Get up to Speed on Supersonic Boom Testing

The U.S. is a leader in developing supersonic flight technology that can **cut long-distance air travel time in half**, while meeting global demand and bringing new economic opportunities and high-quality jobs.

New aircraft designs, new technologies, and lighter materials may open the skies to supersonic civil aviation. Civil aircraft are currently prohibited from flying at supersonic speeds **over land.**

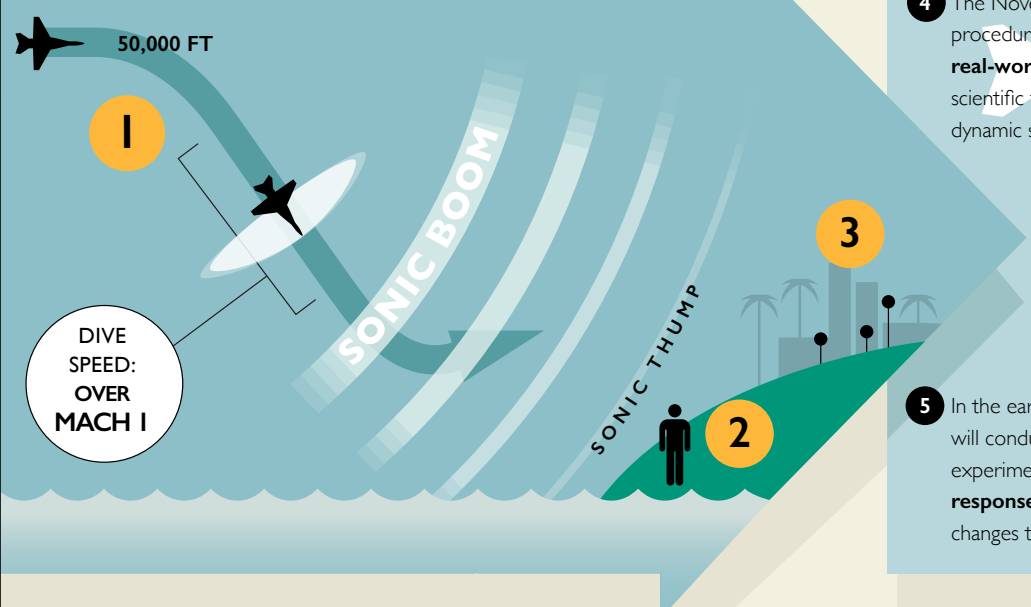
Noise experts at the **U.S. DOT Volpe Center** are helping to build confidence in low-boom flight technologies, supporting **NASA**'s quiet supersonic research flights through:

- sonic boom modeling
- flight test planning
- noise measurement
- real-world testing

A team of **NASA** engineers, **Volpe Center** noise experts, and others designed a flight test near Galveston, TX, in November 2018. Here's how F-18 jets simulated quiet supersonic flight:

1. Over two weeks, F-18 jets flew offshore near rural and urban areas of Galveston, executing up to eight **low-boom dive maneuvers** daily to simulate sonic thumps over land and to rehearse survey techniques.
2. Volunteers from Galveston and surrounding areas provided **feedback** during the two weeks of flight testing.
3. **Noise monitors** were also set up in and around Galveston to measure acoustic exposure.

NOVEMBER 2018



FUTURE TESTING

4. The November 2018 test will inform procedures and surveys for **additional real-world testing** that will set the scientific foundation for an economically dynamic supersonic aviation market.

5. In the early 2020s, NASA will conduct noise tests with its X-59 experimental aircraft. **Community responses** will inform potential changes to supersonic flight regulations.

"You hear that rumble in the distance? That's a sonic thump. That's what we expect people to hear in the community."

— Peter Coen, project manager of NASA's Commercial Supersonic Technology Project

U.S. Department of Transportation
Volpe Center

01/2021