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FAA Facts
Handle With Care: Air Traffic Control and Environmental Awareness

The FAA has taken the lead in numerous environmental initiatives in order to increase aircraft efficiency, reduce noise, limit fuel burn and slash aircraft emissions.

Departures

For airline departures at the busiest airports, the FAA is introducing the Rolling to the Runway initiative. This enhanced Terminal Flight Data Manager (TFDM) technology with will be deployed at 27 airports starting this year.

During program testing at Charlotte Douglas International Airport, the enhanced TFDM program:

- Reduced taxi times that helped save more than 275,000 gallons of fuel annually, equivalent to the fuel burn of 185 flights between New York and Chicago by a Boeing 737;
- Reduced greenhouse gas emissions by 8 tons of CO2 daily;
- Reduced delays by 916 hours, equivalent to shaving 15 minutes of waiting time on a taxiway for more than 3,600 departing flights.
- When completed, the FAA anticipates a savings of more than 7 million gallons of fuel every year and the elimination of more than 75,000 tons of CO2 emissions annually.

More information about TFDM and its benefits can be found here.

Inflight

To support more efficient routing while jets are inflight, the FAA has developed Trajectory Based Operations (TBO) and Time Based Flow Management (TBFM).

At the center of these programs is Performance Based Navigation (PBN) routing which saves time, reduces fuel consumption and emissions, and decreases noise impacts to residents near

airports. Since 2015, the FAA has published 353 PBN routes for cruising altitudes and 9,400 PBN departure, arrival, and approach procedures.

PBN supports the transition to Trajectory Based Operations (TBO), which will improve flight efficiency, increase airspace, and improve operational predictability and flexibility. TBO implementation is underway in four National Air Space operating areas: the Northeast Corridor (Boston to Washington DC), the Mid-Atlantic (focused on Atlanta and Charlotte airports), Northwest Mountain (Denver), and Southwest (Los Angeles and Las Vegas airports).

Landing

Planes heading to 64 airports across the country can now slide down from cruising altitude to final approach saving millions of gallons of fuel and reducing greenhouse gases.

Optimized Profile Descents (OPDs) safely eliminate the need for the fuel-consuming stair-step procedure. Under traditional procedures, aircraft repeatedly level off and power up the engines. This burns more fuel and requires air traffic controllers to issue instructions at each step. With optimized descents, aircraft descend from cruising altitude to the runway in a smooth, continuous path with the engines at near idle.

During 2022, the FAA implemented new OPDs at 11 airports. With these new descents in place, the FAA estimates that the industry will save more than 90,000 gallons of fuel on average and will reduce greenhouse gas emissions by 27,000 tons annually. This change is equivalent to fuel used by 62 Boeing 737 flights between New York and Cleveland.

More Information

In its Aviation Climate Action Plan, the United States set a goal to achieve net-zero greenhouse gas emissions from the U.S. aviation sector by 2050. To achieve it, the FAA:

- Has awarded $100 million to research and scale fuel-saving technologies and noise reductions
- Has awarded $327 million to electrify airport gate equipment and vehicles
- Has invested $35 million for universities to help build sustainable aviation fuel supply chains
- Has completed research and testing on reducing fuel burn and taxi time

Find more information about the FAA and its environmental efforts at its Sustainability Gateway Page and its list of accomplishments for 2022.