



## A Sustainable, Equitable, Multimodal Return to Global Air Transportation Post-COVID-19

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The economic carnage and social disruption wrought by the COVID-19 pandemic has affected virtually every part of the economy, but few sectors have suffered as much as aviation. Like all transportation, demand for commercial air travel is a derived demand. With governments implementing stay at home orders and safer at home campaigns, countries closing their borders to stem the spread of disease, and businesses halting travel, air travel demand dropped precipitously in March and April of 2020 and has slowly crept back. Consider the count of passenger screenings by the [Transportation Security Administration](#) (TSA) in 2019, 2020, and 2021: we note the dramatic 95% decline of passengers screened in April 2020 compared with April the previous year; as of March 2021, passenger levels were 55% percent of March 2019.

Compared to the early days of the pandemic, air travel demand both globally and domestically has been steadily increasing. This is incredibly important to global economies. Consider that, in the United States, air travel is fundamental to our economy: pre-pandemic, aviation was estimated to provide [11 million aviation-related jobs supported by its \\$1.8T economy, representing 5 percent of U.S. GDP. Business connectivity and productivity thrives on consistent and reliable air travel.](#) And, leisure air travel allows us to visit family, friends, and, on a global scale, understand and appreciate other cultures and ways of life. Consider

that in 1948, [President Truman dedicated Idlewild Airport](#) (what is now known as John F. Kennedy Airport in New York), in which he spoke of the peace that will come from communication between nations enabled by the airport. The aviation industry is a critical industry to our way of life and to our future.

Aviation also has a number of disbenefits. To begin, the relationship between regional economic development and local impacts is one of spatial incongruence. The regional economic development generated by airports is often undirected and diffused throughout a region while the negative externalities (noise, local pollutants, and congestion) are localized to the proximate communities. Aircraft surface operations and vehicles accessing the airport emit harmful local pollutants such as Carbon Monoxide (CO), Nitrogen Oxide (NO<sub>x</sub>), and Particulate Matter (PM). Of the top thirty U.S. airports by passenger levels, fifteen are in areas that fall below the Environmental Protection Agency allowable levels for fine particulate matter (PM<sub>2.5</sub>), a local pollutant with significant health impacts; similar results are found for small airports. [Aviation is also a significant source of Greenhouse Gas \(GHG\) emissions: approximately 3% of global emissions and approximately 12% of transportation GHG emissions.](#) Airport impacts can leave the surrounding community economically depressed while communities away from the airport may flourish.

As governments and policymakers

consider the future of aviation, and how to support the future of aviation, I call on them to not build back to the same, but to heed President Biden’s call to “Build Back Better.” How do we build back better for aviation?

### Center Sustainability

Improving sustainability in air transportation is a goal shared by local governments and airlines alike: fuel is a large line item cost for airlines and reducing fuel consumption is a constant goal.

We can reduce fuel consumption through investments in technology. Programs like the Federal Aviation Administration’s Continuous Lower Energy, Emissions, and Noise (CLEEN) Program that functions like a public-private partnership between the FAA and the aircraft manufacturers to support investments in low-fuel technologies are crucial and need to continue. We can also offset aviation emissions, thereby reducing overall fuel consumption and enter the International Civil Aviation Organization (ICAO)’s [Carbon Offsetting and Reduction Scheme for International Aviation](#) (CORSA). In the absence of pursuing technology and offsets, there is only one other thing to do: [stop flying](#), as I advocated for in September 2019 when I had no idea how right I would soon be.

How do national governments and policymakers center sustainability in a way that makes a lasting change and doesn’t require the public to stop flying? First and foremost, we need to focus aviation on where it is needed most—long haul, international, and transcontinental trips. Second, we need to require that local governments consider air transportation in their sustainability plans; currently

airports are considered as separate, and therefore, sustainability decisions and goals are made absent this large source of emissions. And finally, we need to consider aviation as a part of a broad network and optimize that network by centering multimodal planning.

### Center Multimodal Planning

We can center sustainability by engaging in multimodal planning. In a comparison of the Greenhouse Gas warming potential between automobiles, aircraft, and highspeed rail trains, GHG emissions from a conventional, fully loaded sedan (5 passengers) are lower per passenger than those of a fully loaded mid-range aircraft (like a B737) on a per mile basis; a highspeed train powered by clean energy has near zero GHG emissions from vehicle operation (See [Chester](#)).

It’s time to consider rail, bus, and other surface transportation modes to replace shorter, largely connecting flights. Buses offer higher scheduling flexibility and lower capital costs; a half-filled bus represents much less of a loss than a half-filled plane. Furthermore, increased regional bus use would reduce the number of flights coming into airports—and thus reduce the number of people mingling within airports’ walls, a new and likely enduring safety priority. And while conventional buses might provide a slight fuel consumption savings compared with regional aircrafts, hybrid and electric buses are at least four times more fuel-efficient than regional jets.

To do this, airlines need to see themselves—or be required to see themselves as a condition of relief funding—as mobility companies and not only providers of air service. In the same way that cities and the

federal government already provide incentives to airlines to fly, future federal relief funding could provide incentives to airlines or startup bus companies to get regional coaches on the road. Federal Coronavirus relief programs could—similar to TIGER/BUILD discretionary grants—allow small cities to reallocate airport funds and invest in high-quality intercity bus systems, connecting their communities with larger cities and airports.

While this idea might seem provocative, or unpopular, pre-pandemic trends support it. Pre-pandemic, our busiest airports were operating at or near capacity, [carrying more than 70 percent of all U.S. passengers](#). Small airports, conversely, [were struggling to keep their doors open](#), unable to stem the tide of local travelers driving or riding a train or bus to busier airports with lower fares and superior flight options. [Smaller airports have spent millions of dollars](#) incentivizing airlines to launch new flights only to see these services pulled when the incentive period ends. Despite this, small airports received windfall funding from the first round of federal relief in March 2020 (through the CARES Act). The funding formulas laid out in the [CARES Act favored small airports](#) that serve no more than one-quarter of one percent of the nation's passengers or function as airports for private aviation and flight training. Some small airports received enough funds to operate for several years, while some of the busiest airports only received enough to cover their operating budgets for 90 days. These small airports are the first ones to get cut from an airlines' network during a downturn and since September 2020, airlines have announced declines in

service.

## Center Equity in Air Transportation Planning

Aviation was built on the “Winged Gospel”: the idea that it was a pathway to opportunity for all. However, today, a staggeringly low [3 percent of pilots are Black, 5 percent are Hispanic/Latino, and 4 percent are women](#). [Airports, hotspots of noise and local pollution, tend to be located in minority neighborhoods](#). While they bear the environmental brunt of aviation, Black Americans reap little of the economic spoils, [as they comprise only 6 percent of air travelers](#) and are [disproportionately employed in the lowest wage airport jobs](#). Finally, air transportation is accelerating our climate crisis, [a crisis that disproportionately affects Black Americans](#). We must center equity in air transportation planning going forward. Instead of directly subsidizing airlines to fly new flights, we could prioritize small airports affiliated with minority-serving aviation colleges and Black pilot clubs. We could increase the wages of airport workers and airports could use their non-aeronautical revenues to improve the environmental impacts of near airport communities. Engaging in multimodal planning, as I suggest above, would unlock mobility for [Black Americans and seniors less likely to own a car](#), while providing frequent, inexpensive, sustainable connectivity.

## Conclusion

I focus on large, bold changes here because I am operating under the assumption that passengers will come back, if not in 2022, by 2024 as predicted by airline executives. As vaccines roll out and nations consider relaxing their travel restrictions, travel is

resuming. Certainly, there will be some who are still hesitant, but for every hesitant traveler, there will be one who is ready to make up for lost time. Therefore, now—with depressed flight demand and a Department of Transportation focused on equity and sustainability—is the time to make dramatic, long-lasting changes in the way we travel.