the safety of air travel, limit travel restrictions, and boost the economy would all support recovery and increase the demand for travel. Officials from a credit rating agency also told us that any action that increases the public's propensity to fly—including COVID–19 testing programs, alleviating travel restrictions, or better targeting travel restrictions through testing corridors—would be beneficial. As noted in our response above, 27 travel industry associations recently urged the White House COVID–19 Recovery Team Coordinator to partner with them to develop federal guidance for temporary COVID–19 health credentials that cover both testing and vaccinations.

We noted in our hearing statement that airlines, airports, and other aviation businesses responded to reduced demand for air travel by, in part, reducing their labor costs through measures including early retirement and voluntary separation programs, voluntary unpaid leave, freezing non-essential hiring, involuntary furloughs, and layoffs. Representatives from an aviation manufacturer told us that key skill sets could be lost as businesses reduce employment and skilled workers migrate to other industries. Given concerns about the availability of a highly-skilled workforce to support an eventual industry recovery, mechanisms other than financial assistance such as 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.

Question 3. How much interest was there from aviation businesses in the CARES Act loan program, and what has GAO observed with implementation and use of this program?

ANSWER. Treasury received 193 applications from aviation businesses for the loan program—102 from air carriers, 41 from repair stations, and 50 from ticket agents. The demand from aviation businesses, excepting cargo air carriers, exceeded the amount available for loans.

As we reported in December 2020, the Department of the Treasury (Treasury) prioritized evaluating applications from the 10 largest air carriers, and some of these carriers we spoke with felt Treasury's implementation of the program fit their needs.[1] However, outside the largest airlines, we found that other businesses that applied generally found the process to be frustrating, notably the program's long implementation timeline and Treasury's decision to encourage some applicants to apply to the Main Street Lending Program before continuing to pursue a Treasury loan. As we stated in December 2020, Treasury viewed itself as a lender of last resort but did not state this view in published documents. These challenges contributed to relatively fewer loan agreements being closed with these smaller businesses. Treasury executed 24 loan agreements with aviation businesses under the program that totaled $21 billion of the $29 billion available—7 with large passenger air carriers, and 10 with other air carriers, 5 with repair stations, and 2 with ticket agents.

We also found that while Treasury's design and implementation for the loan program were generally consistent with internal control standards, there were lessons that can be applied to future emergency lending programs. These lessons include setting and communicating clear program goals and timelines to better align lender and borrower expectations.

Question 4. In your interviews of aerospace stakeholders, what was the most creative or "outside-the-box" response to the pandemic shared with your team?

ANSWER. During our ongoing work, a few industry stakeholders have shared examples of their ideas and efforts to bring in new revenue or assist suppliers during the period of reduced passenger demand. For example, representatives from some airlines told us they flew cargo on board empty passenger planes to help meet the increased demand for air cargo transportation. One passenger airline also added a network of cargo-only flight options. Representatives from one airport told us they had discussions about using closed long-term parking lots to show drive-in movies. Representatives from two aerospace businesses discussed efforts they made to help companies in their supply chain, while also protecting themselves from possible supply chain disruptions. For example, representatives from one business told us they worked with suppliers to accelerate purchase orders to ensure their business would have sufficient materials on hand to continue production without interruption. The representatives also told us they organized webinars to explain to companies in their supply chain how those companies could apply for federal assistance such as Paycheck Protection Program loans.

Question 5. In your written statement, you indicated that "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." What steps do you believe Congress should consider in order to help small communities maintain air service through and after this crisis?

ANSWER. In the near term, Congress should consider any steps to address service reductions stemming from the pandemic. The impact of the COVID–19 pandemic on the airline industry is likely to lead to further elimination in service to small communities, especially if minimum service obligations expire before the industry fully recovers. Near-term measures to maintain air service could include providing additional funding for Essential Air Service (EAS) and the Small Community Air Service Development Program (SCASDP), or subsidizing greater use of Part 135 unscheduled service, such as air taxis, to companies providing service in small communities without scheduled service; however these measures could require additional appropriations.

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

In the longer term, service declines to small communities have grown over the last two decades despite assistance provided through EAS and SCASDP.[2] DOT reported in 2017 that over 50 communities had lost all scheduled air service since 2007 and another 150 communities were at risk of losing all or nearly all service.[3] Determining the steps needed to address the long-term issues with small community air service may involve a complete reexamination of how small communities are connected to the national transportation system. Subsidizing air service to only a handful of communities has not only grown more expensive, but also less effective. Other solutions, such as nonscheduled air service and bus or shuttle service, should be evaluated for their efficiency and effectiveness.

Question 6. During your survey and interviews of stakeholders, was there any concerns raised with how the U.S. Treasury Department was implementing the COVID relief laws? How was communication with stakeholders? Was there any difference between how smaller and larger businesses were being treated through the application process?

ANSWER. In our reviews of the two programs authorized by COVID relief laws and administered by Treasury—Section 4003 Loan Program and Payroll Support Program (PSP1)—we found concerns with how Treasury implemented the programs. Specifically, stakeholders were concerned about the slow pace of each program's rollout and awarding of assistance, quality of Treasury's guidance, and lack of consistent communication from Treasury. In response to these criticisms, Treasury officials stated that Treasury faced an unprecedented challenge of standing up a new financial assistance program in a condensed time frame. Treasury officials also said that they published email addresses where applicants could direct questions and notified applicants if there was an update on the status of an application.

Treasury officials acknowledged that they prioritized larger businesses, namely the largest passenger airlines, in implementing these programs. Generally, larger businesses' applications were processed faster and they had more direct communication with Treasury staff. Smaller businesses' applications faced longer processing time and did not have the same access to points of contact within Treasury to answer questions or address concerns. We will continue to monitor Treasury's implementation of the Payroll Support Program extension (PSP2).

Question 7. What, if any, actions are airlines and airports taking to prepare for a future pandemic? Have any airlines or airports started implementation of GAO's recommendations for a pandemic preparation plan?

ANSWER. Our prior work has shown that airports and airlines have individual plans to respond to specific emergencies, including disease outbreaks, whereas the federal government lacks an overall plan to coordinate and respond to disease threats. Specifically, as we reported in December 2015, all of the 14 airports and three airlines we reviewed had plans for responding to communicable disease threats from abroad. However, the United States lacked a comprehensive national aviation-preparedness plan aimed at preventing and containing the spread of diseases through air travel.[4] We concluded that the absence of a national plan undermined the ability of the public health and aviation sectors to coordinate on a response or to provide guidance to airlines and airports and recommended that the Department of Transportation (DOT) work with relevant stakeholders, such as the Department of Health and Human Services (HHS) and the Department of Homeland Security (DHS), to develop a national aviation-preparedness plan for communicable disease outbreaks.

While the DOT agreed that a plan is needed, as of March 2021, no such plan had been developed. Since our report, DOT has maintained that because HHS and DHS are responsible for communicable disease response and preparedness planning, respectively, these departments should lead any efforts to address planning for communicable disease outbreaks, including for transportation. GAO maintains that DOT is in the best position to lead a multiagency effort to develop a national aviation-preparedness plan and that such a plan is critically needed. In absence of progress to develop a national aviation preparedness plan, we urge Congress to take

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[2] The Consolidated Appropriations Act, 2021 appropriated approximately $165 million for EAS and $10 million for SCASDP to remain available until expended.

[3] Department of Transportation, *Report of the Working Group on Improving Air Service to Small Communities* (Washington, D.C.: May 9, 2017). According to the report, smaller communities lost over 31 percent of scheduled departures, 17 percent of seats, and 13.4 percent of total connectivity from 2007–2016.

[4] GAO, *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).

legislative action to require the Secretary of Transportation to work with relevant agencies and stakeholders to develop such a plan.[5]

QUESTIONS FROM HON. MIKE GALLAGHER TO HEATHER KRAUSE, DIRECTOR, PHYSICAL INFRASTRUCTURE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Question 8. Is GAO concerned about the speed at which Treasury is processing Payroll Support for air carriers? Per the Treasury's website, as of 2/25 there are 320 applications and they have only processed and reached agreement with not even half of them. In January alone, they only processed 12—all of which were larger carriers who were set to receive some of the largest awards. These delays have really put a lot of pressure on small carriers like AirWisconsin which is headquartered in my district. Even Captain DePete admits in his testimony that three ALPA carriers have shut down as a result of the pandemic. All three of those carriers were smaller regional type carriers. These type of carriers can't afford unnecessary delays in processing the Payroll Support. https://home.treasury.gov/policy-issues/cares/preserving-jobs-for-american-industry/payroll-support-program-extension-payments

ANSWER. Industry associations representing smaller businesses that applied to PSP have raised concerns about the speed with which Treasury reviewed applications and awarded funds through PSP1 and more recently, the Payroll Support Program extension (PSP2). We have also noted these concerns in our prior work on PSP1. For example, in September 2020 we reported on some actions industry associations said their members took while their PSP applications were under review.[6] These actions included that some members furloughed and laid off employees, and in one case, filed for bankruptcy after applying for PSP funds. We will continue to monitor concerns related to Treasury's implementation of PSP2.

Question 9. Does the GAO think that the PSP2 funds are on track to be fully distributed by then? Now that will likely be extended as a result of the most recent relief package (assuming it passes the Senate and is signed into law), but Treasury doesn't get all of PSP2 out until sometime in April, then that will likely cause further delays with PSP3.

ANSWER. As noted above, stakeholders have raised concerns about the speed with which Treasury reviewed applications and awarded funds for PSP1 and PSP2. For PSP1, Treasury started to award funds in late April 2020 but did not finish awarding funds until mid-October 2020. Treasury officials said they must balance the need to award funds quickly with the need to ensure all statutory requirements are met. We will continue to monitor the pace of awards and any concerns related to Treasury's implementation of PSP2, and we will provide an update on PSP2 implementation in our late March report on the federal response to the COVID–19 pandemic.

QUESTIONS FROM HON. STEVE COHEN TO NICHOLAS E. CALIO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AIRLINES FOR AMERICA

Question 1. Will A4A members issue refunds to consumers who had to cancel travel due to the COVID–19 emergency?

ANSWER. Since the onset of the COVID–19 pandemic, airlines have worked with customers regarding their individual travel needs and have done so in strict accordance with all federal laws and regulations.

Specifically, on the issuance of refunds, according to Department of Transportation (DOT) data, eleven U.S. passenger airlines issued $12.84 billion in cash refunds in 2020, which constituted a 72 percent increase from $7.46 billion in 2019 and amounted to nearly 20 percent of airline revenues.

While individual policies vary from carrier-to-carrier, A4A member carriers are committed to working with every customer to address his/her circumstances.

Question 2. For nearly a year, the airlines have been holding on to Americans' money—if they aren't able to travel again and/or need that money for other purposes, why should airlines be holding on to those funds?

ANSWER. U.S. airlines are routinely issuing refunds in accordance with all federal laws and regulations and, as the DOT data shows, eleven U.S. passenger airlines issued $12.84 billion in cash refunds last year alone. These refunds are also on top of billions of dollars of travel credits issued to customer's e-wallets.

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

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

Question 3. Some travelers are seeing vouchers nearing their expiration dates—will A4A members commit to ensuring that no vouchers expire for as long as the pandemic emergency is ongoing?

ANSWER. Individual air carrier business decisions are subject to strict antitrust laws and as a trade association we have no insight into those type of specific business decisions. However, based on publicly issued statements and airline website reviews, while policies and details vary carrier-to-carrier, all A4A passenger carrier members have issued voucher redemption extensions allowing flexibility well into the future.

Airlines will continue to evaluate their respective policies and work with each and every customer to address their travel needs. Airlines continue to strive to make all aspects of the travel experience positive for their customers, including voucher utilization.

QUESTIONS FROM HON. GARRET GRAVES TO NICHOLAS E. CALIO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AIRLINES FOR AMERICA

Question 1. What role do you see these sustainable aviation fuels playing in the industry's recovery and future?

ANSWER. Prior to the pandemic, even as we transported a record 2.5 million passengers and 58,000 tons of cargo per day, U.S. airlines contributed just 2 percent of the nation's greenhouse gas (GHG) emissions. As the U.S. airlines recover from the devastating COVID–19 crisis and help restore travel across the U.S. and around the world, we know our customers and our country want that recovery to be an environmentally responsible one—and so do we.

Sustainable aviation fuel (SAF) can play a key role in our efforts. To date, our members' keen focus on fuel efficiency has accounted for the vast majority of the industry's emissions savings. Indeed, they have dramatically improved fuel efficiency and reduced GHG emissions by investing billions in fuel-saving aircraft and engines, innovative technologies like winglets (which improve aerodynamics) and cutting-edge route-optimization software. As a result, U.S. airlines have improved their fuel efficiency over 135 percent since 1978, saving over 5 billion metric tons of carbon dioxide (CO2), which is equivalent to taking more than 27 million cars off the road on average in each of those years.

But recognizing that improving fuel efficiency with today's petroleum-based energy supply can only take us so far, A4A and our members have been helping lead the effort to develop and deploy SAF, which could be a game-changer in terms of aviation's output of GHG emissions while supporting U.S. jobs and enhancing U.S. energy independence and security.

Through initiatives such as the Commercial Aviation Alternative Fuels Initiative (CAAFI®), a public-private partnership we co-founded (in 2006) and co-lead with the Federal Aviation Administration (FAA) and other stakeholders, we have established rigorous processes to ensure that SAF is safe and environmentally beneficial. Although we have made significant progress in advancing the SAF industry, substantial challenges remain in scaling up cost-effective supply. At present, SAF is available in the U.S. (and globally) in extremely limited quantities. The U.S. Environmental Protection Agency (EPA) reports (under the Renewable Fuel Standard program) that 2,428,369 gallons of neat (100%) SAF were produced in the U.S. in 2019, which compares to the 21.516 billion gallons of conventional jet fuel used by U.S. airlines in 2019—thus indicating that SAF comprised just over 0.01% of the nation's total jet fuel supply that year. On top of this, the SAF that is available is 3–5 times more expensive than conventional jet fuel.

The aviation industry and would-be SAF suppliers are on the cusp of creating a viable SAF industry, but government support is needed in the near term to provide financial bridging and other tools necessary to help us get over the cusp. It is critical that Congress and the Administration continue to provide positive support for alternative fuels programs and for public-private initiatives with SAF projects such as CAAFI, FAA's Continuous Lower Energy, Emissions & Noise (CLEEN) program, and the FAA-led Center of Excellence for Alternative Jet Fuels and the Environment. Moreover, after years of providing tax incentives and other support to ground-based alternative fuels (in some cases reaching back into the 1970s), Congress should establish SAF-specific tax incentives and SAF-specific loan guarantee and grant programs to support our efforts. By working together and across the fuel supply chain, Congress can support our efforts to further address GHG emissions, while allowing commercial aviation to continue to serve as a key contributor to the U.S., global, regional, and local economies as we work to recover from the devastating impacts of the COVID–19 crisis.

Question 2. Are you finding that most passengers are cooperating with your airlines' COVID policies?

ANSWER. Yes, last spring, major U.S. airlines voluntarily implemented face covering requirements for passengers and employees as a critical element of the multiple layers of protection that A4A carriers have employed to mitigate risk of transmission and protect travelers and crew. Carriers have been vigorously enforcing those policies. Any passenger who does not comply can be prohibited from flying that airline for the duration of the pandemic. Thousands of passengers have been barred to date. Fortunately, an overwhelming majority of passengers comply with the requirements.

However, to address the small population of passengers who simply do not want to comply, we supported a temporary facial covering mandate on interstate modes of travel. The temporary federal mandate has strengthened our flight crews' ability to enforce requirements with the goal of achieving universal compliance. We appreciate the government and industry collaboration on these issues.

Question 3. In your written testimony you state, "PSP [Payroll Support Program] could be used as an example of a government program that works." Can you explain why you believe the bipartisan Payroll Support Program has been so successful?

ANSWER. PSP is an example of a government program that works because it has effectively met the goals and intended purpose of the program—to preserve aviation jobs. The PSP is, as the CARES Act and subsequent extensions clearly state, financial assistance provided to eligible air carriers that is "exclusively for the continuation of payment of employee wages, salaries, and benefits" for employees defined as individuals at those carriers that are not corporate officers. More simply, airlines serve as a pass through of PSP funds to airline workers.

The program also has the downstream benefit of helping federal/state/local income tax revenues, along with Social Security and Medicare tax contributions. The program also helps avoid billions of dollars' worth of unemployment claims at both the state and federal level. Finally, the PSP also supports multiple billions of economic spending in the U.S. economy—as every dollar spent of airline wages generates additional spending as the recipients spend that income in their local economy.

Question 4. In your written statement you wrote, "With the reality of a pandemic now painfully apparent, boardrooms, workers and investors will all expect even stronger airline balance sheets than before, allowing these companies to tap capital markets fully and swiftly in the future—without depending on federal assistance—while avoiding extreme distress and painful cuts for employees." In what way will this new reality change what "recovery" looks like for major airlines?

ANSWER. While the passage of time will provide much more clarity, we believe the new reality will manifest itself in many ways, including:

- *100 Year Flood Events*. Airlines will rethink how they manage balance sheets broadly, and cash specifically, to withstand a future crisis of the unprecedented magnitude of COVID–19. Before 9/11, the rule of thumb was to keep 10–15% of trailing 12-month revenues in the form of cash. Post-9/11, that rose to 20–25%. It has yet to be determined what the right metric is, let alone the right amount, but it is certainly something that will be seriously evaluated.
- *Credit Ratings*. Creditworthiness will likely be more important than ever, as carriers who enjoy better ratings are generally able to borrow larger sums of money at lower interest rates. Liquidity will be examined in close conjunction with creditworthiness. Having too much liquidity on the balance sheet is an inefficient way to run a business but having too little can put companies at undue risk of bankruptcy. Coming up with the right balance will be an important consideration moving forward as the major rating agencies assess financial health.
- *Sustained Profitability*. One important and simple solution to recovery entails giving airlines the freedom to right their own ships—to allow them to achieve sustained profitability, with meaningful margins—over an entire business cycle—rather than consistently trailing the U.S. average. Allowing the marketplace to work will be essential to mitigate future risk.

Question 5. What do you mean by the phrase "do no harm" in the context of COVID pandemic recovery?

ANSWER. While the PSP program has been a tremendous success for our employees and their livelihoods, during the CARES Act and subsequent PSP extensions, many proposals were put forth on extraneous issues that were punitive and legislatively opportunistic attempts to rehash broad policy questions or re-regulate our industry at its most vulnerable time in history.

With vaccinations increasing and the travel sector showing modest progress toward a recovery period, it is important policy makers understand that even if pas-

senger traffic rebounds in the near term, it will take air carriers years, not months, to pay off the massive amount of debt they have accumulated over the course of the pandemic. We are on a long road to recovery.

'Do No Harm' means we respectfully request that policymakers refrain from adopting punitive policies such as tax or fee increases or onerous rules and regulations that will otherwise cause harm to our debilitated industry. Doing so will only hamstring our ability to recover and undermine the basic underpinnings and purpose of the relief provided to our labor workforce. This crisis was not caused or brought on by the airlines and should not be used for convenient legislative opportunism to reregulate or refashion what was a highly competitive and burgeoning well-paid job creator prior to the pandemic.

Question 6. Do your member carriers remain concerned about a shortage of professionally trained aerospace workers? If so, how can the Government and industry work together to ensure we do not lose sight of this issue during COVID and COVID recovery?

ANSWER. The industry is still concerned about workforce challenges and continues to work with coalition partners to find solutions to address workforce issues and expand diversity. Prior to the pandemic, the industry had embraced an outlook done by Boeing, showing a demand for 739,000 new maintenance technicians, 763,000 new civil aviation pilots over the course of the next 20 years, amongst others. While COVID–19 may impact those calculations, provided traffic comes back to pre-pandemic levels there will be undiminished concern.

Government and industry continue to work together through apprenticeships, scholarships and recruiting. Much of this work is done at the secondary education level. We believe expanding education opportunities and exposure to aviation professional careers at the K–8 level will help close the gap. Industry, along with Federal, State and local governments should be encouraged to provide opportunities such as shop classes, where kids can learn at an early age that they can work with their hands and enjoy it.

Continued work at the secondary level is also necessary, expanding unsubsidized federal student loan aid to cover costs associated with flight education and training programs at accredited institutions of higher education would be a good start to providing the broader educational opportunity needed to meet sector specific challenges.

QUESTIONS FROM HON. GARRET GRAVES TO CAPTAIN JOSEPH G. DEPETE, PRESIDENT, AIR LINE PILOTS ASSOCIATION, INTERNATIONAL

Question 1. Several media articles have identified that at least a dozen pilot flying errors and mishaps since May 2020, have at least been in part attributed to pilots being out of practice due to the pandemic. Aviation experts and representatives have acknowledged that when pilots are inactive for several months, their skills and proficiency deteriorate. How accessible is recurrent training to pilots should they not feel confident in their skills/feel they have gotten "rusty"? How accessible is this training to returning pilots?

ANSWER. ALPA safety representatives along with FAA and airline safety representatives have been monitoring safety reports submitted at each airline as well as nationwide "aggregate" reports available through CAST and ASIAS. We have been monitoring for adverse trends since the start of the pandemic and are confident that the U.S. airline aviation system remains safe. During the start of the pandemic airlines have increased access to and use of simulators for pilots to maintain landing currency as well as maintaining proficiency in flight procedures and flying skills. There are functions, operations and controls across the system to ensure a high level of safety to which pilots are critically and intrinsically linked. The most notable safety feature on any aircraft is the presence of at least 2 highly trained, skilled, and well rested pilots on the flight deck.

Question 2. How has the pandemic affected the pilot shortage issue? How is this issue to be addressed in the recovery?

ANSWER. Since the start of this pandemic and the resulting loss in demand for passenger travel, ALPA has had 3 airlines cease operations, causing thousands of pilot furloughs. These furloughed pilots add to the number of excess pilots who were already available for airline employment. Looking ahead, we reiterate that no one is more invested in a strong, well prepared pilot pipeline than the Air Line Pilots Association. To that end, we are committed to breaking down barriers and ensuring the piloting profession represents the diversity of America.

Question 3. In your written testimony you state that "industry is on firmer footing," This is welcomed news from such a major labor group. To what do you attribute the "firmer footing?"

ANSWER. Because of the recent stimulus packages—the American Rescue Plan and the CARES Act PSP extensions—we are seeing a better-than-expected economic outlook. Coupled with the high level of efficacy of the vaccines and the accelerating rate of vaccinations around the world, we are seeing an uptick in personal travel as well as small improvements in the level of business travel. As a result, many carriers are projecting to be cash burn neutral by this Summer.

Question 4. How has ALPA worked with aircraft manufacturers throughout the pandemic?

ANSWER. The cleaning and disinfecting procedures and standards developed has been a very collaborative process not only between ALPA and the manufacturers but also airlines and government.

Question 5. You stated that the U.S. government needs to intercede on behalf of airline pilots who are transporting critical health supplies and vaccines to help the world recover. How can the U.S. government be most helpful?

ANSWER. Airline pilots are frontline workers in transporting PPE materials, medical professionals, and the vaccine itself. Unfortunately, airline pilots are not considered frontline workers as far as vaccine priority in every state, despite our work in every state and across the world. Congress should reiterate pilots' critical role in helping recover from the pandemic to encourage priority vaccine access as frontline employees.

QUESTIONS FROM HON. GARRET GRAVES TO PETER J. BUNCE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, GENERAL AVIATION MANUFACTURERS ASSOCIATION

Question 1. What kinds of long-term adjustments is the industry implementing to adapt to the new reality of a post-COVID world?

ANSWER. In light of the pandemic, our companies took significant action to protect their workforce. Additionally, our companies are taking the initiative and developing technologies which will have a long-term impact on the aviation industry. These include:

- Developing touchless technologies at airports to help screen travelers quickly and safely.
- Modifying aircraft to carry vaccines in extremely cold storage;
- Implementing ways to sanitize and clean without impacting the airworthiness of the aircraft. This includes using machines to mist disinfectants that kill viruses but do not harm finishes and avionics throughout the aircraft fuselage;
- Research into new disinfection methods for the cabin—looking at thermal and other non-abrasive chemicals that do not erode or destroy fixtures;
- Implementing clean air ionization systems that provide clean air while continually sanitizing aircraft surfaces throughout the flight; and
- Looking at more touchless and anti-microbial surfaces, which are in bathrooms today, and looking at other high-touch areas as well.

Question 2. In your written testimony, you state that "[s]upply chain issues appeared at the outset of the pandemic and they have continued to persist, particularly with critical parts and equipment." Can you describe in greater detail what the issues are and why the pandemic had such an impact from your perspective?

ANSWER. Nearly 70% of the respondents to a recent GAMA survey reported they are experiencing supply-chain issues, which is causing a slowdown in production and deliveries. While supply chain issues appeared at the outset of the pandemic they have continued to persist, particularly with critical parts and equipment. The aviation supply chain, which is vast in nature, is important given aircraft often involve numerous parts, platforms, and systems. If a supplier needs to be replaced, it could be a lengthy process given FAA certification of the new supplier's product may be required. GAMA companies have worked extensively with suppliers to provide information about programs like the payroll protection program as well as providing procurement and/or other business advice.

Question 3. In your statement you discuss the FAA's use of remote technologies for inspections, test, and oversight. Can you describe what these remote technologies are and how they benefitted industry and the FAA?

ANSWER. The FAA has been working with industry for several years to develop policy and guidance material that builds on past successes and facilitates the continued safe use of remote and virtual technologies in the performance of certain tests, witnessing, and inspections. It is important to recognize that the use of remote tech-

nology in the performance of tests or inspections has been used for decades (e.g., engine borescopes, engine test facilities, flammability tests, etc.) and we continue to expand the scope of activities as technological advancements offer continued opportunities.

The most common application of virtual inspections utilizes a combination of video/audio equipment accompanied by any necessary sensors (temperature, pressure, etc.) to transmit data to a remote device which is most often viewed on a computer. With the advent of higher internet speed and access, high resolution portable equipment, availability of online digitized data, and higher data retention and distribution parameters, certain tests or inspections can be conducted, recorded, and transmitted remotely thereby reducing the overall resource and financial burdens of in person tests. FAA development of guidance documents to facilitate broader use of remote technologies was underway prior to the COVID–19 pandemic, but it was quickly issued as part of FAA's mitigation plan and shown to be extremely effective in performing safety oversight activities and efficiencies necessary to maintain operations and economic activity during a time of significant travel restrictions. The use of remote technologies has also been extremely important between FAA and bilateral partners such as EASA to support continued validation activities necessary to maintain U.S. manufacturing and export of aviation products through the pandemic. FAA policy and guidance documents for the use of remote technologies are in place on a permanent basis and will continue to support effective safety oversight and efficiency improvements where appropriate.

Question 4. While not this Committee's jurisdiction, it is important that Members understand the issue, therefore, can you explain what the National Interest Exception (NIE) waiver is, why it is important for the aerospace industry, what issues have arisen during the COVID pandemic, and how Congress can help?

ANSWER. A number of countries have enacted border restrictions as part of health measures implemented in response to the COVID–19 pandemic, including Canada, various European Union member states, and the United States.

The U.S. approach to controlling borders for certain persons is enacted under the authority of the Immigration and Naturalization Act as it relates to restricting certain non-U.S. persons entry (so called "212(f) authority"). In spring 2020, several Presidential Proclamations were issued that restricted travel to the U.S. by persons ("non-citizens") who were physically present during the 14-day period preceding their entry into the United States. Specifically, Presidential Proclamations 9984, 9992, 9993, and 9996 provided restrictions for non-U.S. persons travelling from the European Union (Schengen area), the Republic of Ireland and United Kingdom, and Brazil. The Proclamations provided certain exceptions including for air crew and when in the national interest of the United States.

GAMA, in coordination with several member companies, worked to advance a framework for travel to the United States to support aircraft exports, maintenance, and training of aviation personnel during spring and summer 2020. The activities involved engagements with the Department of State (DOS) and the Department of Homeland Security (Customs and Border Protection) which were identified as the lead agencies for the implementation of the restrictions as well as other agencies.

The DOS and CBP guidance helped establish several considerations for travel to the United States including that the "air crew" exception may only be used by pilots entering into the U.S. while operating the aircraft or on a "dead head" flight where they would operate the aircraft out of the U.S. following arrival.

Since a number of GAMA member activities involve aviation personnel traveling to the U.S. where the "air crew" criteria are not necessarily met, attention shifted to the national interest exception (NIE) waiver pathway in the Proclamations and entered into the U.S. under a B1/B2 visa. The NIE waiver guidance was issued by different U.S. Embassies on their respective websites starting in July 2020 through October 2020, and addressed travel by persons from most of Schengen, the Republic of Ireland, and the United Kingdom. Waivers, however, have not been available for Brazil—except for humanitarian travel which to date has only covered two pilots involved with taking delivery of an aeromedical equipped aircraft and A-visas (e.g., personnel from ANAC). (Additional guidance has also been issued by some U.S. Embassies for certain student visas, including F- and M-categories.)

On January 18, 2021 the country restrictions were terminated. On January 25, however, a new framework of country restrictions was introduced by the White House in a Proclamation on the Suspension of Entry as Immigrants and Non-Immigrants of Certain Additional Persons Who Pose a Risk of Transmitting Coronavirus Disease. The new Proclamation is mostly similar to earlier restrictions but groups the Federal Republic of Brazil with jurisdictions for which NIEs have been provided since May 2020 and also adds South Africa. The implementation of the new Procla-

mation is under the authority of the Secretary of State, Secretary of Homeland Security, Secretary of Health and Human Services (HHS by way of Centers for Disease Control), and the Depart of Transportation and is specifically subject to a monthly review for its continuation, modification, or termination.

GAMA has engaged with agencies involved with the interagency working group responsible for the implementation of the new Proclamations since late January, including through the FAA team that is part of the group. Providing a pathway for foreign nationals travel to the United States is important to the economy, but more importantly to the safety of U.S. state of design aircraft that are operated by foreign nationals that must be subject to training often only available in U.S. domestic locations.

Question 5. In your written statement you expressed support for both advanced air mobility and sustainable aviation fuels. How do you see these new technologies changing air transportation and its impact on the environment?

ANSWER. Advanced Air Mobility (AAM) represents a new and innovative frontier of aviation. The aircraft under development for AAM use electric propulsion, which will reduce emissions and dependence on fossil fuels. These aircraft, such as electric vertical take-off and landing (eVTOL) aircraft, are designed to be safer and quieter than traditional airplanes and helicopters and will be able to transport passengers or cargo at low/medium altitudes in urban, suburban, rural, and regional environments. AAM has the potential to facilitate new transportation options, create jobs and economic activity, advance environmental sustainability and new technologies, and support emergency preparedness and competitiveness. We want to thank you again for your leadership in this area by sponsoring legislation to ensure the federal government is effectively engaged and coordinated internally with industry and other stakeholders to recognize the broad benefits of this developing and transformative aviation sector. We are also glad to see that a companion bill has been introduced in the Senate by Sen. Moran and Sen. Sinema.

Sustainable Aviation Fuel (SAF) will have a significant impact on the environment if it can be produced in quantities large enough to meet the increasing demand. As you know, the Business Aviation industry since 2009 has committed to a long-term goal of reducing by 50% our CO2 emissions in 2050 relative to 2005. We expect to make strides toward meeting this goal on multiple fronts, such as newer aircraft and aircraft engine technologies, operational and infrastructure improvements, and some market-based measures. However, the single greatest factor that has the potential to reducing our CO2 emissions today is through SAF. SAF is a drop-in fuel that is safe to use and currently available. While newer technologies such as electrification and hydrogen show promise in reducing CO2 emissions, there is still significant work to be done before they are brought to market in mass quantities. Therefore, SAF plays a key role today in our sustainability push and will continue to play a key role for many years. However, SAF production cannot keep up with demand and we hope that Congress can help spur the private sector investment needed through incentives such as an aviation specific SAF Blender's Tax Credit and other efforts.

QUESTION FROM HON. SAM GRAVES TO PETER J. BUNCE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, GENERAL AVIATION MANUFACTURERS ASSOCIATION

Question 6. EU–US Bilateral Safety Agreement: Mr. Bunce, in your written statement you indicate that going forward international safety agreements will be essential to promote and improve safety and address "potential hazards in the exchange of aviation products, parts, repairs, maintenance, and pilot training." I couldn't agree more. Recently, after seeing remarks by the Director-General of the European Union Aviation Safety Agency (EASA) announcing a drastic change in how EASA will review all U.S. manufactured aircraft and products, Ranking Member Garret Graves and I sent a letter to Secretary Buttigieg urging him to seek an immediate clarification of EASA's plans, to ensure that EASA's plans do not violate the US–EU bilateral safety agreement, and to unequivocally and publicly express support of and confidence in the FAA's certification process and professionals. To date we have not received a response. Can you share with us why international safety agreements are so important?

ANSWER. Thank you for asking this very important question. As we move forward, international regulatory cooperation will be even more important in raising the level of aviation safety and effectively addressing ever evolving technologies and appropriately dealing with unexpected challenges like the pandemic. The U.S.-European Union (EU) bilateral and other arrangements are global cornerstones of international aviation safety cooperation and focus on promoting and improving safety by addressing potential hazards in the exchange of aviation products, parts, repairs,

maintenance, and pilot training. We must ensure that these agreements continue to work effectively. There is significant coordination in establishing confidence in respective safety certification and oversight processes and acceptance based on experience and safety performance. Bilateral implementation procedures focus safety authority resources and involvement in safety areas based on risk criteria, regulatory differences and new technologies.

Our members are experiencing increasing European Union Aviation Safety Agency (EASA) involvement in validations to re-review or recertify the FAA's work, particularly in areas focused on system safety assessment and human factors. The FAA is also increasing involvement on EASA and other bilateral partner validations in these same areas. These actions comply with procedures under the US–EU bilateral for risk-based involvement in safety critical and new/novel design or technologies. However, regulators must ensure that such involvement focuses only in these areas to the extent necessary to resolve the risk-based technical issues and build confidence in their respective safety systems in accordance with the bilateral agreement. It is essential that this involvement does not migrate to all validation activities, which would squander safety resources and add unnecessary costs and delays to the process. Any delay in the validation and acceptance of new aviation products is a delay in introducing the latest designs, capabilities and technologies which most often bring safety enhancements, particularly across the broad scope of general aviation products in commercial and private operations for business, passenger, cargo, flight training, personal and recreational transportation.

Despite some public rhetoric, at the working certification directorate level, we believe there is a good relationship and strong commitment between the FAA and EASA for continued cooperation and collaboration under the EU–US bilateral. GAMA and our member companies will continue to work with FAA, EASA and regulators globally to facilitate safety cooperation for the safe and effective certification of aviation products. We look forward to working with you on this critical matter.

QUESTIONS FROM HON. GARRET GRAVES TO LANCE LYTTLE, MANAGING DIRECTOR, SEATTLE-TACOMA INTERNATIONAL AIRPORT, ON BEHALF OF THE AMERICAN ASSOCIATION OF AIRPORT EXECUTIVES

Question 1. What public health guidelines are the airports following to keep passengers safe and healthy?

ANSWER. Since the beginning of the pandemic, airports have made significant investments in public health enhancements to protect workers and passengers at their facilities, and to restore confidence in air travel. These investments follow guidelines issued by the Centers for Disease Control and Prevention (CDC) on cleaning, disinfecting, and ventilation; on ways to mitigate the virus in the workplace; and that specifically address workforce protections for airport personnel. In addition to CDC guidance, airports have been abiding by guidelines issued from the Environmental Protection Agency, the Occupational Safety and Health Administration, and the Transportation Security Administration, as well as any public health guidelines issued by their states or localities.

At SEA, we implemented a wide range of new FlyHealthy initiatives based on current public health guidelines and are committed to retaining these enhanced health protocols in the future. Specifically, we have:

- Increased cleaning and sanitization efforts, with frequent disinfection with medical-grade cleaning products;
- Secured accreditations for our cleaning practices, which includes frequent training of our personnel on these methods;
- Required passengers, visitors, and workers to wear face coverings in the public areas of our facility well before the federal mask mandate went into effect;
- Added over 280 hand sanitizer stations throughout the terminal;
- Invested in a wide variety of innovative technologies for seamless, contact-free travel;
- Installed nearly 650 plastic protective barriers that buffer interactions between travelers and airport employees;
- Displayed 8,000 signs and stickers to remind passengers of physical distancing; and
- Opened an on-site COVID–19 testing location for non-symptomatic travel testing needs.

Question 2. In your written statement you indicate that airports "have seen signs of gradual improvement over the last six months." What improvements have you seen?

ANSWER. Although far below 2019 levels, enplanements have continued to improve in recent months, generating more revenue for airports. We have a long way to go

before we get back to pre-pandemic levels. But rising vaccination rates and declining coronavirus cases are prompting more people to travel. The Transportation Security Administration screened more than one million passengers for several consecutive days in March and reached almost than 1.4 million on March 12—the highest level since March 15, 2020. At SEA, we ended 2020 down 61% compared to 2019, but will be "only" down 30–40% in 2021 compared to 2019; while this is progress, we do not expect to return to 2019 levels for at least three to five years.

Congress also helped by passing coronavirus relief packages including the American Rescue Plan, which included an additional $8 billion for airports. Due, in part, to increasing vaccination rates and additional federal funding for airports, Moody's recently upgraded its financial outlook for airports from negative to stable. Although new variants could help contribute to another spike in coronavirus cases, the Moody's report is another sign that the outlook for airports is improving.

Question 3. You stated that "overall airline costs will be lower in 2021 than in 2020." What actions have airports taken to achieve this reduction?

ANSWER. Airports around the country have taken numerous steps to help the airlines and concessionaires during the pandemic. As I mentioned in my testimony, the Seattle-Tacoma International Airport has tried to assist our airline partners by accelerating cost-sharing payments and by lowering landing fees. For those reasons, we expect airline costs will be lower in 2021 than in 2020. We have also helped concessionaires by deferring rents and fees and by adjusting leases.

Many other airports have taken similar actions to help airlines and concessionaires during these difficult times. When the pandemic began a year ago, Dallas Fort Worth International, Hartsfield-Jackson Atlanta International, Orlando International, and other airports announced their decisions to reduce or defer landing fees to help their airline partners. We're all part of the same aviation ecosystem, and airports are eager for airlines, concessionaires and their other partners to get through the current crisis so we can we work together on the recovery ahead.

Question 4. Please describe the results of the Harvard Aviation Public Health Initiative's report on the risk of COVID transmission in airports.

ANSWER. On February 11, 2021, Harvard's Aviation Public Health Initiative (APHI) issued a comprehensive report on the risk of coronavirus transmission in airports, after completing a "curb-to-curb" study on airport operations. To understand the airport environment during COVID, Harvard developed a questionnaire that focused on "airport operations in a public health emergency; screening of passengers, visitors, and employees; cleaning and disinfection; ventilation; physical distancing from pre-departure to arrivals; innovations, and behavioral issues." A total of 25 airports, 23 within the United States (U.S.) and two internationally, responded to the questionnaire and a subset of these airports were interviewed. The sample of U.S. airports reflected different areas of the country, airport sizes, and international and domestic facilities. Seattle-Tacoma International Airport was one of the airports reviewed.

Overall, Harvard found that the probability of being infected in an airport was very low. According to APHI, airports made "consistent and impressive commitments to reduce the risks of disease transmission in their facilities" between passengers, employees, concessionaires, contractors, and visitors through layered, interlinked, risk-mitigation strategies that, when used together, can effectively control the risk of exposure. The report highlighted enhanced cleaning and frequent disinfection regimens; upgrades to ventilation delivery and air handling systems (including increasing filtration efficiency); adoption of various means to encourage physical distancing (e.g., floor decals, barriers, signage, communication); the promotion of compliance with wearing masks or face coverings; and the use of technology to support contactless procedures in certain circumstances.

The Harvard report made clear that there is no one-size-fits-all approach that works in all instances, given the nature of the virus and the complexity and diversity of airports across the country. It concluded that protective efforts must remain in place as air travel volumes increase and even as more and more people get vaccinated to reduce the transmission of this disease. SEA and other airports across the United States are committed to continuing these protective mitigation efforts to ensure passengers and workers are safe as possible.

APHI also found that while information developed for addressing the pandemic was helpful to airports, the absence of federal guidance early in the crisis and variable state and local practices in the U.S., meant that each airport has largely been responsible for determining its approach to COVID–19 response protocols and the evolving science. Among the airports surveyed and interviewed, most commented on a desire to see greater consistency across the industry through federal requirements, noting this would help passengers know what is expected of them, improve pas-

senger confidence and compliance, and enable targeted financial investments in support of faster industry-wide recovery.

This report was the second by Harvard to assess the risk of transmission in air travel. The first report was issued in October 2020 and focused on the risks on aircraft. APHI acknowledged that the airport environment is much more complex, as compared to aircraft, when studying transmission risks and mitigation efforts.

Question 5. Have any airports sought out new sources of revenue?

ANSWER. Airports are always considering new ways to generate non-aeronautical revenue, but those opportunities have been significantly limited during the pandemic. Traditionally, airports rely on aeronautical revenue, non-aeronautical revenue, Passenger Facility Charges and federal funding. Unfortunately, revenue from the first three sources declined dramatically in 2020. As I mentioned in my testimony, ACI–NA estimates that airports are projected to experience at least $40 billion in lost revenue and increased costs from March 2020 through March 2022. That is why airports are so grateful that Congress stepped in and provided an influx of federal funds to help offset some of those unprecedented financial losses.

Question 6. In your written testimony you "urge Congress to do more to ensure that the thousands of nonprimary commercial service and GA airports . . . have the resources they need to respond to the pandemic." How can Congress help these airports in particular?

ANSWER. Airports are grateful that Congress approved three coronavirus relief packages in the past year that included funding to help airports during the pandemic. The final version of the American Rescue Plan, which the House approved on March 10, included an additional $100 million for nonprimary commercial service and general aviation airports. It also included language to eliminate the local match requirement for Airport Improvement Program (AIP) grants in Fiscal Year 2021. Both provisions will help nonprimary commercial service and GA airports in the months ahead. But that is not nearly enough to cover the needs of 3,000 airports around the country and especially those traditionally busy general aviation airports with significant annual operations.

Aside from providing another round of coronavirus relief funding, Congress could take steps to help GA and commercial service airports in the upcoming infrastructure bill and the annual appropriations process. H.R. 2, which the House passed last year, proposed to increase the AIP authorization level from $3.35 billion to $4 billion annually. It also proposed to provide up to $4 billion annually in additional funds for airports with broader flexibility. Including both provisions in an infrastructure bill this year would help airports of all sizes prepare for increasing operations, rising passenger levels, and the recovery ahead.

Finally, Congress could help nonprimary commercial service and GA airports that participate in the FAA Contract Tower Program by: 1) increasing funding for the program in the Fiscal Year 2022 DOT appropriations bill; 2) including funding in the infrastructure bill to help contract tower airports repair or replace aging towers; and 3) passing H.R. 1283, the CONTRACT Act, a bipartisan bill that would address staffing challenges at contract tower airports. We deeply appreciate your longstanding support for the FAA Contract Tower Program and thank you for cosponsoring the CONTRACT Act again in the 117th Congress.

QUESTIONS FROM HON. GARRET GRAVES TO EDWARD M. BOLEN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL BUSINESS AVIATION ASSOCIATION

Question 1. What kinds of long-term adjustments is the industry implementing to adapt to the new reality of a post-COVID world?

ANSWER. While the COVID–19 pandemic continues to create unprecedented challenges for business aviation, our industry is resilient and adapting to the new normal. For example, NBAA has developed best practices for aircraft cleaning and disinfection, which the industry has embraced to provide passengers greater confidence when traveling. We also developed relationships with the CDC and other health-related agencies to provide the latest guidance on vaccines to pilots who must ensure they meet stringent FAA medical requirements.

Air charter operators are also rapidly adapting to changes in commercial airline schedules that have reduced service to many small and mid-sized communities. Aircraft have been redeployed to serve new markets, and operators are working to educate potential customers about the benefits of business aviation. As additional customers are exposed to the benefits of business aviation, NBAA is working to provide educational opportunities designed for these new entrants.

Finally, with the remarkable development of effective COVID–19 vaccines we have a potential path forward for business aviation, even as we continue to deal

with day-to-day pandemic-related challenges. With that in mind, we are looking to the future with a focus on advanced technology, sustainability, and diversity. This positive future will bring our country closer together and generate high-skill, good-paying jobs right here in the United States.

Question 2. In your written statement you indicate that while you "understand challenges for the Treasury Department in administering PSP, [smaller operators] have experienced significant delays in the second round of funding." To what do you attribute these delays and what impact are they having on small businesses? How can this Subcommittee help?

ANSWER. We applaud the dedication of Treasury employees to quickly stand up the Payroll Support Program (PSP), which has provided assistance to hundreds of small businesses. For small air charter operators, the lack of a specific contact at Treasury to address PSP-related questions continues to be a challenge. Understanding that there are limited resources, it would be helpful if Treasury could identify a dedicated staff person (or group) to work with general aviation operators.

If Treasury could provide additional certainty/transparency as to when applicants could expect PSP awards, that would be helpful. After submitting a PSP application, there is no timeline or tracking process for applicants to understand when awards will be issued. This uncertainly is very challenging for small businesses that are retaining employees with the expectation of receiving PSP assistance.

Through the Subcommittee's work with Treasury, we would appreciate you raising the idea of a dedicated contact for small operators working through the application process. Also, a request from the Subcommittee for a timeline or estimated PSP award date that small operators can consult after their application is received would be helpful.

Question 3. How would you describe "recovery" for your segment of the aerospace industry?

ANSWER. Recovery for business aviation continues to be uneven, with some airports still dealing with 50%declines in aircraft operations and fuel sales. Based on our conversations with NBAA members, business travel is still down significantly from pre-pandemic levels. There is no consensus about what business travel will look like post-pandemic, so while we are optimistic, there are continuing concerns.

Also, PSP continues to provide critical support for air charter providers and other general aviation commercial operators. We appreciate the recent PSP-extension and look forward to continuing the discussion on future needs as we have more data on the impact of the vaccine rollout on demand for business aviation.

Question 4. In your written statement you expressed support for both advanced air mobility and sustainable aviation fuels. How do you see these new technologies changing air transportation and its impact on the environment?

ANSWER. Sustainable Aviation Fuel (SAF) is widely considered to hold the most significant potential for reducing GHG emissions from aviation. SAF reduces lifecycle GHG emissions by up to 80% compared to conventional jet fuel. While there continue to be significant advancements in battery technology and electric propulsion, those options are not yet viable for many business aircraft. SAF represents the best path to decarbonize the aviation industry as we work towards electrification and other advanced propulsion technologies.

For shorter haul trips and in urban areas, advanced air mobility (AAM) offers significant opportunities to reduce congestion and utilize electric propulsion. The ability for AAM to connect passengers with multimodal hubs and reduce congestion on the ground has the potential to deliver significant environmental benefits. Through targeted infrastructure and planning investments, the U.S. can be the world-leader in AAM and its promise of zero-emission aerospace.

Question 5. Do your members remain concerned about a shortage of professionally trained aerospace professionals? If so, how can the Government and industry work together to ensure we do not lose sight of this issue during COVID and COVID recovery?

ANSWER. We appreciate the Subcommittee's continued interest in our aerospace workforce. For the United States to maintain its position as the world leader in aviation, we need a growing and highly-trained workforce. The COVID–19 pandemic has created significant challenges for our workforce, but that does not mean we should stop planning for the future.

We look forward to the reintroduction of the Promoting Service in Transportation Act during this Congress. This legislation would authorize the Department of Transportation to develop a series of broadcast, digital and print public service announcements to promote career opportunities and increase diversity in the transportation workforce. Through these public service announcements, we will raise awareness of

careers across all transportation modes, including aviation, and create excitement and interest in these careers at an early age.

QUESTIONS FROM HON. SAM GRAVES TO EDWARD M. BOLEN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL BUSINESS AVIATION ASSOCIATION

Question 6. COVID relief for small operators: Mr. Bolen, in your written statement you indicate that while you "understand challenges for the Treasury Department in administering PSP, [smaller operators] have experienced significant delays in the second round of funding." To what do you attribute these delays and what impact are they having on small businesses? How can this Committee help?

ANSWER. We applaud the dedication of Treasury employees to quickly stand up the Payroll Support Program (PSP), which has provided assistance to hundreds of small businesses. For small air charter operators, the lack of a specific contact at Treasury to address PSP-related questions continues to be a challenge. Understanding that there are limited resources, it would be helpful if Treasury could identify a dedicated staff person (or group) to work with general aviation operators.

If Treasury could provide additional certainty/transparency as to when applicants could expect PSP awards, that would be helpful. After submitting a PSP application, there is no timeline or tracking process for applicants to understand when awards will be issued. This uncertainly is very challenging for small businesses that are retaining employees with the expectation of receiving PSP assistance.

Through the Subcommittee's work with Treasury, we would appreciate you raising the idea of a dedicated contact for small operators working through the application process. Also, a request from the Subcommittee for a timeline or estimated PSP award date that small operators can consult after their application is received would be helpful.

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