

# GAO Highlights

Highlights of [GAO-17-372](#), a report to congressional requesters

## Why GAO Did This Study

The federal government conducts aviation R&D to advance U.S. technological leadership, foster a dynamic aerospace industry, and improve the safety of the civil aviation system. GAO was asked to review FAA's management of its R&D portfolio, including the extent to which FAA's R&D is structured and operated to achieve its mission. This report addresses (1) the extent to which FAA's management of its R&D portfolio follows requirements, guidance and leading practices, (2) the extent to which FAA and NASA coordinate on their R&D activities, and (3) how FAA cooperates with the private sector on R&D.

GAO compared FAA's R&D management activities from 2012 through 2016 against applicable statutory requirements, agency guidance and leading practices drawn from literature on R&D management and collaboration, including past GAO reports. GAO met with FAA and NASA and aviation stakeholders, including three private companies, to discuss R&D coordination. GAO selected stakeholders based partly on the size and extent of their R&D activities.

## What GAO Recommends

GAO recommends that the Secretary of the DOT require the FAA Administrator to: (1) identify long-term R&D research priorities, (2) disclose how projects are selected, and (3) ensure that the *NARP* and *R&D Annual Reviews* meet statutory requirements for content. DOT concurred with the recommendations.

View [GAO-17-372](#). For more information, contact Gerald Dillingham, Ph.D., (202) 512-2834 or [dillinghamg@gao.gov](mailto:dillinghamg@gao.gov).

April 2017

## AVIATION RESEARCH AND DEVELOPMENT

### FAA Could Improve How It Develops Its Portfolio and Reports Its Activities

## What GAO Found

The Federal Aviation Administration's (FAA) actions are not fully consistent with requirements, agency guidance, and leading practices related to the management of its research and development (R&D) portfolio. GAO assessed FAA's actions to manage its R&D portfolio in three key areas: (1) developing its portfolio of R&D projects, (2) tracking and evaluating these projects, and (3) reporting on the portfolio. We found that FAA could be more strategic in how it develops its R&D portfolio, chiefly in identifying long-term research needs and in improving disclosure of how projects are selected. As a result, FAA management cannot be assured that the highest priority R&D is conducted. GAO also found that while FAA tracks and evaluates its research projects consistent with leading practices, it does not fully address all statutory reporting requirements, such as identifying long-term research resources in the *National Aviation Research Plan (NARP)* or preparing the *R&D Annual Review* in accordance with government performance-reporting requirements. These reporting deficiencies can limit the usefulness of the reports to internal and outside stakeholders. FAA has begun to examine how it can improve the usefulness and timeliness of its R&D reports, but has not identified specific changes needed.

FAA's and the National Aeronautics and Space Administration's (NASA) aviation R&D coordination generally reflects selected leading practices for interagency collaboration that GAO has previously identified. GAO found that FAA and NASA have: (1) written agreements that define the scope and conditions for collaboration; (2) defined the roles and responsibilities of collaboration leaders and participants; (3) defined desired outcomes and accountability mechanisms; (4) bridged their two organizational cultures through coordinating bodies and joint activities; and (5) identified and leveraged resources through agreements. FAA and NASA officials that GAO interviewed reported that they coordinated on R&D. Such coordination is exemplified by the types of technology that have been transferred from NASA to FAA. For example, NASA developed software that improves air-traffic departure efficiency. NASA then tested the software alongside FAA's, before transferring it to FAA for use by air traffic controllers at airports.

FAA and the private sector cooperate on R&D activities through formal and informal mechanisms. Through funding agreements FAA uses private sector expertise and technology-transfer partnerships to share facilities, equipment, and staff. These agreements and partnerships are intended to extend FAA's capabilities and resources and expand the U.S. technology base. FAA also tracks private sector R&D activities through advisory committees and more informal relationships. In developing the R&D portfolio, FAA does not formally consider the impact of its R&D activities on the private sector because the FAA and the private sector have different research goals. According to three large private-sector firms GAO interviewed and to academic literature GAO reviewed, there is little evidence that FAA's activities have crowded out or precluded private firms from undertaking their own R&D.