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AVIATION SECURITY

TSA Has Strengthened Efforts to Plan for the Optimal Deployment of Checked Baggage Screening Systems, but Funding Uncertainties Remain

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Highlights

Highlights of GAO-06-875T, a testimony before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The Transportation Security Administration (TSA) has deployed two types of baggage screening equipment: explosive detection systems (EDS), which use X-rays to scan bags for explosives, and explosive trace detection systems (ETD), in which bags are swabbed to test for chemical traces of explosives. TSA considers screening with EDS to be superior to screening with ETD because EDS machines process more bags per hour and automatically detect explosives without direct human involvement. In March 2005, GAO reported that while TSA had made progress in deploying EDS and ETD machines, it had not conducted a systematic, prospective analysis of the optimal deployment of these machines to achieve long-term savings and enhanced efficiencies and security. GAO's testimony today updates our previous report and discusses TSA's (1) deployment of EDS and ETD systems and the identified benefits of in-line systems, and (2) planning for the optimal deployment of checked baggage screening systems and efforts to identify funding and financing options.

What GAO Recommends

GAO previously recommended that TSA systematically evaluate checked baggage screening needs at airports, such as identifying the costs and benefits of installing in-line systems or stand-alone EDS. DHS generally concurred with our recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-06-875T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Cathleen A. Berrick at (202) 512-3404 or berrickc@gao.gov.

What GAO Found

Since its inception in November 2001 through June 2006, TSA has procured and installed about 1,600 EDS machines and 7,200 ETD machines to screen checked baggage for explosives at over 400 airports. However, initial deployment of EDS machines in a stand-alone mode—usually in airport lobbies—and ETD machines resulted in operational inefficiencies and security risks as compared with using EDS machines integrated in-line with airport baggage conveyor systems. For example, TSA's use of stand-alone EDS and ETD machines required a greater number of screeners and resulted in screening fewer bags for explosives each hour. In March 2005, we reported that at nine airports where TSA has agreed to help fund the installation of in-line EDS systems, TSA estimated that screening with in-line EDS machines could save the federal government about $1.3 billion over 7 years. In February 2006, TSA reported that many of the initial in-line EDS systems did not achieve the anticipated savings. However, recent improvements in the design of the in-line EDS systems and EDS screening technology now offer the opportunity for higher-performance and lower-cost screening systems. Finally, screening with in-line EDS systems may result in security benefits by reducing the need for TSA to use alternative screening procedures, such as screening with explosives detection canines and physical bag searches, which involve trade-offs in security effectiveness.

TSA has begun to systematically plan for the optimal deployment of checked baggage screening systems, but resources have not been made available to fund the installation of in-line EDS systems on a large-scale basis. In February 2006, TSA released its strategic planning framework for checked baggage screening aimed at increasing security through deploying more EDS machines, lowering program life-cycle costs, minimizing impacts to TSA and airport and airline operations, and providing a flexible security infrastructure. As part of this effort, TSA identified the 25 airports that should first receive federal funding for the installation of in-line EDS systems, and the optimal checked baggage screening solutions for the 250 airports with the highest checked baggage volumes. In February 2006, TSA estimated that installing and operating the optimal checked baggage screening systems will cost about $22.4 billion over 20 years and reported that under current investment levels, installation of optimal baggage screening systems would not be completed until approximately 2024. TSA is collaborating with airport operators, airlines, and other key stakeholders to identify funding and cost sharing strategies and is focusing its research and development efforts on the next generation of EDS technology.

EDS and ETD Machines Used by TSA to Screen Checked Baggage

ETD machine

Uses chemical analysis to detect traces of explosive material vapors or residues.

EDS machine

Uses computerized tomography X-rays to recognize the characteristic signatures of explosives.

Source: GAO.