

# GAO Highlights

Highlights of [GAO-19-639](#), a report to congressional requesters

## Why GAO Did This Study

U.S. airspace system is one of the safest in the world, but incidents and near misses at and around U.S. terminal areas still occur. FAA oversees the safety of runways and taxiways and works with industry partners—including airlines, airports, pilots, and others—to improve safety in these areas. Despite FAA’s continued efforts, the number of reported terminal area incidents has increased over time.

GAO was asked to review various issues related to runway safety and to update its prior work on airport terminal areas. This report examines: (1) the extent to which FAA uses data to analyze terminal area incidents and (2) efforts FAA and others have implemented to improve terminal area safety, and how FAA assesses their effectiveness. GAO analyzed FAA data; interviewed officials from 10 airports selected based on high runway incident rates in the past 3 years, among other factors; and interviewed federal and industry officials.

## What GAO Recommends

GAO is making five recommendations including that FAA identify and remove duplicate excursion data, develop processes to analyze ramp area incidents, and establish a plan to assess the effectiveness of its terminal area safety efforts.

FAA concurred with the recommendations.

View [GAO-19-639](#). For more information, contact Heather Krause at (202) 512-2834 or [krauseh@gao.gov](mailto:krauseh@gao.gov).

August 2019

## AVIATION SAFETY

### Opportunities Exist for FAA to Improve Airport Terminal Area Safety Efforts

#### What GAO Found

The Federal Aviation Administration (FAA) uses data to analyze some types of incidents in airport “terminal areas”—runways, taxiways, and ramps. For example, FAA uses data to analyze runway “incursions”—the incorrect presence of an aircraft, vehicle, or person on the runway. According to FAA data, the rate of reported runway incursions nearly doubled from fiscal years 2011 through 2018, with most of this increase due to a rise in reports of less severe incursions, or those without immediate safety consequences. However, GAO found that FAA has not identified or removed all duplicates from its data on runway “excursions”—when an aircraft veers off or overruns a runway—which limits FAA’s ability to accurately analyze these incidents. Additionally, FAA does not use data to analyze incidents that occur in ramp areas—the parts of terminal areas where aircraft are prepared for departure and arrival—where injuries to workers and damage to aircraft can occur. Without a process to leverage accurate excursion and ramp incident data, FAA may not be able to assess the risk these incidents pose to passengers, airport staff, and others.

#### Example of a Potential Runway Incursion as a Plane Approaches an Occupied Runway



Source: Transportation Safety Board of Canada. | [GAO-19-639](#)

FAA, airports, and airlines have implemented multiple efforts to improve terminal area safety, but FAA has not assessed the effectiveness of many of its efforts. For example, FAA has funded multiple technologies to improve runway safety, such as Airport Surface Detection Equipment, Model X (ASDE-X)—a ground surveillance system that enables air traffic controllers to track landing and departing aircraft and alerts controllers of potential collisions. However, FAA has not assessed the effectiveness of ASDE-X. Similarly, FAA has not assessed the effectiveness of its Runway Safety Program, whereby FAA staff, along with local airport stakeholders, provide data and support to local air traffic managers to help identify and manage terminal area safety incidents. FAA has taken steps to evaluate some of its terminal-area safety efforts, such as tracking the number of runway excursions safely stopped by a lightweight, crushable concrete designed to stop or greatly slow an aircraft that overruns the runway. However, without assessing how all of FAA’s efforts contribute to its goal of improving runway and taxiway safety, FAA cannot determine the extent to which it is targeting its limited resources to the most effective strategies.