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AVIATION SECURITY

TSA Is Taking Steps to Improve Expedited Screening Effectiveness, but Improvements in Screener Oversight Are Needed

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Why GAO Did This Study

In 2015, TSA screened or oversaw the screening of more than 708 million passengers at more than 450 U.S airports. In carrying out the screening process, TSA is responsible for ensuring the security of civil aviation while also managing the efficient flow of passengers. TSA employs screening personnel, called TSOs, to carry out passenger and baggage screening operations. Each year, TSA tests TSO performance as part of its efforts to monitor the effectiveness of aviation security screening. In 2011, TSA began providing expedited screening procedures to selected passengers, intended to strengthen security and improve the passenger experience by shortening lines and wait times.

This testimony addresses the extent to which TSA (1) has taken steps to improve the security effectiveness of expedited screening and (2) uses TSO performance testing data to enhance TSO performance in screening for prohibited items. This statement is based on reports GAO issued in May 2016 and December 2014, and selected updates. Among other things, GAO analyzed TSA documentation on expedited screening and TSO testing data.

What GAO Recommends

In its May 2016 report, GAO recommended that TSA ensure that (1) airports submit complete TSO performance data, (2) the data are analyzed nationally, and (3) implementation of covert testing recommendations are tracked. DHS concurred and is taking actions to address the recommendations.

View GAO-16-707T. For more information, contact Jennifer A. Grover at (202) 512-7141 or groverj@gao.gov.

What GAO Found

The Transportation Security Administration (TSA) has taken steps intended to improve the security effectiveness of expedited passenger screening since GAO reported on it in December 2014. These steps include

- Adjusting the TSA Pre ✓® Risk Assessment program algorithm used to assign passengers scores and identify low risk passengers;
- Limiting the use of Managed Inclusion to airports that employ canine teams to detect explosives; and,
- Developing plans to test the security effectiveness of the Managed Inclusion process as an overall system–ensuring that the testing adheres to established design practices.

According to a TSA memorandum dated November 2015, TSA made changes to TSA Pre ✓® Risk Assessment program and Managed Inclusion process as a result of the findings and recommendations included in three prior Department of Homeland Security Office of Inspector General audit reports. According to TSA, these changes were necessary to ensure security and resulted in a 20 percent decrease in the number of individuals receiving expedited screening. Previously, in December 2014, GAO found that TSA had not tested the overall effectiveness of the Managed Inclusion process, and recommended that TSA ensure that its planned testing adhere to established evaluation design practices to yield reliable test results. DHS concurred with the recommendation and plans to begin testing the effectiveness of the Managed Inclusion process as a system during fiscal year 2016.

TSA uses data on Transportation Security Officer (TSO) performance obtained from its various testing programs to ensure that individual TSOs are (1) demonstrating through annual proficiency reviews and resulting recertification that they are qualified to continue conducting passenger and checked baggage screening, and (2) demonstrating proficiency during live screening operations in adhering to screening procedures. However, in a report containing sensitive security information completed in May 2016, GAO found that TSA's ability to fully evaluate TSO performance in screening passengers and baggage for prohibited items is constrained by incomplete and unreliable testing data and a lack of data analysis. For example, some airports did not report testing data on TSOs' ability to identify prohibited items over fiscal years 2009 through 2014 as required by TSA policy. TSA officials also stated they do not systematically analyze test results to determine any national trends for informing future TSO training. In addition, TSA determined that pass rate data for one of its covert testing programs that uses role players at airports to assess TSO performance was unreliable. Specifically, testing by an independent contractor indicated that TSA's covert testing data likely overstated TSO performance. TSA is taking action to determine the root cause of the variance in the testing results and is implementing corrective actions. Further, GAO found that TSA does not track the implementation, where appropriate, of recommendations made based on the covert testing results. DHS concurred with GAO's recommendations made in its May 2016 report and is planning actions to address them.

Chairman Johnson, Ranking Member Carper and Members of the Committee:

I am pleased to be here today to discuss our past work on the Transportation Security Administration's (TSA) expedited screening process and its use of Transportation Security Officer (TSO) performance data to improve screening operations. TSA, an agency within the Department of Homeland Security (DHS), is the primary federal agency responsible for the security of the nation's aviation system. As part of this responsibility, TSA screened or oversaw the screening of more than 708 million passengers and more than 1.6 billion carry-on bags at about 450 U.S. airports in 2015. TSA-employed screening personnel (i.e., TSOs) carry out passenger and checked baggage screening operations to identify prohibited items that could pose a threat to the aircraft and passengers.[1] These screening operations may include pat downs, search of property, and operating metal detectors and explosives detection equipment, among other things. While TSA's primary aviation responsibility is to ensure security, it also strives to balance the safety and security of the traveling public with the efficient flow of passengers through the screening process. In an effort to strengthen and improve these screening operations, TSA began providing expedited screening to selected passengers through its TSA Pre✓® program in October 2011. The TSA Pre✓® program uses risk-based, intelligence-driven screening concepts and technology to determine passenger risk prior to travel.[2] The use of expedited screening procedures is intended to allow TSA to devote more time and resources at the airport to screening the passengers TSA

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[1]TSOs are screening personnel employed by TSA. References in this statement to TSOs do not include screening personnel employed by qualified private-sector companies under contract with TSA to perform screening operations at airports participating in TSA's Screening Partnership Program (SPP) and who were not included in the scope of this review. TSA oversees the performance of screening operations at SPP airports, and the screening personnel at SPP airports must adhere to the same screening requirements applicable to TSOs.

[2]The Aviation and Transportation Security Act established TSA as the agency responsible for security in all modes of transportation, including civil aviation, and authorized it to establish requirements to implement trusted passenger programs and use available technologies to expedite the security screening of passengers who participate in such programs, thereby allowing security screening personnel to focus on those passengers who should be subject to enhanced screening. See Pub. L. No. 107-71, §§ 101, 109(a)(3), 115 Stat. 597, 597-604, 613 (2001).

determines to be of higher risk or unknown risk while providing expedited screening to those passengers determined to pose a lower risk. To further expedite passenger travel for selected passengers not approved through TSA Pre✓®, TSA implemented the Managed Inclusion process in 2012. Managed Inclusion assesses passenger risk in real time at the airport using randomization procedures, behavior detection officers (BDOs), and passenger screening canine teams.[3]

Each year, TSA also conducts certification testing of its TSOs, and in an effort to measure the performance of aviation security screening, both TSA and the Department of Homeland Security Office of Inspector General (DHS-OIG) conduct regular covert testing of TSA screening operations. In response to the failure rates stemming from recent covert testing conducted by the DHS-OIG, the Secretary of the Department of Homeland Security (DHS) directed TSA in June 2015 to take a number of actions to address the vulnerabilities identified in the testing. Specifically, the Secretary directed TSA to revise its standard operating procedures (SOP) for screening, brief all Federal Security Directors (FSD) across the country on the Inspector General's findings, and to conduct further training for all screening personnel and supervisors, among other things. In October 2015, the TSA Administrator testified before Congress on the steps TSA was taking to respond to the Secretary's directive, including delivering further training to every TSO and supervisor across the country.

My testimony today addresses the extent to which TSA (1) has taken steps to improve the security effectiveness of expedited screening and (2) uses TSO performance testing data to enhance TSO performance in screening for prohibited items. This statement is based on reports we issued in May 2016 and December 2014, and selected updates.[4] Specifically, for our past work we analyzed TSA documentation including

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[3]Prior to November 2015, TSA also used explosive trace detection (ETD) devices to assess passenger risk in real time at the airport. In November 2015, TSA discontinued using ETD devices as a layer of security in the Managed Inclusion process.

[4]GAO, *Aviation Security: TSA Should Ensure Testing Data Are Complete and Fully Used to Improve Screener Training and Operations*, GAO-16-415SU (Washington, D.C.: May 2016) and *Aviation Security: Rapid Growth in Expedited Passenger Screening Highlights Need to Plan Effective Security Assessments*, GAO-15-150 (Washington, D.C: Dec. 12, 2014).

expedited screening and Managed Inclusion procedures, memorandums of agreement, and decision memorandums, TSA's risk assessment methodologies, and TSA's security assessment of the Managed Inclusion process, among other documents, to gain an understanding of how expedited screening and Managed Inclusion operate. Moreover, we reviewed data (ranging from 2009 to 2015) on TSA's performance evaluation testing programs, compared the results by airport security category, and also assessed the reliability of the data.[5] We found that some testing programs had incomplete or unreliable data for the years we analyzed and therefore were not sufficiently reliable for describing national trends. We also reviewed TSA's processes and actions for using screener performance testing results to inform its operations and future TSO training, and assessed these processes against standards in *Standards for Internal Control in the Federal Government.*[6] Further, we interviewed program officials at TSA headquarters and at select airports about how they analyze performance test data and how, if at all, they use the results to adjust training or take other actions.[7] Further details on the scope and methodology for the previously issued reports are available within each of the published products. We conducted this work in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

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[5]TSA classifies commercial airports in the United States into one of five security risk categories (X, I, II, III, and IV) based on various factors, such as the total number of takeoffs and landings annually, the extent to which passengers are screened at the airport, and other security considerations. In general, category X airports have the largest number of passenger boardings and category IV airports have the smallest.

[6]GAO, *Internal Control: Standards for Internal Control in the Federal Government*, GAO/AIMD-00.21.3.1 (Washington, D.C.: Nov. 1, 1999). GAO recently revised and reissued *Standards for Internal Control in the Federal Government*, with the new revision effective beginning with fiscal year 2016. See GAO-14-704G (Washington, D.C.: Sept. 2014).

[7]We conducted site visits to 6 airports of different sizes, including 3 airports in category X, and one airport each in categories I, II, and III. Further, we conducted phone interviews with officials at 1 airport each in categories I, II, III, and IV to obtain additional perspectives—particularly at airports with smaller numbers of flights and passenger boardings. We based our airport selection on factors such as airport risk category, geographic proximity to one another, and our analysis of the airports' TSO performance on annual screening certification tests from 2009 through 2014.

the evidence obtained provides a reasonable basis for our findings and conclusions, based on our audit objectives.

Background

Expedited Screening

In 2011, TSA began developing new expedited security procedures intended to strengthen security and improve the passenger experience by shortening lines and wait times, and in October 2011, implemented its expedited screening program—known as TSA Pre✓®. According to TSA, expedited screening involves a relatively more efficient and convenient screening process for individuals from whom TSA has obtained sufficient information to determine them to be lower risk, compared with the standard screening process for a traveler for whom TSA does not have such information. For example, passengers eligible for expedited screening may no longer have to remove their shoes; may leave their permitted liquids, gels, and laptops in carry-on baggage; and are not required to divest light outerwear, jackets, or belts when passing through screening checkpoints unless the screening technology alarms, in which case these items must be removed.

TSA uses the following methods to assess whether a passenger is low risk and therefore eligible for expedited screening.

- **Approved TSA Pre ✓® lists of known travelers**—These lists are comprised of individuals whom TSA has determined to be low risk by virtue of their membership in a specific group, such as active duty military members, or based on group vetting requirements, or if approved through the TSA Pre✓® Application Program.

- **Automated TSA Pre ✓® risk assessments of all passengers**— Using these assessments, TSA assigns passengers scores based upon information available to TSA to identify low risk passengers eligible for expedited screening for a specific flight prior to the passengers' arrival at the airport.

- **Real-time threat assessments through Managed Inclusion**— These assessments use several layers of security, including procedures that randomly select passengers for expedited screening, behavior detection officers who observe passengers to identify high-risk behaviors, and passenger screening canine teams to help ensure that passengers selected for expedited screening have not handled explosive material. TSA developed Managed Inclusion as a tool to improve the efficiency of dedicated TSA Pre ✓® screening lanes.

When TSA began offering expedited screening at airports in the summer of 2011, TSOs initially provided such screenings in standard lanes to passengers aged 12 and younger, and subsequently extended expedited screening to certain flight crew members and then to passengers aged 75 and older. However, in October 2011, TSA began to expand the concept of expedited airport screening to more of the flying public by piloting the TSA Pre ✓® program. This pilot program allowed certain frequent fliers of two air carriers to experience expedited screening at four airports. These frequent fliers became eligible for screening in dedicated expedited screening lanes, called TSA Pre ✓® lanes, because they had opted into the TSA Pre ✓® program through the air carrier with which they had attained frequent flier status.
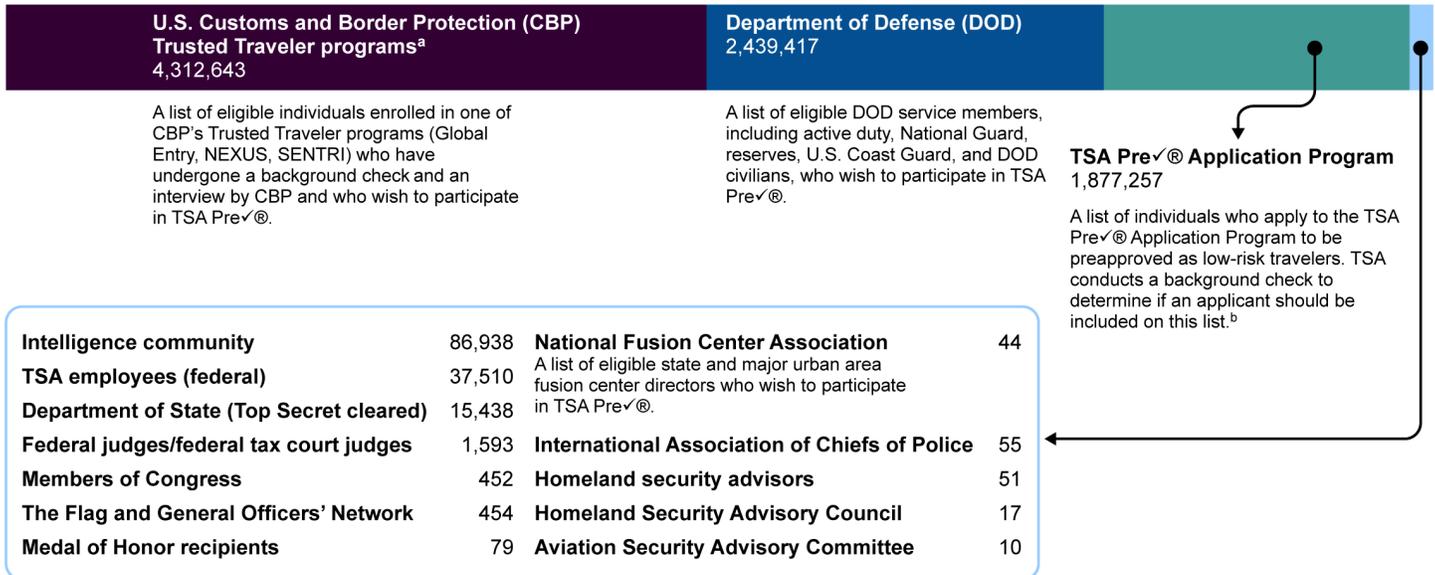
Since October 2011, TSA has further expanded the known traveler populations eligible for expedited screening. TSA established separate TSA Pre ✓® lists for additional low-risk passenger populations, including members of the U.S. armed forces, Congressional Medal of Honor Society Members, members of the Homeland Security Advisory Council, and Members of Congress, among others. In March 2015, TSA officials stated that the Army, Navy, Marine Corps, Air Force, and Coast Guard branches of the U.S. armed forces, as well as Reserve and National Guard personnel, were eligible to participate. TSA also created its own TSA Pre ✓® list composed of individuals who apply to be preapproved as low-risk travelers through the TSA Pre ✓® Application Program, an initiative launched in December 2013.[8] To apply, individuals must visit an enrollment center where they provide biographic information (i.e., name, date of birth, and address), valid identity and citizenship documentation, and fingerprints to undergo a TSA Security Threat Assessment. Applicants must be U.S. citizens, U.S. nationals, or lawful permanent residents, and cannot have been convicted of certain crimes. As of December 2015, about 8.8 million individuals were eligible, through TSA Pre ✓® lists, for expedited screening. Figure 1 shows the populations for each TSA Pre ✓® list.[9]

[8]See 78 Fed. Reg. 72,922 (Dec. 4, 2013).

[9]Foreign citizens enrolled in Global Entry may participate in TSA Pre✓®.

Figure 1: Transportation Security Administration (TSA) Pre✓® Lists

TSA Pre✓® program lists   8.8 million travelers as of December 2015

U.S. Customs and Border Protection (CBP) Trusted Traveler programsª 4,312,643	Department of Defense (DOD) 2,439,417	
A list of eligible individuals enrolled in one of CBP's Trusted Traveler programs (Global Entry, NEXUS, SENTRI) who have undergone a background check and an interview by CBP and who wish to participate in TSA Pre✓®.	A list of eligible DOD service members, including active duty, National Guard, reserves, U.S. Coast Guard, and DOD civilians, who wish to participate in TSA Pre✓®.	**TSA Pre✓® Application Program** 1,877,257 A list of individuals who apply to the TSA Pre✓® Application Program to be preapproved as low-risk travelers. TSA conducts a background check to determine if an applicant should be included on this list.ᵇ

Intelligence community	86,938	National Fusion Center Association	44
TSA employees (federal)	37,510	A list of eligible state and major urban area fusion center directors who wish to participate in TSA Pre✓®.	
Department of State (Top Secret cleared)	15,438		
Federal judges/federal tax court judges	1,593	International Association of Chiefs of Police	55
Members of Congress	452	Homeland security advisors	51
The Flag and General Officers' Network	454	Homeland Security Advisory Council	17
Medal of Honor recipients	79	Aviation Security Advisory Committee	10

Source: GAO analysis of TSA information. | GAO-16-707T

ªForeign citizens participating in a CBP trusted traveler program may be eligible for inclusion on a TSA Pre ✓® List.

ᵇFor some populations, a security threat assessment includes a federal background check. A typical federal background check includes checks against law enforcement, immigration, and intelligence databases, including a fingerprint-based criminal history records check conducted through the Federal Bureau of Investigation. The results are used by TSA to decide if an individual poses a sufficiently low risk to transportation or national security to be issued a known traveler number.

Assessing TSO Performance

To carry out passenger and checked baggage screening operations, TSA employs TSOs at the vast majority of the nation's commercial airports. TSOs must complete the New Hire Training Program (NHTP), which includes at least 40 hours of classroom training focused on their duties as a screener, a minimum of 60 hours of on-the-job training, and certification tests for the functions they will be performing. In addition, TSOs are required to take recurrent training throughout the year to maintain proficiency with skills learned during the NHTP, and to remain up-to-date with changes in screening standard operating procedures (SOP), as well as emerging threats. Also, TSOs who are absent from their screening duties for a period of time must undergo some level of "return-to-duty" training based on the amount of time they were absent. Lastly, if TSOs fail an operational test, they are required to take remedial training customized to fit the specific screener's performance improvement

needs.[10] Furthermore, each year, TSA conducts certification testing for its airport security screeners, and in an effort to measure the performance of aviation security screening, both TSA and the DHS-OIG conduct regular covert testing of TSA screening operations.

Recent covert tests conducted by the DHS-OIG highlighted the following areas of concern: (1) the effectiveness of the passenger screening process, (2) TSA's Advanced Imaging Technology (AIT) screening equipment, (3) related automated target recognition software used by the AIT systems, and (4) checkpoint screener performance in identifying and resolving potential security threats at airport checkpoints. In response to the results of the covert testing, TSA updated its screening SOPs, retrained TSOs to address the Inspector General's findings, and provided additional classroom training nationwide to all TSOs. In addition, TSA developed new measures of effectiveness that it expects will better emphasize the agency's goals for improving security effectiveness by focusing the measures on both the screening system and workforce in the areas of readiness and performance.

To measure TSO performance, TSA uses the following performance measurement tests:

- **Annual Proficiency Reviews (APR)** evaluate TSOs' ability to identify prohibited items on an X-ray machine, ability to resolve explosives detection system machine alarms using the appropriate tools, and whether TSOs can perform various practical skills such as pat downs, bag searches, and use of explosive trace detection technology. If a screener does not pass one of the components of the APR after two;

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[10]TSOs who fail an operational test must be immediately removed from the duty in which they failed to detect a prohibited item, and must successfully complete remedial training in that area before returning to duty to perform that particular operation. Remedial training can also be prompted if a TSO fails an annual proficiency review assessment, identifies less than a targeted percentage of Threat Image Projection images on the X-ray machine in a given month, or if a supervisor determines that a TSO needs additional training in a particular area. Remedial training is customized to fit the specific screener's performance improvement needs. See 49 U.S.C. § 44935(f)(4), (6).

or, in some cases, three attempts, they are subject to removal from their position.[11]

- **Threat Image Projection (TIP)** monitors TSOs' ability to identify prohibited items in x-ray images of carry-on baggage at the passenger checkpoint by projecting fictional threat items onto the bags. TIP also aides in keeping TSOs focused and attentive, and in keeping their skills sharp in identifying items they do not routinely see. According to TSA policy, FSDs must monitor TIP results monthly and, if one of their TSOs identifies less than a target percentage of TIP images accurately in a month, then the TSO is required to attend remedial training.[12]

- **Aviation Screening Assessment Program (ASAP)** is a form of covert testing to measure, at a national level, TSO screening performance against screening SOPs. TSA's Office of Security Operations utilizes local role players to take prohibited items such as knives, guns, or simulated improvised explosive devices, through the screening checkpoints to test TSOs performance in accurately identifying those items. ASAP tests are conducted by TSA at both screening checkpoints and checked baggage screening areas. The tests are designed to assess the operational effectiveness of screeners. TSA implemented a series of improvements to ASAP in 2010 and 2012 that introduced (1) specific testing scenarios to improve the level of standardization, (2) a formalized debriefing process, (3) training scenarios by which airports can tailor lessons learned to their operations, and (4) a strategy for allowing the reporting of comparable testing results, over time, from the airports. After these improvements, TSA renamed the program ASAP Advantage. TSA implements ASAP Advantage according to a 6-

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[11]TSA prohibits individuals from carrying onto aircraft items that it determines to be a threat. TSA maintains a public list of such items, known as the Prohibited Items List, which identifies for the traveling public those items that may not be carried through an airport security checkpoint or on board an aircraft. Such items include, but are not limited to, flammable items, sharp objects, explosive material, guns and firearms, and martial arts and self-defense items.

[12]Because the target percentage for TIP scores is sensitive security information it is not included in this testimony.

month testing schedule, and at the completion of each 6-month cycle, generates a report identifying trends in screening performance.[13]

TSA Is Taking Steps to Improve the Security Effectiveness of Expedited Screening

TSA has taken steps to improve the security effectiveness of expedited screening since we issued our December 2014 report. Specifically, TSA has begun planning for the testing of the security effectiveness of the Managed Inclusion process as an overall system–ensuring that the testing adheres to established design practices. In addition, TSA has adjusted the TSA Pre ✓® Risk Assessment program algorithm used to assign passengers scores and identify low risk passengers because the DHS-OIG found that the algorithm allowed a high-risk individual access to expedited screening. Also, according to TSA documentation, TSA reduced the number of passengers screened by the Managed Inclusion process by limiting its use to airports that have canine teams to detect explosives.

Our December 2014 report found that TSA has tested the effectiveness of the individual Managed Inclusion security layers, but that TSA had not yet tested the Managed Inclusion process as an overall system. We stated that our previous work identified challenges in several of the layers used in the Managed Inclusion process, raising concerns regarding their overall effectiveness. For example, in November 2013, we found that TSA had not demonstrated that behavioral indicators can be used to reliably and effectively identify passengers who may pose a threat to aviation security.[14] While TSA is taking steps to revise and test the behavior detection program, such as working to provide scientifically validated evidence that demonstrates that behavioral indicators can be used to identify passengers who may pose a risk to aviation security, the issue

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[13]In addition to the ASAP covert testing, TSA also regularly conducts independent covert "red team" testing to measure the effectiveness of TSA security systems and identify vulnerabilities in transportation security as a whole. TSA develops and deploys red team tests based upon current intelligence of threats against transportation systems. Unlike ASAP tests, red team tests are not standardized across airports. For example, while the number of red team tests conducted at one airport may be equal to the number at another airport, the type of tests conducted at those airports may be entirely different, which makes it difficult to compare performance across airports. As such, we did not include red team testing in the scope of our review.

[14]See GAO, *Aviation Security: TSA Should Limit Future Funding for Behavior Detection Activities*, GAO-14-159 (Washington D.C.: Nov. 8, 2013).

remains open. As of May 2016, TSA told us that it is taking actions to optimize the effectiveness of its behavior detection program and plans to begin an operational test of these efforts in September 2016. In our December 2014 report, we noted that TSA has previously faced challenges designing studies to test the security effectiveness of programs in accordance with established methodological practices such as ensuring an adequate sample size or randomly selecting items in a study to ensure the results can be generalizable—key features of established evaluation design practices.[15] As a result, we recommended that TSA take steps to ensure and document that its planned testing of the Managed Inclusion process as a system adheres to established evaluation design practices. DHS concurred with our recommendation, and according to TSA officials, TSA has developed a data collection and analysis plan to be used for the testing of the Managed Inclusion system. As of May 2016, TSA is reviewing and finalizing the plan and intends to test it at ten airports in late summer or early fall 2016 according to TSA officials. We will continue to monitor TSA's progress in addressing this recommendation.

In addition, according to a TSA memorandum dated November 2015, TSA made changes to the TSA Pre ✓® Risk Assessment program and Managed Inclusion process to enhance aviation security as a result of the findings and recommendations included in three prior DHS-OIG audit reports.[16] Specifically, TSA made changes to the TSA Pre ✓® Risk Assessment program algorithm used to assign passenger scores because the DHS-OIG found that the program created a potential aviation security vulnerability in at least one instance by identifying a convicted felon as low risk and eligible for expedited screening. As a result, TSA recognized the increased level of uncertainty surrounding a potential threat posed by individuals who obtain expediting screening eligibility

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[15]GAO-14-159 and GAO, *Advanced Imaging Technology: TSA Needs Additional Information before Procuring Next-Generation Systems*, GAO-14-357 (Washington D.C.: Mar. 31, 2014).

[16]DHS Office of Inspector General, *Allegations of Granting Expedited Screening through TSA Pre ✓® Improperly,* OIG-15-45 (Washington, D.C.: Mar.16, 2015); *Security Enhancements Needed to the TSA Pre ✓® Initiative,* (OIG-15-29 (Washington, D.C.: Jan. 28, 2015); and *Covert Testing of TSA's Passenger Screening Technologies and Processes at Airport Security Checkpoints*, OIG-15-150 (Washington D.C.: Sept. 22, 2015).

through the Risk Assessment program as compared to individuals who have been vetted and are included on one of the TSA Pre ✓® lists. Following the public release of the DHS-OIG's covert testing results, TSA officials stated that TSA began a thorough review of checkpoint operations, and as a part of that review, evaluated all methods in which individuals without background checks became eligible for expedited screening. As a result of this evaluation and based on a recommendation from another DHS-OIG audit, TSA documentation shows that TSA discontinued the use of Explosives Trace Detection (ETD) devices as a method used to conduct real time threat assessments and is now limiting the use of Managed Inclusion to airports that employed canine team to detect explosives. According to the TSA administrator, these changes have resulted in a 20 percent decrease in the number of individuals who receive expedited screening.

To address this decrease in expedited screening and its likely effect on passenger wait times, TSA plans to undertake efforts to increase the number of individuals included on the TSA Pre ✓® lists of known travelers from the nearly 8.8 million individuals currently enrolled to 25 million individuals. In order to achieve this increase, TSA plans to change the enrollment process, increase marketing and communication efforts, and expand the number of contractors that provide enrollment services. TSA estimates that the TSA Pre ✓® lists of known travelers will total 25 million individuals in 3 to 4 years.

While TSA Uses TSO Screening Performance Data, It Is Constrained by Incomplete and Unreliable Data and a Lack of Data Analysis and Assessment Follow-Up

TSA utilizes data on TSO performance obtained from its various testing programs to help to ensure that individual TSOs are (1) qualified to conduct passenger and checked baggage screening based on Annual Proficiency Reviews and resulting recertifications, and (2) demonstrate proficiency, during live screening operations, in their adherence to screening standard operating procedures and other TSA guidance for detecting prohibited items. However, incomplete and unreliable data and limited analysis constrains TSA's ability to determine the true level of TSO performance in screening passengers and baggage for prohibited items. Without this knowledge, TSA cannot fully identify and make necessary improvements to screening operations.

TSA Uses TSO Performance Data to Inform TSO Training

TSA has several programs in place to yield data for oversight and analysis of TSO screening performance. As noted previously, TSA relies on Annual Proficiency Reviews (APR) to recertify TSOs. TSA's Office of Training and Workforce Engagement examined the results of specific APR component tests administered in 2013 to inform their development of related courses for the annual training curriculum for TSOs, known as the National Training Plan (NTP). Specifically, TSA officials stated they reviewed the results of these component tests—screening of individuals with disabilities, bag searches, and standard pat downs—and added training to the fiscal year 2015 NTP to specifically address the deficiencies they identified.

In addition, during live screening operations, TSA also monitors individual TSO performance through (1) Threat Image Projection (TIP) testing by local TSA officials which assesses the TSOs' proficiency at identifying prohibited items in X-ray images of passengers' carry-on baggage, and (2) Aviation Screening Assessment Program (ASAP) covert tests which assess the TSOs' ability to properly adhere to screening standard operating procedures and prevent the passage of prohibited items through passenger and baggage checkpoints.[17] TSA monitors the results of these testing programs to determine whether individual TSOs need remedial training based on the results.

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[17]The scope of our review resulting in our May 2016 report encompassed how TSA tests the extent to which TSOs adhere to the standard operating procedures for screening, which is the primary focus of the ASAP and the other testing programs detailed in that report. Our report did not examine "red team" testing where covert operatives test the limits of the security system by not only testing TSOs' adherence to screening SOPs, but also the screening technology and processes in place at the security checkpoint.

Incomplete and Unreliable Data and A Lack of National Analysis Limit TSA's Ability To Assess TSO Performance

Incomplete Data

TSA policy requires airport personnel to manually download TIP testing results from their individual X-ray machines and upload the monthly data into TSA's national database repository for TSA results. According to TSA headquarters personnel responsible for overseeing the TIP program, they use these uploaded results to determine if any adjustments are needed to the quality or usefulness of the library of images maintained in the TIP system nationwide. However, as we found in May 2016, some airports had failed to submit TIP data as required. As shown in figure 2, some airports in all five airport risk categories did not report any TIP results nationally over the course of a year from fiscal year 2010 through fiscal year 2013. During the fiscal year 2009 through 2014 time frame, fiscal year 2013 had the highest percentage of airports failing to report any TIP data at nearly 14 percent. For category X and I airports, these results had generally improved by fiscal year 2014 with all of these airports reporting TIP data that year. However, the percentage of category III and IV airports that did not report TIP data generally increased during fiscal years 2013 and 2014 compared to prior years.

Figure 2: Percentage of Airports Not Reporting Threat Image Projection (TIP) Data for Fiscal Years 2009 through 2014 by Airport Category
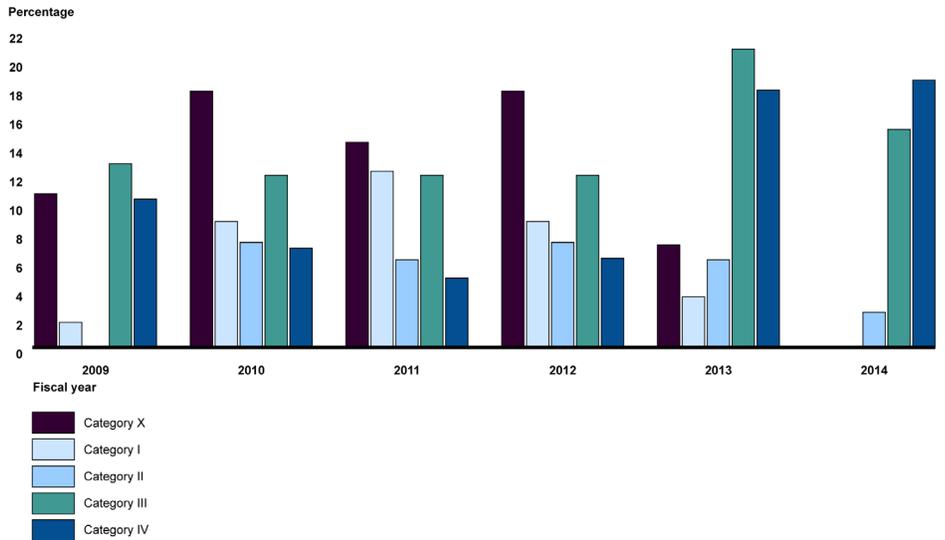
Source: GAO analysis of Transportation Security Administration TIP results data. | GAO-16-707T

TSA officials attributed the missing TIP data to a transition to new X-ray screening equipment at certain airports from fiscal year 2009 through fiscal year 2012. Officials stated that, due to software compatibility issues with the new machines, TIP image capability was turned off for an extended period of time, meaning that TIP testing was not occurring on these machines and, therefore, TIP data were neither collected nor reported for these airports. TSA officials also told us that their older X-ray machines do not have the capability to automatically upload TIP data results to headquarters. As a result, some airports relying on these older X-ray machines were not able to submit TIP data automatically by electronic means and did not submit it manually. TSA officials reported that they do not have a process for determining whether TIP data have been submitted by all airports, on a regular basis, as required. TSA officials told us they are making efforts to install automatic uploading capabilities to all new machines that they expect will help ensure that TIP data reporting is complete and timely. However, TSA has placed these efforts on hold pending security concerns that must first be addressed stemming from the recent cybersecurity breaches at the Office of Personnel Management that have led to TSA reviewing its own cybersecurity efforts before moving forward with installation of automatic uploading capabilities on its X-ray machines.

TSA officials also acknowledged that, in addition to the airports discussed above that did not report any TIP data for a year or more at a time, other airports may have reported only partial TIP results data during this same time frame. TSA officials stated that, in the nationwide results data provided to GAO, it would be difficult to ascertain how much data might be missing from individual airports (during the time period covered by our data) since the number and type of machines in use at those airports at any particular point in time could vary.[18]

Based on our observation of the incomplete TIP data, we recommended in May 2016 that DHS ensure that TSA officials at individual airports submit complete TIP results to the national database as required by TSA policy. In addition, we noted that *Standards for Internal Control in the Federal Government* states that the information requirements needed to achieve the agency's objectives should be identified and communicated to management in a timely manner in order that they may carry out their internal control and other responsibilities.[19] Further, we stated that, unless TSA takes steps to ensure that all airports submit complete, nationwide TIP data, TSA lacks assurance that (1) the decisions it makes on the content of the TIP image library are fully informed, and (2) TSOs are receiving remedial training from the TIP program which has been developed to aid their ability to identify prohibited items. In addition, we noted that, by not ensuring the collection of available TIP data as required, the effectiveness of any potential further use of TIP testing results to inform TSO training or testing (as described below) programs would be limited.

DHS concurred with our recommendation on ensuring the completeness of TIP data and is taking steps to address it. Specifically, DHS reported in April 2016 that TSA is working to establish a tracking system that will automatically identify and highlight specific airports that may be missing

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[18]TSA officials added that missing TIP data for some of the airports is attributable to the fact that they are either (1) seasonal airports that only have commercial flights for a portion of the year or (2) have ended commercial flights entirely. Therefore, when commercial flights are not occurring at these airports, no federal screening—or associated TIP reporting—will occur. However, TSA officials were unable to provide detail on how many of the airports were missing TIP data because of these circumstances and acknowledged that these reasons did not apply to all the instances of missing airport data.

[19]GAO/AIMD00.21.3.1 and GAO-14-704G.

from the database, which will allow TSA managers to follow up with the FSDs responsible for those airports. TSA expects to pilot an information technology tool that is key to this system by May 2017. In the interim, TSA will reinforce the policy for reporting TIP results in weekly conference calls with field staff.

A Lack of National Analysis to Inform Screening Efforts

Once complete TIP data are available, TSA could use those data to more accurately monitor the effectiveness of its TSO training. TSA headquarters officials stated that they had previously not systematically analyzed TIP results data to determine any national trends for the purposes of informing future training programs or changes to screening processes or procedures. TSA officials reported that they had not used TIP data in this manner due to the agency's expectation that TIP is a tool primarily for the benefit of local FSDs to use in monitoring the training needs, and determining areas of focus, for their individual TSOs locally. Specifically, we found that, without this complete picture that would be afforded by analysis of nationwide TIP results, TSA could not use the results to fully inform TSO training for screening passenger carry-on baggage for prohibited items that would help ensure continuous improvement in screening operations.

As a result of our examination of TSA's use of TIP data, we recommended in May 2016 that, after complete TIP data were available, DHS ensure that TSA conduct analysis of national TIP data for trends that could inform training needs and improve future training and TSO performance assessments. We noted that using this trend analysis to inform TSO training and enhance TSO performance would satisfy provisions of the *Standards for Internal Control in the Federal Government* which state that an agency's management should perform ongoing monitoring of its internal control system and associated operations, evaluate the results of those monitoring activities, and take corrective actions when warranted to achieve objectives and address risks.[20] Further, we noted that by not including analyses of TIP results data in nationwide efforts to inform either TSO training or other image-based testing outside of TIP, TSA is missing an opportunity to utilize this extensive, nationwide TSO performance data for enhancing screening operations in addition to lacking assurance that remedial training is

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[20] GAO/AIMD-00-21.3.1.

occurring, as required, at all airports. DHS concurred with this recommendation and is taking steps to address it. Specifically, DHS reported in April 2016 that TSA is (1) examining airports with the best TIP scores to develop best practices that can be shared with other airports, (2) examining airports with low TIP scores to better understand challenges and options for improving TIP performance, (3) planning to analyze data nationwide to determine what training best improves TIP scores, and (4) developing a process to examine which categories of images most often present challenges to the screening workforce which will inform training efforts. TSA also plans to assess TIP training and assessments over a one-year period ending in May 2017 to determine if performance improvements have been realized and what contributed to the improvement. TSA's plan for analysis is commendable, but until the TIP data is largely complete, any nationwide review will be limited.

ASAP Covert Test Results are Unreliable

As we also reported in May 2016, TSA determined that ASAP pass rate results data were unreliable, which caused them to question the extent to which ASAP tests accurately measure TSO performance. According to TSA officials, they hired a contractor to perform independent ASAP testing at 40 airports in fiscal year 2015 to verify the reliability of the results of testing previously performed by TSA personnel at those airports.[21] TSA found differences in the test results for most of the 40 airports when compared to the contractor's results. Specifically, TSA officials found that TSOs at these 40 airports performed more poorly in the ASAP tests conducted by the contractor personnel as compared to the prior ASAP testing done by the local TSA personnel—indicating that these prior-year pass rates were likely showing a higher level of TSO performance in screening passengers and baggage for prohibited items than was actually the case. While TSA officials are still in the process of determining root causes for the variances of the testing results between the contractor and TSA personnel at the airports, they acknowledged that initial results from the contractor appeared to confirm their prior concerns that problems existed with maintaining the covert nature of the tests.

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[21]According to TSA, the goals of the independent covert testing done by the contractor were to (1) establish a baseline of expected screener performance, (2) assess the ASAP program, (3) validate the accuracy of historical ASAP data, and (4) capture and record sources of officer failure to follow procedures and detect threats and identify the root causes of the failures to follow procedure.

These prior concerns had been based on higher detection rates at some airports when compared to other airports on the same tests performed.

In order to address the concerns stemming from the contractor's test results, TSA initiated the following actions after reviewing results of the contractor's initial round of testing in fiscal year 2015:

- Conducted briefings with FSDs on the contractor's findings and ongoing ASAP testing which included expectations that the FSDs use the information as input in overseeing their local ASAP testing programs. According to TSA officials, they are engaging in more frequent and improved communication with FSDs and staff responsible for the ASAP testing and are including discussions of potential corrective actions when warranted.

- Extended the work of the contractor by 6 months in order to determine if the previously-identified variances in results are continuing.

- Engaged in efforts to better identify root causes of ASAP testing failures, including the development of a data collection tool to facilitate these efforts.

- Added an ASAP headquarters testing program that will supplement the ASAP testing conducted by TSA field personnel. These headquarters testing teams will perform, on a permanent basis, the quality assurance and validation activities for ASAP that are currently being performed by the contract test teams. However, field personnel will continue to conduct the majority of ASAP testing.

TSA officials stated that, through these measures, they believe they are enhancing the accountability of the local FSDs and their staff for ensuring the quality and reliability of the local ASAP testing programs moving forward. The officials added that partial results during the 6-month extension period of contract testing indicated that the previously-identified variances in contractor and local ASAP testing had been reduced.

TSA Does Not Follow Up On Implementation of Recommendations Stemming from ASAP Testing at Airports

As we reported in May 2016, TSA does not track whether recommendations from their summary reports on ASAP results have been implemented or reasons for not implementing them. These recommendations may include, among other things, additional training for certain points in the screening process and further testing in certain areas. TSA officials stated that the various recommendations in the reports are strictly for the consideration of FSDs in the field and implementation is not mandatory. Such tracking would be consistent with

Standards for Internal Control in the Federal Government which requires that internal controls be designed to ensure that ongoing monitoring occurs during the course of normal operations.[22] This tracking would also help ensure that airports nationwide are taking corrective actions to improve TSA performance, which the agency has identified as an area of concern. Moreover, we reported that tracking the implementation of its recommendations, including the extent to which identified corrective actions are improving subsequent TSO performance and test results, will help TSA better determine the extent to which its implemented recommendations are leading to improvements in screening operations and appropriately addressing identified root causes for previous test failures. Further, without the assurance that recommendations for corrective actions based on the root causes identified in ASAP testing will be fully implemented—where appropriate—nationwide, we stated that TSA would be limited in its ability to take full advantage of any findings from the program.

Based on TSA's lack of a tracking mechanism for the implementation of its ASAP-related recommendations to the field, we recommended in May 2016 that DHS direct TSA to track implementation by airports of these recommendations to ensure that corrective actions identified through ASAP testing are being applied. DHS concurred with this recommendation and is taking steps to address it. Specifically, DHS reported that TSA is taking actions to formalize ASAP reporting including the development of a standard format for corrective action plans that will help TSA track corrective actions and their effectiveness in addressing findings from ASAP tests. TSA expected to complete these actions by May 31, 2016.

Chairman Johnson, Ranking Member Carper and Members of the Committee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

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[22]GAO/AIMD-00-21.3.1.

GAO Contacts and Staff Acknowledgments

For questions about this statement, please contact Jennifer Grover at (202) 512-7141 or groverj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this statement include Chris Ferencik (Assistant Director), Mike Harmond, Michelle Vaughn, Ellen Wolfe, Amanda Miller, Thomas Lombardi, and Dominick Dale. Key contributors for the previous work that this testimony is based on are listed in each product.