Advanced Integrated Passenger and Baggage Screening Technologies

October 22, 2015

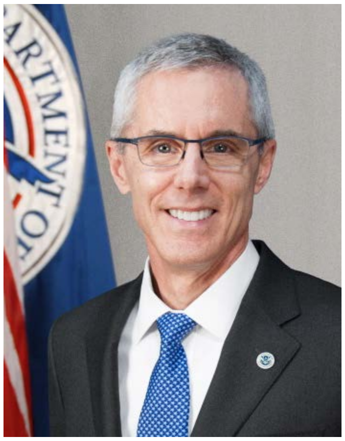
Fiscal Year 2015 Report to Congress

Homeland Security

Transportation Security Administration

Message from the Administrator

October 22, 2015



I am pleased to present the following report, "Advanced Integrated Passenger and Baggage Screening Technologies," prepared by the Transportation Security Administration (TSA).

This report was compiled pursuant to the *Fiscal Year 2015 Department of Homeland Security* (DHS) *Appropriations Act* (P.L. 114-4) and accompanying Senate Report 113-198. The report details the Department's efforts and resources devoted to developing more advanced integrated passenger screening technologies for the most effective security of passengers and baggage at the lowest possible operating and acquisition costs; how TSA is deploying its existing screener workforce in the most cost-effective manner; and the labor savings from the deployment of improved technologies for passenger and baggage screening and how those savings are being used to offset security costs or are being reinvested to address security vulnerabilities. The report also includes projected funding levels for the next five fiscal years or until project completion for each technology discussed.

Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable John R. Carter
Chairman, House Appropriations Subcommittee on Homeland Security

The Honorable Lucille Roybal-Allard
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable John Hoeven
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable Jeanne Shaheen
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

If you have any questions, please do not hesitate to contact me at (571) 227-2801 or the Department’s Deputy Under Secretary for Management and Chief Financial Officer, Chip Fulghum, at (202) 447-5751.

Sincerely yours,

Peter V. Neffenger
Administrator

Executive Summary

The *Fiscal Year 2015 Department of Homeland Security Appropriations Act* (P.L. 114-4), and accompanying Senate Report 113-198, requires the Transportation Security Administration (TSA) to submit a detailed report to address the following:

- DHS efforts and resources that are being devoted to developing more advanced integrated passenger screening technologies for the most effective security of passengers and baggage at the lowest possible operating and acquisition costs;
- How TSA is deploying its existing passenger and baggage screener workforce in the most cost-effective manner; and
- Labor savings from the deployment of improved technologies for passenger and baggage screening and how those savings are being used to offset security costs or are being reinvested to address security vulnerabilities.

The report also includes projected funding levels for the next five fiscal years or until project completion for each technology discussed.

TSA has made great strides in advancing aviation security through innovative technology investments and continuous evaluation of workforce effectiveness and efficiencies. By developing new technologies and improving its processes, TSA is able to screen passengers and their baggage more effectively and efficiently.

TSA is enhancing existing checkpoint and checked baggage screening technologies, such as Advanced Imaging Technology, Advanced Technology X-ray, Enhanced Metal Detector, Explosives Detection Systems, and Explosives Trace Detection, to increase detection capabilities and efficiencies. In addition to enhancing existing technologies, TSA also is investing in new technologies, such as the Credential Authentication Technology, to better protect the country and its citizens from current and emerging threats.

While enhancing existing technologies and acquiring new technologies, TSA is committed to identifying efficiencies, especially in regard to personnel and equipment integration. For instance, TSA currently uses the Enhanced Staffing Model process to allocate its security workforce effectively at approximately 440 airports across the country. TSA also is committed to instituting processes, such as the Risk-Based Security (initiative, to use its technologies and personnel more effectively.

The threat to U.S. commercial aviation is evolving constantly. By employing smarter security practices in developing and deploying our people, processes, and technologies, we are delivering more effective security in a more efficient manner.

Advanced Integrated Passenger and Baggage Screening Technologies

Table of Contents

I. Legislative Language

This report is submitted pursuant to the *Fiscal Year* (FY) *2015 Department of Homeland Security* (DHS) *Appropriations Act* (P.L. 114-4) and accompanying Senate Report 113-198.

P.L. 114-4 states:

> *Provided further*, That not later than 90 days after the date of enactment of this Act, the Administrator of the Transportation Security Administration shall submit to the Committees on Appropriations of the Senate and the House of Representatives a detailed report on—
>
> (1) the Department of Homeland Security efforts and resources being devoted to develop more advanced integrated passenger screening technologies for the most effective security of passengers and baggage at the lowest possible operating and acquisition costs, including projected funding levels for each fiscal year for the next 5 years or until project completion, whichever is earlier;
>
> (2) how the Transportation Security Administration is deploying its existing passenger and baggage screener workforce in the most cost effective manner; and
>
> (3) labor savings from the deployment of improved technologies for passenger and baggage screening and how those savings are being used to offset security costs or reinvested to address security vulnerabilities:

Senate Report 113-198 states:

> ADVANCED INTEGRATED SCREENING TECHNOLOGIES
>
> Pursuant to a statutory requirement in the bill, TSA is to continue providing a report on advanced integrated passenger screening technologies for the most effective security of passengers and baggage not later than 90 days after the date of enactment of this act. The report provides a useful description of existing and emerging equipment capable of detecting threats concealed on passengers and in baggage as well as projected funding levels for the next five fiscal years for each technology discussed in the report.

II. Introduction

Since its creation following the terrorist attacks of September 11, 2001, TSA has made great strides in advancing aviation security through innovative technology investments and continuous evaluation of workforce efficiencies.

TSA employs risk-based, intelligence-driven operations to reduce the vulnerability of the Nation's transportation system to terrorism. Our mission is to protect the Nation's transportation systems by staying ahead of evolving terrorist threats while protecting privacy and civil liberties, and facilitating the flow of legitimate travel and commerce. TSA's measures create a multi-layered system of transportation security that substantially mitigates risk. Moreover, to remain ahead of those who seek to do us harm, TSA continues to evolve its security approach by constantly evaluating the procedures and technologies TSA uses, how specific security procedures are carried out, and how screening is conducted.

TSA occupies the front lines of the Nation's transportation security responsibilities. These responsibilities include security screening of passengers and baggage at approximately 440 airports in the United States that facilitate air travel for approximately 1.8 million people per day, and prescreening more than 14 million passengers each week. TSA also conducts security regulation compliance inspections and enforcement activities at airports for domestic and foreign air carriers, and for air cargo screening operations throughout the United States and at last point of departure locations internationally.

TSA also is committed to improving security in the most cost-effective manner possible. Through advancements in technology and workforce efficiency, TSA accommodated an increased workload that has accompanied the growing number of carry-on bags at checkpoints due to the current practice of many airlines charging fees for all checked baggage; the restrictions on liquids, aerosols, and gels that were implemented to counter a known terrorist threat; and the screening required for the significant increase in the number of laptops carried by passengers. By employing smarter security practices in developing and deploying our people, processes, and technologies, TSA continues to advance its vision of a high-performing, highly capable counterterrorism organization that is guided by a risk-based approach to prevent attacks and safeguard legitimate trade and travel.

III. Advancing Integrated Passenger and Baggage Screening Technologies

Threats to aviation security persist and continue to evolve. As a result, passenger and checked baggage security screening must continue to adapt to meet evolving threats and changes within the aviation industry. TSA identifies, tests, procures, deploys, upgrades, and maintains equipment that is capable of detecting threats concealed on passengers and in their baggage. The Passenger Screening Program and the Electronic Baggage Screening Program are responsible for acquiring new and/or upgraded technologies to improve aviation security. These programs work with technology users and other stakeholders to ensure that the technologies that are acquired and fielded meet all necessary workforce and security requirements. Technology users include operators such as transportation security officers (TSO), while stakeholders include local, national, and international partners, both within and outside of government. Both the Passenger Screening Program and the Electronic Baggage Screening Program test security equipment at the TSA Systems Integration Facility located at the Ronald Reagan Washington National Airport in Virginia, the DHS Transportation Security Laboratory located at the Atlantic City International Airport in New Jersey, and in other testing activities at airports across the United States.

Risk-based security (RBS) is a key component of TSA's transformation into a high-performing counterterrorism organization in support of the larger DHS mission to prevent terrorism and enhance security. By applying risk mitigation principles to enhance security effectiveness through initiatives such as TSA Pre✓®, TSA is enhancing security and improving the traveler experience by expediting physical screening for passengers who are deemed lower risk to aviation security.

TSA has expanded significantly its expedited screening operations at all of the approximately 440 federalized airports. Expansions include increasing the number of airports providing TSA Pre✓® screening to more than 130, providing expanded expedited screening for TSA Pre✓® eligible passengers, and increasing the number of airlines participating in TSA Pre✓® from 6 to 11.[1] The TSA Pre✓® application program reached a huge milestone in March 2015, enrolling more than 1 million passengers. The program now has more than 330 enrollment centers nationwide, 31 of which are located within airports.

[1] Participating air carriers include: Air Canada, Alaska Airlines, American Airlines, Delta Airlines, Hawaiian Airlines, JetBlue Airways, Southwest Airlines, Sun Country Airlines, United Airlines, US Airways, and Virgin America.

TSA's RBS initiatives are driving changes to TSA processes and technology requirements. For example, TSA Pre✓® lanes provide eligible passengers with an expedited screening experience, which includes no longer removing shoes, leaving laptops in their bag, leaving on light jackets/outerwear, and other measures. TSA will focus on deploying security capability platforms that allow for future enhancements and upgrades to add detection capabilities and improve performance in support of RBS initiatives, and as the technology matures and the threat landscape changes.

This section of the report addresses passenger screening technologies, baggage screening technologies, and the programs and initiatives that TSA is undertaking to integrate these technologies within the TSA network and other government agency networks.

A. Checkpoint Technologies

TSA is undertaking efforts to focus its resources and improve the effectiveness of screening while sustaining the passenger experience at security checkpoints by applying new intelligence-driven, risk-based screening procedures and enhanced technology. TSA has implemented several RBS initiatives to partition risk populations and to expedite the screening process for an increasing number of low-risk or trusted passengers. The successful implementation and expansion of RBS initiatives include increasing expedited screening provided to low-risk passengers, and positively affecting the full operational capability (FOC) of TSA transportation security equipment (TSE) for more efficient operations. The FOC numbers will be reassessed periodically to reflect changes associated with RBS initiatives.

To address the security challenges at the passenger screening checkpoint, TSA employs a flexible and robust multi-layered approach to detecting an evolving range of threats. TSA also is investing in initiatives, such as technology automation and equipment integration, to screen passengers more effectively and efficiently, improve the overall passenger experience, and promote cost savings.

TSA strives to automate technologies and detection processes to improve effectiveness while reducing scanning and image processing times and human error, and while rightsizing the number of personnel needed at the checkpoint. Threat detection algorithm software is designed to detect threats automatically or other anomalies concealed on passengers and in their carry-on baggage as they pass through the security checkpoint. The implementation of threat detection algorithms on existing and new x-ray systems is expected to improve TSA's ability to detect and increase throughput at the checkpoint, decrease the probability of false alarms, bring consistency into the screening process, and reduce physical inspections.

To fulfill its security responsibilities for deploying and operating state-of-the-art security technology at approximately 440 airports across the Nation, TSA must be able to deploy technology rapidly to respond to changing threat information, or to have equipment ready to deploy when airport facilities are modified. In addition, TSA must have the ability to stand up operations in locations affected by natural disasters and other crises. These factors and others require that the agency have a steady inventory of technology available to deploy to continue to strengthen aviation security.

In addition, TSA uses a competitive procurement process for its checkpoint technologies, working with technology vendors to build systems that meet the agency's requirements. TSA makes a best-value decision to acquire technology at the best possible price, which either meets or exceeds agency requirements. Full-rate production delivery orders can be awarded to one or multiple vendors depending on the program acquisition strategies implemented.

B. Existing Checkpoint Technologies and Upgrades

TSA identifies, tests, procures, deploys, upgrades, and maintains equipment to screen passengers and their carry-on baggage at airports nationwide. Current deployed technologies include:

- Advanced Imaging Technology (AIT);
- Advanced Technology (AT) X-ray;
- Boarding Pass Scanners (BPS);
- Bottled Liquids Scanners (BLS);
- Enhanced Metal Detectors (EMD); and
- Explosives Trace Detectors (ETD).

The following sections will outline TSA's current and planned initiatives for these existing technologies.

1. Advanced Imaging Technology

AIT is designed to increase security by safely screening passengers for metallic and non-metallic threats, including weapons, explosives, and other objects concealed under layers of clothing. EMDs and AIT will be used in TSA Pre✓® lanes as part of the RBS initiative.

TSA had procured 758 AIT systems by the end of FY 2014 for testing and/or deployment to airports. TSA awarded an indefinite delivery/indefinite quantity (IDIQ) contract delivery order in March 2015 for the procurement of an additional 61 AIT-2 systems. AIT-2 systems are standardized with a higher detection tier than the originally deployed first-generation AIT systems (AIT-1) and have a smaller physical footprint at the checkpoint. The AIT-2 systems are being deployed with Tier II capability. When all

AIT-2 systems are deployed, the total number of units deployed will be 805 AIT systems, at approximately 200 airports nationwide. Deployment of the AIT-2 systems currently is scheduled to be completed in the first quarter of FY 2016.

In January 2014, TSA completed follow-on operational test and evaluation of AIT-1 Tier II with automated target recognition detection capability at three airports: Richmond International, Oakland International, and Chicago O'Hare International. The data were reviewed and the systems evaluation report was completed by the systems evaluator on March 14, 2014. The systems evaluation report was delivered to the DHS Director of Operational Test and Evaluation for review. TSA received a final AIT-1 Tier II with an automated target recognition letter of assessment from the DHS Director of Operational Testing and Evaluation in June 2014. TSA began deploying the Tier II capability to AIT-1s in airports in November 2014. The Tier II deployment to all fielded units was completed by the end of March 2015.

AIT is an example of a checkpoint technology that is undergoing automation development efforts through the use of threat detection algorithm software. TSA currently is working with industry to develop enhanced detection capabilities. TSA also may explore new algorithm techniques and additional technological advances to improve image processing and address a variety of threats.

Table 1: AIT Actual and Planned Purchases
($ in thousands)

AIT [1] FOC: 870	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds [2]	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds [3]	Planned Purchases with FY 2020 Funds	Total [4]
Units	758	61	0	0	0	0	43	202	1,064
Acquisition Costs	$125,096	$10,070	$0	$0	$0	$0	$6,863	$30,824	$172,853
System Integration	$41,690	$3,355	$0	$0	$0	$0	$2,366	$11,114	$58,525
Acceptance Testing	$3,790	$305	$0	$0	$0	$0	$82	$393	$4,570
Maintenance	$45,635	$0	$12,745	$13,912	$16,694	$17,025	$17,746	$18,817	$142,574
Total	**$216,211**	**$13,730**	**$12,745**	**$13,912**	**$16,694**	**$17,025**	**$27,057**	**$61,148**	**$378,522**

1. This table does not include the 251 Rapiscan units that were removed from field operations in FY 2013. The Rapiscan units were removed to comply with the *Federal Aviation Administration Modernization and Reform Act of 2012*, which mandated that all AIT systems must have automated target recognition installed. The 758 AIT systems purchased through the end of FY 2014 include 9 Low Rate Initial Production AIT-2 units.
2. Includes expiring and no-year carryover funds that are available for obligation in FY 2015.
3. Per the Passenger Screening Program Life Cycle Cost Estimate (approved May 2014), recapitalization efforts begin in this year.
4. Total units may exceed FOC levels. This is due to the fact that Table 1 does not reflect equipment removals that occur during the recapitalization process.

2. Advanced Technology X-ray

TSA utilizes AT x-ray systems at the checkpoints to screen roughly 3 million carry-on bags for explosives each day. AT x-ray technology detects threats in carry-on baggage by providing a clear, high-definition x-ray image. AT x-ray technology refers to both first-generation AT x-ray (AT-1) and next-generation AT x-ray (AT-2) units.

The AT systems have multiple projection x-ray sources that provide multiple views of the contents in a carry-on bag. AT x-ray systems are designed to support the application of detection algorithms to find both liquid and bulk explosives threats. TSA began replacing the Threat Image Projection X-ray (TRX) legacy carry-on baggage screening systems with AT units in 2008. The TRX systems could not offer the enhanced functionality offered by AT x-ray systems, such as automated detection and improved imaging capabilities. At present, approximately 60 TRX machines remain across fewer than 50 airports.

TSA purchased the first AT-1 systems in 2008. An upgrade was performed on the AT-1s between 2011 and 2012, which included updating software, adding an infrared operator sensor, adding a queueing conveyor (Rapiscan only), and adding Alternate Viewing Stations (secondary workstations)[2], all of which brought the AT-1 equipment to functional equivalency with the AT-2 equipment. The purchase and deployment of AT-2 systems began in 2012. Of the 2,197 units procured to date, TSA has deployed approximately 2,160 units at airports as of March 2015. TSA plans to procure and deploy 55 additional systems beginning in the fourth quarter of FY 2015.

To support the TSA RBS rapid expansion of the TSA Pre✓® screening lanes, AT-2 provides a programmable platform that is expected to achieve additional functionality to improve the overall passenger experience. For example, TSA is working to eventually lift limitations on liquids and laptops in carry-on bags. As threats emerge and the technical capabilities improve, enhancements to the AT systems at airports may include both software upgrades as well as procedural changes. TSA continues to work with vendors to develop and deploy enhanced detection capabilities.

[2] An alternate viewing station is where a TSO can recall the image of an alarmed bag from the AT-2 while performing a target bag search. It is an extension of the AT-2 that is mobile or fixed, and near or as a part of the search table where the targeted search is being conducted. It aids the TSO by providing a visual and location of the item of interest, resulting in enhanced security effectiveness and efficiency.

Table 2: AT X-ray Actual and Planned Purchases
($ in thousands)

AT FOC: 2,030	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds [1, 3]	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds [2]	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total [4]
Units	2,197	55	0	0	296	233	169	196	3,146
Acquisition Costs	$257,564	$9,300	$0	$0	$38,806	$30,546	$22,156	$25,696	$384,068
System Integration	$87,880	$2,200	$0	$0	$10,393	$8,181	$5,934	$6,882	$121,470
Acceptance Testing	$10,985	$275	$0	$0	$544	$436	$323	$381	$12,944
Maintenance	$163,091	$0	$32,068	$36,359	$40,863	$41,669	$40,755	$38,453	$393,258
Total	**$519,520**	**$11,775**	**$32,068**	**$36,359**	**$90,606**	**$80,832**	**$69,168**	**$71,412**	**$911,740**

1. Includes expiring and no-year carryover funds that are available for obligation in FY 2015.
2. Per the Passenger Screening Program Life Cycle Cost Estimate (approved May 2014), recapitalization efforts begin this year.
3. TSA will be procuring additional AT units in FY 2015 to meet operational requirements. The FOC will be adjusted in future budget and program acquisition documents.
4. Total units may exceed FOC levels. This is due to the fact that Table 2 does not reflect equipment removals that occur during the recapitalization process

3. Boarding Pass Scanners

BPSs are systems that read two-dimensional barcodes located on tickets issued by airlines that participate in TSA Pre✓®. They read and decrypt electronic (mobile and print at home) and paper (kiosk and ticket counter) boarding passes.

An IDIQ was awarded in August 2013 to Desko LLC, NCR Government Systems LLC, and IER Incorporated, and TSA proceeded to purchase 901 units from Desko LLC and 499 units from NCR Government Systems LLC. An additional procurement was initiated in 2014 for 75 units from Desko to support passenger screening at McCarran International Airport in Las Vegas and Dallas/Fort Worth International Airport.

In November 2014, TSA established new IDIQ contracts with Desko LLC, NCR Government Systems LLC, and IER Incorporated to increase the ceiling to 2,100 units. TSA procured and deployed an additional 625 Desko units as of March 24, 2015, to achieve the 2,100 unit total.

Table 3: BPS Actual and Planned Purchases
($ in thousands)

BPS FOC: 2,100	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds [1]	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total [2]
Units	1,475	625	0	0	0	0	0	0	2,100
Acquisition Costs	$2,713	$1,056	$0	$0	$0	$0	$0	$0	$3,769
System Integration	$0	$0	$0	$0	$0	$0	$0	$0	$0
Acceptance Testing	$442	$188	$0	$0	$0	$0	$0	$0	$630
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$3,155**	**$1,244**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,399**

1. Includes expiring and no-year carryover funds that are available for obligation in FY 2015.
2. With the procurement of the 625 units in FY 2015 with carryover funding, TSA is at FOC.

4. Bottled Liquids Scanners

As of March 2015, TSA has deployed approximately 1,554 BLS units. The BLS technology can discriminate explosives or flammable liquids from common, benign liquids carried by passengers. Deployed BLS units currently operate at the Tier 1 specification, which provides a primary resolution of liquids contained in clear or translucent bottles. The BLS technology is the primary screening tool for medically exempt liquids traversing the checkpoint. TSA is working with industry to develop capabilities that detect a broader range of threats, enable the screening of opaque containers, and detect smaller quantities of liquid explosives.

Table 4: BLS Actual and Planned Purchases
($ in thousands)

BLS FOC: 1,530	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds [1]	Planned Purchases with FY 2020 Funds	Total [2]
Units	1,690	0	0	0	0	0	61	367	2,118
Acquisition Costs	$50,893	$0	$0	$0	$0	$0	$2,001	$12,038	$64,932
System Integration	$0	$0	$0	$0	$0	$0	$0	$0	$0
Acceptance Testing	$1,690	$0	$0	$0	$0	$0	$70	$427	$2,187
Maintenance	$16,582	$0	$2,358	$2,559	$2,737	$2,460	$2,528	$1,991	$31,215
Total	**$69,165**	**$0**	**$2,358**	**$2,559**	**$2,737**	**$2,460**	**$4,599**	**$14,456**	**$98,334**

1. Per the Passenger Screening Program Life Cycle Cost Estimate (approved May 2014), recapitalization efforts begin this year.
2. Total units may exceed FOC levels. This is due to the fact that Table 4 does not reflect equipment removals that occur during the recapitalization process. Additionally, BLS procurements achieved FOC of 1,690 units in FY 2013. Subsequently, because of RBS initiatives, the FOC was updated/lowered to 1,530 units.

5. Enhanced Metal Detectors

TSA currently uses EMDs to locate potential metallic threats on a person, including beneath clothing or otherwise obscured. Although EMDs have given way to AIT as the primary passenger screening device at airport screening checkpoints, a need still exists for metal detectors to provide passenger screening capabilities at airports. EMDs are used where AIT does not exist, for AIT overflow, and for use on certain low-risk travelers.
As passenger volumes steadily increase and the number and types of metallic threats continue to evolve, TSA seeks an EMD system with improved threat detection and discrimination capabilities, increased throughput, and the ability to support TSA's Unpredictable Screening Process. The implementation of next-generation EMD (EMD-2) technology will help to mitigate this gap.

The mission of EMD-2 devices is to screen passengers effectively at screening checkpoints for prohibited metallic threat objects. The deployment of EMD-2 devices is intended to:

- Increase detection capability;
- Maximize passenger throughput;
- Mitigate passenger privacy and dignity concerns;
- Minimize the impact on the operations in the screening checkpoint and on passengers; and
- Increase or maintain the operational efficiency when compared to legacy walk-through metal detector devices.

Table 5: EMD Actual and Planned Purchases
($ in thousands)

EMD FOC: 1,438	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds [1]	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total [2]
Units	1,445	193	0	897	70	72	28	6	2,711
Acquisition Costs	$13,602	$2,300	$0	$9,688	$756	$778	$302	$65	$27,491
System Integration	$389	$68	$0	$314	$25	$25	$10	$2	$833
Acceptance Testing	$756	$133	$0	$626	$50	$53	$20	$5	$1,643
Maintenance	$9,649	$0	$1,025	$1,032	$1,038	$1,016	$1,048	$1,069	$15,877
Total	**$24,396**	**$2,501**	**$1,025**	**$11,660**	**$1,869**	**$1,872**	**$1,380**	**$1,141**	**$45,844**

1. Includes expiring and no-year carryover funds that are available for obligation in FY 2015.
2. Total units may exceed FOC levels. This is due to the fact that Table 5 does not reflect equipment removals that occur during the recapitalization process. The previous FOC was achieved in 2006. Because of RBS initiatives, the FOC has been reassessed and updated/lowered to 1,438 units.

6. Explosives Trace Detectors

ETDs are employed in checkpoint and checked baggage to screen for traces of explosives. TSOs swab a piece of carry-on or checked baggage, or a passenger's hands, and then place the swab inside the ETD unit to analyze it for the presence of potential explosive residue. TSA is developing next-generation ETD requirements and documentation, such as the concept of operations, operational requirements document, and functional requirements document. Furthermore, TSA plans to implement the new detection standard 6.0 on currently fielded ETD systems in FY 2015 to increase security detection capabilities.

TSA awarded a contract to Implant Sciences for the purchase and deployment of 1,085 checkpoint ETD systems in November 2014; however, there was a protest. The protest was resolved, and the Implant Sciences award once again was released March 2015. TSA expects delivery/installation of ETD systems to begin in June 2015. TSA currently has approximately 5,385 ETDs deployed to airports for both checkpoint and checked baggage screening. Details on the checked baggage ETDs are discussed later in this report in Section III.E.

Table 6: ETD Actual and Planned Purchases
($ in thousands)

ETD FOC: 2,480	Actual Purchases through end of FY 2014	Planned Purchases with all Available Carryover Funds [1]	Planned Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds [2]	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total [3]
Units	1,395	1,085	0	0	0	297	298	298	3,373
Acquisition Costs	$44,700	$19,990	$0	$0	$0	$9,296	$9,327	$9,327	$92,640
System Integration	$2,790	$2,170	$0	$0	$0	$594	$596	$596	$6,746
Acceptance Testing	$488	$380	$0	$0	$0	$105	$107	$109	$1,189
Maintenance	$75,521	$0	$11,548	$17,920	$18,260	$16,204	$16,504	$16,818	$172,775
Total	**$123,499**	**$22,540**	**$11,548**	**$17,920**	**$18,260**	**$26,199**	**$26,534**	**$26,850**	**$273,350**

1. Includes expiring and no-year carryover funds that are available for obligation in FY 2015.
2. Per the Passenger Screening Program Life Cycle Cost Estimate (approved May 2014), recapitalization efforts begin this year.
3. Total units may exceed FOC levels. This is due to the fact that Table 6 does not reflect equipment removals that occur during the recapitalization process.

C. Emerging Checkpoint Technologies

TSA continues to assess and evaluate new checkpoint technologies and capabilities to maximize threat detection and efficiency. An example of emerging checkpoint technologies is Credential Authentication Technology (CAT), which will be used to verify the authenticity of passenger identification while vetting a passenger's traveling status through a network connection to Secure Flight. CAT is expected to reduce the dependency on boarding passes at the Travel Document Checker, identify passengers with false or forged documents, and verify passenger traveling status through a connection to Secure Flight.

In FY 2013, TSA conducted five operational proofs-of-concept on the CAT network solution at Baltimore/Washington International Thurgood Marshall Airport, Phoenix Sky Harbor International Airport, and Ronald Reagan Washington National Airport. In FY 2014, an additional proof-of-concept was performed at George Bush Intercontinental Airport using the Security Technology Integration Program (STIP) network infrastructure designed and built to support the CAT solution. One or two additional pilots may be conducted in the future as Secure Flight's development of this capability moves closer to completion. The primary intentions of the proofs-of-concept were to assist in program requirements development by:

- Assessing the feasibility of using identification documents to reference Secure Flight data and return a status;
- Evaluating the congruency between Secure Flight data and passengers traveling through a checkpoint; and
- Assessing the ability of and impact on TSA's network infrastructure.

In July 2014, TSA awarded a single contract for delivery of 12 CAT units for testing against its requirements. TSA conducted developmental testing at the TSA Systems Integration Facility in late 2014 through early 2015. Operational testing is expected to begin in early fall 2015 at Hartsfield-Jackson Atlanta Airport, Washington Dulles Airport, Los Angeles Airport, Austin-Bergstrom International Airport, and Chicago O'Hare Airport. Pending successful test results, TSA will request authority to procure full-rate production systems and begin deployment.

Table 7: CAT Actual and Planned Purchases
($ in thousands)

CAT FOC: 1,520	Actual Purchases through end of FY 2014 [1]	Planned Purchases with all Available Carryover Funds	Planned Purchases with FY 2015 Funds [2]	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total
Units	12	134	1,046	0	0	0	0	0	1,192
Acquisition Costs	$178	$2,562	$20,500	$0	$0	$0	$0	$0	$23,240
System Integration	$12	$134	$1,255	$0	$0	$0	$0	$0	$1,401
Acceptance Testing	$26	$96	$770	$0	$0	$0	$0	$0	$892
Maintenance	$0	$0	$0	$2,008	$2,081	$2,120	$2,161	$2,216	$10,586
Total	$216	$2,792	$22,525	$2,008	$2,081	$2,120	$2,161	$2,216	$36,119

1. Units displayed are Low Rate Initial Production systems for testing purposes.
2. TSA originally planned to procure a total of 1,520 systems. However, per the July 23, 2015, third quarter spend plan briefing to Congress, TSA has reallocated some funding to procure the 55 AT systems instead.

D. Baggage Screening Technologies

In accordance with the *Aviation and Transportation Security Act of 2001* (ATSA) (P.L. 107-71), TSA screens 100 percent of checked baggage with Explosives Detection Systems (EDS) or a suitable alternative, such as an ETD device. In FY 2014, TSA screened approximately 450 million checked bags. TSA accomplishes this mission by testing, acquiring, deploying, integrating, upgrading, and maintaining technology that screens checked baggage to deter, detect, mitigate, and prevent transportation of explosives or other prohibited items on commercial aircraft while ensuring freedom of movement for people and commerce.

E. Existing Electronic Baggage Screening Technologies

TSA has deployed an advanced fleet of checked baggage screening equipment to meet the security needs of the Nation's aviation network. TSA continues to work with industry to apply spiral and incremental approaches to technology development. This allows TSA to procure technologies and upgrade existing machines as new capabilities arise, instead of requiring complete system replacements.

The initial EDS equipment that was deployed to airports by December 2003, to meet the ATSA mandate, was commonly installed in airport terminal lobbies, increasing congestion in already crowded public areas. The EDS machines generally were not integrated with the airport's baggage handling system. Instead, they were stand-alone installations requiring the manual loading and unloading of bags. These stand-alone EDS machines required high levels of TSO staffing, and did not take advantage of high-throughput capabilities associated with integrated systems. Since achieving the ATSA mandate, TSA's checked baggage focus has expanded to ensure that all airports' checked baggage screening zones use the most efficient and effective technologies. This effort required the deployment of technology with improved performance, and the integration of EDS equipment in line with airport baggage handling systems to improve the efficiency of checked baggage screening operations at many larger airports.

To ensure cost-efficient utilization, TSA has established a methodology to evaluate EDS installation requests. Typically, 1,000 bags per week or 100 bags in a peak hour are the minimum throughput requirements to qualify for an EDS. In the case of a request for an exception, the reasoning for the exception is evaluated and documented. In locations where an airport does not screen the minimum requirement to deem the EDS as being cost-effective, ETD screening is provided.

1. Explosives Detection Systems

EDSs are the primary component of checked baggage screening. EDSs provide imaging, screening, and detection capabilities through computed tomography x-ray technology to identify possible threats and create images of the bag contents. Objectives sought during procurement and deployment of EDSs include minimum maintenance, high detection, high durability, high throughput, and a low false-alarm rate.

In FY 2010, TSA began a competitive procurement effort for EDSs that involves rigorous processes for establishing requirements, testing and evaluating the products, and weighing the value of available options to determine which combination of factors provides the best solution to TSA. The competitive procurement effort is the primary tool for driving the technological changes necessary to achieve increased performance at a lower life-cycle cost. The procurement process is complex because of the emergence of updated certification standards and greater focus on reliability, maintainability, and availability characteristics. This procurement segments EDS technologies into three distinct groups:

- High-speed EDS: Throughput > 900 bags per hour;
- Medium-speed EDS: 400 < Throughput ≤ 900 bags per hour; and
- Reduced-size EDS: 100 < Throughput ≤ 400 bags per hour.

At this time, contracts have been awarded for reduced-size EDSs and medium-speed EDSs. A high-speed EDS is currently in the testing process, and no systems have been deployed.

This equipment can exist in two configurations:

- Stand-alone systems typically are found in lobby screening for small airports, or in larger airports with terminals that have low baggage volumes.
- In-line configurations integrate the EDS equipment into the baggage handling system that is customized for each airport. This type of automation improves working conditions for TSOs, because alarms can be resolved in quieter, dedicated spaces that are properly designed for the alarm resolution function. Also, in-line systems contribute to reduced TSO injury rates.

Since 2010, TSA has been engaged in an EDS competitive procurement to test and procure next-generation EDS. This strategy has allowed TSA to deploy enhanced capabilities successfully to the field in support of its recapitalization efforts. To sustain recapitalization priorities and fulfill purchase requirements for FYs 2015–2017, TSA will continue to procure EDS models listed on the current EDS Competitive Procurement Qualified Product List. However, TSA closed the current EDS Competitive Procurement Qualified Product List to new entrants on February 13, 2015, and will release new requirements for next-generation EDS in late FY 2015 (at the earliest), supporting a shift of focus to the enhanced capabilities mission.

TSA has implemented a robust plan for the recapitalization of EDS technologies reaching the end of useful life and for the optimization of selected airport screening zones. The prioritization of recapitalization projects is based on various factors, including life-cycle support maintenance records and threat detection capabilities.

Table 8: EDS Actual and Planned Purchases

($ in thousands)

EDS	Actual Purchases through end of FY2014	Purchases with all Available Carryover Funds[1]	Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total
Units	1,428	34	36	53	87	65	35	39	1,777
Acquisition Costs	$1,083,831	$33,665	$38,980	$56,466	$96,360	$43,214	$24,582	$32,479	$1,409,577
System Integration	$113,335	$5,530	$0	$16,654	$22,141	$13,622	$9,446	$12,330	$193,058
Acceptance Testing	$2,699	$132	$0	$0	$88	$180	$150	$164	$3,413
Maintenance	$2,387,192	$0	$119,184	$150,816	$148,397	$145,193	$149,117	$154,290	$3,254,189
Total	**$3,587,057**	**$39,327**	**$158,164**	**$223,936**	**$266,986**	**$202,209**	**$183,295**	**$199,263**	**$4,860,237**

1. Includes expiring and no-year carryover funds that are available for obligation in FY 2015

2. Explosives Trace Detectors

TSA has deployed approximately 2,600 checked baggage next-generation ETDs throughout our Nation's airports. In March 2015, TSA awarded a contract to Implant Sciences for the purchase and deployment of 85 next-generation ETDs for checked baggage screening to replace legacy units that have reached the end of their projected life cycle. These improved ETD units have enhanced explosives detection sensitivity and the ability to detect a wider range of explosives threats.

Table 9: ETD Actual and Planned Purchases

($ in thousands)

ETD FOC: 2638	Actual Purchases through end of FY 2014	Purchases with all Available Carryover Funds[1]	Purchases with FY 2015 Funds	Planned Purchases with FY 2016 Funds	Planned Purchases with FY 2017 Funds	Planned Purchases with FY 2018 Funds	Planned Purchases with FY 2019 Funds	Planned Purchases with FY 2020 Funds	Total
Units	2,553	85	0	0	0	64	25	31	2,758
Acquisition Costs	$74,470	$1,566	$0	$0	$0	$2,880	$1,125	$1,395	$81,436
System Integration	$5,106	$170	$0	$0	$0	$86	$12	$0	$5,374
Acceptance Testing	$1,532	$51	$0	$0	$0	$0	$0	$2	$1,585
Maintenance	$35,068	$0	$18,687	$19,034	$19,249	$20,010	$20,653	$21,266	$153,967
Total	**$116,175**	**$1,787**	**$18,687**	**$19,034**	**$19,249**	**$22,976**	**$21,790**	**$22,663**	**$242,361**

1. Includes expiring and no-year carryover funds that are available for obligation in FY2015.
2. Total units may exceed FOC levels. This is due to the fact that Table 4 does not reflect equipment removals that occur during the recapitalization process.

F. New Electronic Baggage Screening Technologies

TSA is working continually to improve and expand on the aviation security screening capabilities that are deployed at the Nation's airports. Working in collaboration with DHS's Science and Technology (S&T) Directorate and industry, TSA is pursuing new capabilities in the detection of explosive threats within checked baggage. These new capabilities include the ability to detect an expanded set of threat materials with higher detection probabilities, lower false-alarm rates, faster throughput rates, and at lower life-cycle costs, resulting in less impact to airport operations and the traveling public.

Areas of research and development in checked baggage screening technologies include: new means of data acquisition, data processing and management, detection algorithm development, and systems integration. Examples of potential new data acquisition techniques include stationary gantry x-ray systems, which could provide improved x-ray imaging capabilities and significantly reduce maintenance costs; and three-dimensional x-ray systems, which could provide improved threat detection and reduced life-cycle cost. Efforts also are ongoing in the areas of computed tomography image reconstruction and segmentation using powerful data processing solutions.

In the area of threat detection algorithm development, TSA expects new algorithms in the near term with the ability to detect homemade explosive formulations in checked baggage more reliably. The scientific and vendor communities are working on these challenges to deploy improved algorithms on both in-service EDS as well as new systems currently in development.

Systems integration also is drawing much attention from TSA and the research and development community. Improvements in data communications, systems compatibility, open standards-based designs, human factors, and system reliability, maintainability, and availability all lead to improved checked baggage screening effectiveness and efficiency. TSA is developing a Common Elements Architecture for airport security screening that will tie together the enabling technologies, processes, and concepts discussed in Section III.G of this report to help meet future aviation security challenges.

G. TSA Technology Integration—Passenger and Baggage Screening

TSA is working actively with industry and other stakeholders on a number of initiatives to further standardize and integrate equipment at the checkpoint and at baggage screening. These initiatives are aimed at reducing costs, furthering automation, and gaining efficiencies. Integration efforts will reduce the number of screening procedures required for each passenger, and the footprint of technologies at the passenger checkpoint, while also introducing automated capabilities to reduce manpower requirements.

1. Common User Interface

TSA is working to develop a common user interface that will increase operational efficiency in the security checkpoint by decreasing the amount of specialized training and personnel resources required for the checkpoint to operate individual technologies and equipment in the field. TSA has designed and tested a common graphical user interface for EDS primary viewing stations. The common interface provides all necessary operator functionality and tools in an easy-to-use display, which can support security screening operations with multiple EDS designs, and permit a faster assimilation to the equipment. TSA is continuing to work to develop the common interface concept for additional screening technologies and equipment, including AT x-ray systems at the checkpoints.

2. Digital Imaging and Communications in Security (DICOS)

DICOS is an industry standard for structuring and communicating data among security screening equipment. It is an ongoing project that aims to improve security capabilities while achieving increased efficiencies. DICOS will deliver the ability to pair the most capable security data acquisition systems with the most sophisticated data analysis algorithms, and display results to front-line operators on the most user-friendly, cost-effective workstations. It also will facilitate further multi-modal integration of equipment and systems in security screening. The ability to integrate system components in a standards-based environment will enable specialized vendors with true expertise in specific capabilities to enter and thrive in the security screening equipment market. A DICOS-enabled environment will encourage both technical and economic competitiveness.

TSA has supported the development of DICOS by the National Electrical Manufacturers Association under contract to S&T. DICOS specifies standardized data structures for AIT, EDS, and AT systems. When DICOS compliance is mandated, it is expected that DHS and TSA will see improved performance and have better visibility into, and control over, the technologies that are deployed. DICOS compliance also could lead to modular system architectures that translate into streamlined systems and procedures that provide for a less-intrusive passenger experience and an improved TSO work environment.

3. The Integrated Checkpoint Program

The Integrated Checkpoint Program is a collaborative effort between TSA and S&T through the support of Space and Naval Warfare System Center Pacific. The Integrated Checkpoint Program is a networked system that provides interoperability between multiple checkpoints' TSE through the standardization of data, protocols, and requirements. Integration of the AT x-ray equipment and AIT was demonstrated recently at the DHS Transportation Security Laboratory. The main objectives of the project are to minimize the invasiveness of the screening process, reduce the number of screening procedures required for each passenger, reduce the number of TSOs required to operate security equipment, and reduce the footprint of technologies at the passenger checkpoint by developing a system-of-systems approach to the screening process. The ultimate end goal is a unified, interconnected system in which passengers will walk through the screening system in a user-friendly manner.

4. Security Technology Integration Program

STIP is an agency-wide data management system that connects screening equipment to an Enterprise Manager, which enables TSA to address challenges in data management, threat response, and equipment maintenance. STIP assists managers to administer TSE, deploy personnel, and adapt to changing security needs more effectively. STIP's mission critical capabilities are:

- ensuring more effective screening of the traveling public by enabling a secure and stable transfer of information between TSE and select vetting and security operations at TSA;

- collecting, viewing, maintaining, analyzing, and dynamically changing operational and configuration data of the TSE, as well as collecting and communicating threat detection performance data of TSE and TSOs; and
- providing Remote Monitoring and Maintenance capability that facilitates secure remote diagnosis and resolution of maintenance issues of TSE.

STIP continues the development of additional functionality for enterprise applications and STIP software upgrades for TSE. This includes implementing enhanced reporting capabilities for headquarters and airport leadership and deploying the 3.0 release of Enterprise Manager for CAT data transfer, and improved cybersecurity. STIP has enhanced the capabilities of the Service Management Application, which will serve as TSA's configuration management tool for STIP-enabled TSE.

IV. Cost-Effective Screener Workforce Deployment

TSA employs staff at approximately 440 airports. Each airport is unique and requires its own technology and employee configuration. TSA determines the most cost-effective means of staffing through various methodologies, modeling, and optimization efforts.

A. Staffing Allocation Process

TSA utilizes a rigorous staff allocation process and Enhanced Staffing Model (ESM) to allocate its security workforce effectively. The ESM process considers each airport's flight schedule data, airport equipment, layout configuration, and unique operating characteristics to determine appropriate staffing. A review of the staffing process was completed and reported to Congress by the Government Accountability Office in February 2007 (GAO-07-299). Since that review, TSA has implemented the Government Accountability Office's recommendations, and refines and improves the tools for the staffing process and the ESM on a continuous basis.

The ESM is centered on a proven, discrete-event, simulation model with the following inputs:

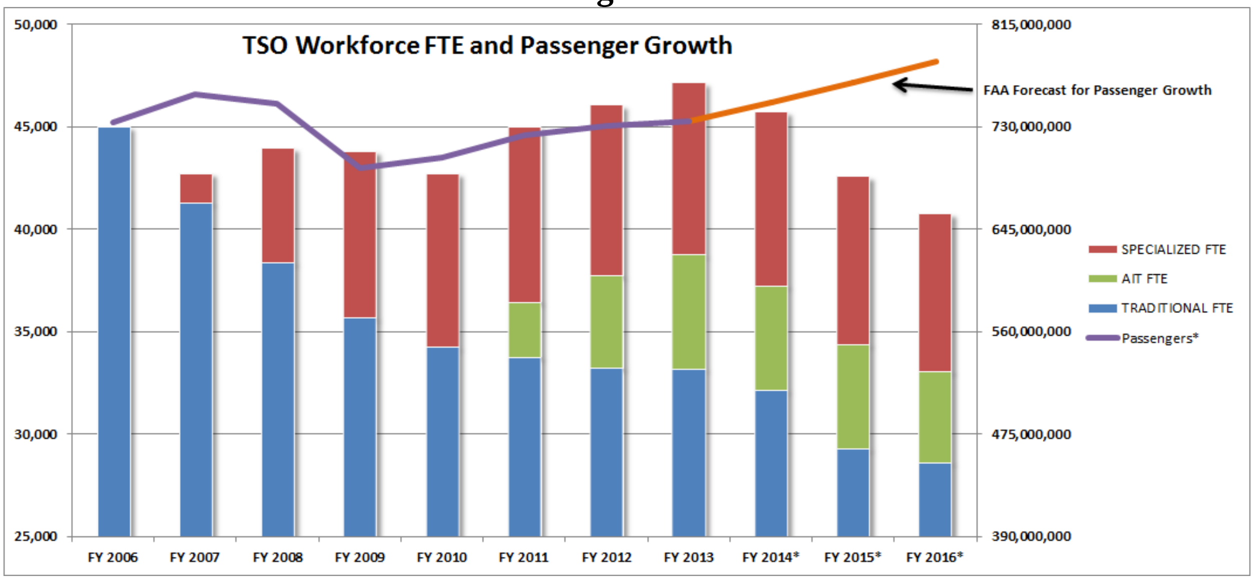
- Airport Configurations
  - Each airport's unique configuration is entered with details for operating hours, terminals, checkpoints, bag zones, screening equipment, and exit lanes. The configuration details are vetted with local airport scheduling operations officers.
- Passenger and Baggage Screening Work Demand
  - TSA uses data provided directly from the airlines, the Bureau of Transportation Statistics, UBM Aviation, and Boyd Aviation to project flight activity and subsequent passenger enplanements. Each airport's unique flight schedules are loaded into TSA's simulation modeling software to reflect flight departure times, aircraft seat capacities, and other flight details.
- Processing Rates and Staffing Constants
  - TSA uses data provided by the airlines and collected through time studies to determine appropriate staffing standards and expected processing rates. These rates and staffing standards are used for all airport staff modeling. In the case of airport deviation from these rates and standards, the reasoning for the deviation is documented.

The staffing requirements generated by the simulation model then are run through integrated schedule optimization software driven by a sophisticated mathematical problem-solving engine. In addition to the staffing demand generated by the simulation model, this schedule optimization engine considers several other variables that affect staffing requirements, including the requirement to utilize a mix of part- and full-time employees to cover the work demand, and the requirement to minimize the number of start times for employees, so that shift breaks can be scheduled effectively.

Following this step, TSA uses historical and projected requirements information to add funding for nonmodeled requirements, such as paid time off, overtime, and training. The result of all these processes is an individual staffing goal for each airport, with a breakdown of the goal by screening type (baggage and passenger) and with recommended part- and full-time employee headcounts.

The staffing process has been in place and used to establish airport staffing budgets since FY 2004. TSA has seen a decrease in staffing demand for checked baggage screening as in-line baggage screening systems have been installed. Conversely, there has been an even greater increase in staffing demand at checkpoints because of the increase in the number of carry-on bags; the complications that arise from screening liquids, aerosols, and gels; the increased number of electronics being screened individually; and the introduction of staffing-dependent technologies, such as AIT. The staffing process and ESM have provided TSA with the flexibility to determine staffing requirements as the airport security landscape has changed over time. The staffing process is adjusted periodically to account for new technology, new threats, and changes in TSA's operating procedures, and, most recently, RBS initiatives.

Figure 1



B. Risk-Based Security (RBS)

In the fall of 2010, TSA began developing a strategy for implementing RBS principles—an intelligence-driven, risk-based approach to transportation security. TSA has deployed 27 nationwide RBS initiatives, and continues expanding initiatives such as TSA Pre✓®. Top Secret security clearance holders, Federal Judges, Members of Congress, and participants in other DHS Trusted Traveler Programs are able to enroll in TSA Pre✓® to go through an expedited screening process at the checkpoint.

TSA is continuing to expand intelligence and information screening to identify lower-risk passengers. TSA reconfigured lanes and technology to accommodate expedited screening programs, and to use redeployed and upgraded security equipment for the screening of passengers not in expedited screening programs. TSA's RBS security initiatives boost the effectiveness of security resources by focusing them on high-risk and unknown travelers and commerce, while at the same time facilitating the efficient movement of legitimate travelers and trade. Each day 50 percent of passengers are screened with equipment such as AIT, and close to 50 percent of passengers receive some form of expedited screening, which leads to increased processing efficiency and an enhanced passenger experience.

TSA is continuing to introduce or expand RBS initiatives as it strives for the most-effective security in the most-efficient manner. TSA will continue to reallocate security capabilities/resources to best manage risk within acceptable tolerance ranges and reduce government and industry total security costs while enhancing value for the American people.

V. Savings and Reinvestment from Improved Technology Deployment

TSA has made substantial gains by installing labor-saving, improved technology for passenger and baggage screening. TSA has introduced new efficiencies by redesigning security procedures and making intelligence-driven adjustments to the prohibited items list. In 2006, TSA employed 45,000 full-time equivalents (FTE) who were supporting a less-capable technology suite and design that involved basic screening of passengers and checked baggage. In FY 2014, the number of personnel devoted to traditional security at the checkpoint and for checked baggage dropped to fewer than 37,500 FTEs. See Figure 1 in Section IV.A of this report.

This efficiency allowed TSA to invest in other essential security layers, such as Targeted Random Security Plays, Behavior Detection Officers working with the Screening Passengers by Observation Techniques Program, Explosive Specialists or Transportation Security Specialists for Explosives, and Travel Document Checkers. Table 8 shows previous savings and investments:

Table 8: FY 2014 Staffing Savings & Investments

In-Line Savings		
	FTE	Dollars [1]
Cumulative In-Line Savings through FY 2014	3,277	$ 199,426,154

[1] Estimated dollars are based on the weighted average of TSOs, Lead and Supervisory TSO, as well as actual savings reported in the FY 2015 and 2016 Budget Requests.

At the end of FY 2014, a total of 119 airports possessed operational in-line EDS with a cumulative savings of 3,277 FTEs when compared to the staffing required for the stand-alone screening equipment configuration. TSA estimates the FY 2015 FTE savings from in-line EDS installations to be 140 FTEs, increasing TSA's cumulative in-line FTEs to 3,417 FTEs through FY 2015. These savings are considered when formulating TSA's budget requests.

VI. Conclusion

To address the ever-evolving threats to aviation security, TSA continues to enhance existing technologies, acquire and integrate new technologies, and use intelligence-based and risk-based processes to screen passengers and their baggage more effectively and efficiently. By pursuing the initiatives outlined in this report, TSA will be able to meet these objectives and partner with industry to provide the capabilities needed. TSA is committed to using its workforce effectively, and focusing on labor and cost savings to serve the public better and to secure the Nation's transportation system.