Statement of

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Good afternoon Chairman Rogers, Ranking Member Jackson-Lee, and distinguished Members of the Subcommittee. Thank you for the opportunity to testify today about the Transportation Security Administration's (TSA) use of technology to support our layered approach to securing the Nation's transportation systems while ensuring freedom of movement for people and commerce. TSA employs risk-based, intelligence-driven measures to deter and prevent terrorist attacks and to reduce vulnerabilities in the Nation's transportation systems. In partnership with airport operators, airlines and local law enforcement agencies, TSA secures our Nation's commercial airports through a variety of programs that create a multi-layered system of transportation security to mitigate risk.

The TSA workforce operates on the frontline, executing the agency's transportation security responsibilities in support of the Nation's counterterrorism efforts. These responsibilities include security screening of passengers and baggage at over 450 airports in the United States that facilitate air travel for 1.8 million people per day; recurrently vetting over 13 million transportation workers against the terrorist watch list each day; and conducting 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. In 2011, Transportation Security Officers (TSOs) stopped more than 125,000 prohibited items at airport checkpoints. Of those items, more than 1,300 were firearms.

Since our creation in the wake of the September 11 terrorist attacks, TSA has evolved our security approach based on intelligence and by examining how specific security procedures are carried out, improving workforce efficiencies, investing in innovative technologies and pursuing initiatives to further standardize and integrate equipment. Following our Congressional mandate to keep the millions of Americans who travel each day safe and secure across numerous modes of transportation, TSA has strengthened security by creating successful programs and deploying technologies that were not in place prior to September 11, while also taking steps whenever possible to enhance the passenger experience.

I am pleased to have an opportunity today to discuss with the Subcommittee TSA's technological innovations, which have strengthened our multi-layered security system.

Risk-Based Security (RBS) and TSA Pre✓™

Last Fall, TSA began developing a strategy for enhanced use of intelligence and other information to support a more risk-based approach in all facets of transportation, including passenger screening, air cargo, and surface transportation. At its core, the concept of RBS builds upon the work TSA has been doing throughout its first decade of service to the Nation. Our objective is to mitigate the risk of an attack against our transportation systems in a way that effectively balances security measures with privacy, civil rights, and civil liberties concerns while promoting the safe movement of people and commerce.

Through various RBS initiatives, TSA is moving away from a one-size-fits-all security model and closer to its goal of providing the most effective transportation security in the most efficient way possible. In the passenger screening context, RBS allows our dedicated TSOs to focus more attention on those travelers we believe are more likely to pose a risk to our transportation network while providing the opportunity for expedited screening to those we consider pose less risk. The most widely known risk-based security enhancement we are putting in place is TSA Pre✓™, which, like other RBS initiatives, leverages our advancements in technology. Since first implementing this idea last Fall, TSA Pre✓™ has been expanded to 15 airports, making it possible for eligible passengers flying from these airports to experience expedited security screening through TSA Pre✓™. The feedback we've been receiving is

consistently positive. TSA pre-screens TSA Pre✓™ passengers each time they fly through participating airports. Currently, U.S. citizens flying domestically who are qualified frequent fliers of American Airlines, Delta Air Lines, and Alaska Airlines, or members of U.S. Customs and Border Protection's trusted traveler programs such as Global Entry, may be eligible for expedited screening at select checkpoints. TSA is actively working with other major air carriers such as United Airlines, US Airways and Jet Blue to expand both the number of participating airlines and the number of airports where expedited screening through TSA Pre✓™ is provided. By the end of 2012, TSA plans to have TSA Pre✓™ operating at over 30 of the Nation's busiest airports.

TSA Pre✓™ travelers are able to divest fewer items, which may include leaving on their shoes, jacket, and light outerwear as well as other modifications to the standard screening process. As always, TSA will continue to incorporate random and unpredictable security measures throughout the security process. At no point are TSA Pre✓™ travelers guaranteed expedited screening.

Credential Authentication Technology/Boarding Pass Scanning Systems

TSA is currently evaluating a new technology to improve the effectiveness of verifying and validating passengers' travel and identity credentials (ID). This Credential Authentication Technology/Boarding Pass Scanning System (CAT/BPSS), provides TSOs with an effective tool to quickly detect fraudulent or altered IDs or boarding passes, ensure that the identity information on the ID and boarding pass match, and automatically identify passengers that have been selected, under the RBS concept, for differentiated screening.

CAT/BPSS provides TSA with a greater ability to identify fraudulent ID documents and can verify the authenticity of boarding passes. CAT/BPSS compares the format and security features of the passenger ID against a known set of security features for that particular identity credential type. The most common security features are one and two dimensional (1D, 2D) barcodes, magnetic stripes, embedded circuits, and machine readable text.

TSA is currently concluding CAT/BPSS technology pilots at San Juan, Houston and Washington Dulles airports. During this technical evaluation process, TSA is determining the

overall operational suitability of different vendor solutions. Prior to proceeding to the field pilots each CAT/BPSS system were required to go through two rounds of qualification testing plus two additional rounds of regression testing, to remediate issues identified during qualification testing, at the TSA Systems Integration Facility (TSIF).

If testing proves successful, CAT/BPSS units could replace the Travel Document Checker podium at the entrance of airport security checkpoints as well as the current manual method of ID and boarding pass authentication with a more effective security measure.

Advanced Imaging Technology

Advanced Imaging Technology (AIT) helps TSOs screen passengers for metallic and non-metallic threats including weapons, explosives and other objects concealed under layers of clothing without physical contact. Currently, there are more than 700 AIT units at nearly 190 airports. AIT is a critical component of TSA's risk-based security approach. Consistent with recent U.S. Department of Homeland Security (DHS), Office of Inspector General (OIG) and Government Accountability Office (GAO) recommendations, TSA is implementing an action plan to increase the level of available AIT screening capacity across the Nation's aviation system. Where AIT is deployed and relied upon, TSA has established a utilization target consistent with the recommendation by OIG, and is meeting or exceeding that target.

TSA has developed and implemented an AIT instructor certification curriculum for Security Training Instructors (STI) assigned at the airports. These STIs are responsible for delivering AIT training as airports receive the technology. A full training curriculum package, including training kits and training aids, has been distributed to all AIT airports and allows each airport to train as many operators as required. Airports that have not received AIT units will receive the training kit and aids when the equipment is installed.

In addition, introduction of Automated Target Recognition (ATR) functionality eliminates the need for a remote Image Operator in all new machines. ATR capability is being retrofitted on all existing machines using millimeter-wave technology, and TSA is currently completing the evaluation of ATR on Backscatter AIT systems. The ATR software provides the same high level of detection and it allows for more targeted pat-downs, because of the manner in

which anomalies are displayed. The introduction of ATR reduced the amount of time required for initial operator training and certification. By using local airport STIs to conduct this training, TSA has eliminated concerns about training being a constraint in achieving our AIT utilization goal.

The availability of AIT equipment supports long-term needs while increasing efficiencies at checkpoints with even more effective ATR software and a reduced footprint, which will inform future deployment strategies. In support of the increasing number of AIT units deployed with ATR, TSA is developing a new training kit specifically designed to support AIT ATR training and testing. Working with the Johns Hopkins University Applied Physics Laboratory, TSA is also working to increase the number of AIT testing scenarios under our Aviation Screening Assessment Program (ASAP). TSA has been conducting a preliminary assessment to develop and validate additional testing stimulants and scenarios for use with the AIT ATR equipment. The intent is to incorporate new scenarios and stimulants appropriate for use with AIT ATR into ASAP's national level testing framework. TSA is also working with industry in order to enhance ATR and AIT hardware for greater detection effectiveness.

Automated Wait Time

Automated Wait Time (AWT) systems utilize technology to monitor and track queuing traffic at the security checkpoint, enabling TSA to reallocate resources to areas of higher congestion and priority as needed. The AWT system includes the ability to display wait times to the traveling public on monitors within airport checkpoints. TSA preliminarily tested an AWT system at the TSIF and anticipates testing it in airports in the coming months.

Next Generation Advanced Technology X-Ray

TSA is in the process of upgrading currently deployed Advanced Technology (AT) X-ray systems, as well as deploying next generation, or AT-2 systems. This technology is used to screen carry-on luggage at the security checkpoint. In addition to other upgrades that streamline the bag check process, next generation AT X-ray units feature enhanced explosive detection capabilities that enable TSA to detect additional threats.

There are currently more than 1,400 AT units at over 125 airports. These systems enhance security effectiveness and efficiency, and deployments will continue through calendar year 2012. We are working closely with the DHS Science and Technology Directorate (S&T) and our qualified vendors to assess the AT-2 system's capability to detect liquids, aerosols, and gels (LAG), which would provide the TSOs more efficient tools to perform a targeted bag search.

Shoe Scanning Detection Technology

Shoe Scanning Detection (SSD) technology is an advanced technology which would be capable of detecting both metallic and non-metallic threats concealed in passenger footwear without requiring that passengers to remove their footwear at the checkpoint. S&T recently issued a Broad Agency Announcement that allows it to support private sector R&D research and development efforts to develop shoe scanner detection systems that meet TSA detection requirements.

Bottled Liquids Scanners

Bottled Liquids Scanner (BLS) screening systems are used to detect potential liquid or gel threats, which may be contained in a passenger's property while differentiating between liquid explosives and common, benign liquid such as baby formula and insulin. Next generation BLS screening systems have the ability to detect a wider range of explosive materials and use light waves to screen sealed containers for explosive liquids. TSA recently deployed an additional 500 next generation BLS units to airports nationwide. These recent deployments bring the total number of BLS units nationwide to over 1,200 at nearly 350 airports.

Explosives Trace Detection

Explosives Trace Detection (ETD) technology is used at security checkpoints around the country to screen passengers and their carry-on baggage for traces of explosives. Officers may swab a piece of luggage or passenger hands and place the swab inside the ETD unit to analyze the content for the presence of potential explosive residue. TSA is focusing on recapitalization efforts to perform life cycle replacements with more effective next generation solutions. In addition, TSA is expanding its use of ETD technology in airports as part of its layered approach

to aviation security. TSA is currently conducting pilot testing on portable trace solutions to support more widespread usage of this technology and working with S&T on the development of next generation ETDs.

Explosives Detection Systems Recapitalization and Optimization

Over the next five years, a large number of Explosives Detection Systems (EDS) will approach the end of their useful life and replacing these aging units is a top priority. TSA will fund recapitalization projects, which include the work required to remove the existing EDS as well as minimal modifications to the Baggage Handling System infrastructure associated with the replacement of the EDS and the associated purchase and installation of the new EDS. TSA's plan to replace the aging EDS fleet of equipment will be prioritized based on a combination of age and maintenance data.

Conclusion

TSA will continue to enhance its layered security approach through state-of-the-art technologies, expanded use of existing and proven technology, passenger pre-screening and other developments that will continue to strengthen aviation security. Thank you for the opportunity to appear before you today, and I look forward to answering your questions.