

## Why GAO Did This Study

Since 2016, bombings of subways and bus systems in foreign cities and attempted attacks in U.S. cities demonstrate continued security threats to mass transit and other surface transportation systems. S&T and TSA are the primary federal entities responsible for researching, developing, and testing technologies designed to address threats to these systems. GAO has previously identified challenges with S&T's oversight of R&D projects.

GAO was asked to review S&T and TSA's roles in developing and testing surface transportation security technologies. This report, among other objectives, (1) assesses the extent to which S&T is developing technologies to secure surface transportation systems and progress made, and (2) identifies the key mechanisms that S&T, TSA, and stakeholders use to collaborate and share information on identifying capability gaps and security technologies, and analyzes the extent to which they are effective.

GAO assessed S&T's mass transit program because it was the only active R&D effort for surface transportation security. GAO interviewed officials from S&T, TSA, and nine mass transit operators; observed technologies; reviewed documentation; and analyzed budget information from fiscal years 2013 to 2018. GAO also used GAO's leading collaboration practices to assess collaboration on security technologies.

## What GAO Recommends

GAO is making two recommendations: that S&T incorporate DHS milestone guidance for its STETD program, and that TSA develop a mechanism to routinely and comprehensively share security technology information with mass transit operators. DHS concurred with both recommendations.

View [GAO-19-636](#). For more information, contact William Russell at (202) 512-8777 or [russellw@gao.gov](mailto:russellw@gao.gov)

## SURFACE TRANSPORTATION

### DHS Is Developing and Testing Security Technologies, but Could Better Share Test Results

#### What GAO Found

The Department of Homeland Security's (DHS) Science and Technology Directorate (S&T) has one research and development (R&D) effort focused on surface transportation, the Surface Transportation Explosive Threat Detection (STETD) program, which is developing technologies to secure mass transit systems (see figure). DHS guidance requires S&T to develop results-oriented milestones to track progress. GAO found, however, that S&T has not used milestones that fully adhered to DHS guidance. For example, most STETD program milestones did not clearly link to key activities described in program plans. As a result, DHS may not have the information needed to determine whether the STETD program is meeting its goals.

#### Examples of Technologies DHS S&T Is Developing to Secure Mass Transit



##### Standoff Detection

A set of imaging sensors designed to scan crowds for hidden threat items on travelers.



##### Real-Time Threat Detection

Technology intended to automatically detect abandoned items that could be threats.

Source: Department of Homeland Security (DHS) Science and Technology Directorate (S&T). | GAO-19-636

S&T, TSA, and stakeholders effectively collaborate, but TSA could better share test results with mass transit stakeholders. For example, S&T, TSA, and mass transit operators regularly collaborate on issues related to identifying mass transit capability gaps and testing security technologies to address those gaps. Nevertheless, GAO found TSA's efforts to share information on existing technologies to secure mass transit could be improved. Specifically, TSA regularly assesses commercially available technologies, but does not routinely or comprehensively share its results with mass transit operators. For example, TSA's reports on its testing of commercially available products would provide mass transit operators with technical assessment information. However, seven of the nine mass transit operators GAO spoke with asked for more technical assessment information on existing commercial technologies, indicating that they may not be receiving the TSA products that would provide this information. Sharing this information more routinely and comprehensively with mass transit operators would allow TSA to better inform them about the capabilities of technologies that could be acquired to secure their systems.