

POLICY SPOTLIGHT

The Future of Supersonic Flight

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The Federal Aviation Administration (FAA) banned civil supersonic flight over the United States in 1973,¹ effectively ending the supersonic flight industry. The ban responded to concerns about noise pollution—namely, supersonic booms—and negative environmental impacts. However, over the past four decades, technical advances in engine design suggest that it is now feasible to produce less noisy supersonic jet engines.² Moreover, some research suggests that the environmental impacts were overstated.³ It is time for policymakers to revisit the ban.

SUPERSONIC TRANSPORT IN THE US

The Concorde, which operated at subsonic speeds over US territory since 1973, closed operations in 2003 amid fears for its safety and profitability. There has been little private-sector investment since then. Nevertheless, commercial supersonic flight has not been altogether forgotten as Boeing and Airbus as well as startups Boom and Aerion have all signaled supersonic ambitions.

The average nonstop distance flown by airlines in the US is 900 miles, which suggests that a domestic supersonic market could be quite large.⁴ However, the FAA ban forecloses this market and impedes investments in technology to minimize the noise and cost of supersonic transport.

REVISITING THE SUPERSONIC BAN

Responding to high-profile environmental campaigns raising concerns about noise and exhaust pollution, the federal government banned commercial superson-

ic travel.⁵ Ironically, the government had been one of the most enthusiastic backers of supersonic transport, funding research and development that was instrumental to commercial flight.

However, in the 44 years since the ban has gone into effect, at least two strong reasons have emerged for reversing course.

First, a revival of commercial supersonic flight will have economic impact beyond serving luxury and business travelers. As the technology is refined and made more cost effective, airlines are likely to extend supersonic flight to the economy class market.⁶ This could also revitalize the airline industry and lead to significant spillover effects.

Second, many concerns that motivated the ban have proved to be spurious. For example, research commissioned by the FAA and British Civil Aviation Authority found that the Concorde was not louder than conventional aircraft upon takeoff, nor were sonic booms an issue at the Concorde's high cruising altitude.⁷ More-

over, research dating back to 1972 has concluded that the initial environmental claims were unfounded.⁸

A BETTER APPROACH: SET TARGETED NOISE STANDARDS

To ensure a proper noise standard, the FAA can set initial levels comparable to those society already tolerates. A standard set at 85–90 decibels, for example, would be no different from lawnmowers, motorcycles, and kitchen blenders.⁹ If the FAA is unwilling to reverse the ban on its own authority, Congress can direct the agency to do so.

Aircraft speeds have stagnated over the past 40 years; the time required to fly from Los Angeles to New York or across the Atlantic Ocean are no different than they were in 1977.¹⁰ Addressing noise concerns in the form of a noise standard instead of the current ban may go a long way toward achieving the economic gains of commercial supersonic travel.

NOTES

1. Civil Aircraft Sonic Boom, 14 C.F.R. § 91.817 (1973).
2. Domenic J. Maglieri et al., *Sonic Boom: Six Decades of Research*, December 1, 2014.
3. Australian Academy of Science, *Atmospheric Effects of Supersonic Aircraft* (Canberra, AU: Australian Academy of Science, 1972); M. Dutta, K. Patten, and D. Wuebbles, *Parametric Analyses of Potential Effects on Stratospheric and Tropospheric Ozone Chemistry by a Fleet of Supersonic Business Jets Projected in a 2020 Atmosphere*, NASA, October 1, 2004.
4. *Hyperloop Alpha* (Hawthorne, CA: SpaceX, 2013).

5. Eli Dourado and Samuel Hammond, “Drop the Supersonic Aircraft Ban, Watch Business Boom,” *Wall Street Journal*, June 12, 2016.
6. Eli Dourado and Michael Kotrous, “Airplane Speeds Have Stagnated for 40 Years,” Mercatus Center at George Mason University, July 20, 2016.
7. Civilian Aviation Authority, *Noise Data from the First Year of Scheduled Concorde Operations at Heathrow Airport – London*, April 1977.
8. Australian Academy of Science, Atmospheric Effects of Supersonic Aircraft; Dutta, Patten, and Wuebbles, *Parametric Analyses*.
9. Eli Dourado and Samuel Hammond, “Make America Boom Again: How to Bring Back Supersonic Transport” (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, 2016).
10. Dourado and Kotrous, “Airplane Speeds.”

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