

# Checkpoint CT pulls its weight for TSA

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**They may be heavier than legacy x-ray machines, but checkpoint CT scanners are breaking through in the US. Scott Factor and Ben Vogel report**

The Transportation Security Administration (TSA) is rolling out computed tomography (CT) technology for baggage screening with automated tray return (ATR) lanes at US airport checkpoints.

The federal government budget for fiscal year (FY) 2019 includes more than USD70 million to purchase 200 CT scanners for use at selected airport security checkpoints. Although the programme is proceeding slightly slower than planned (not helped by the recent federal government shutdown), the TSA still expects to deploy more than 100 machines by the end of 30 September, when FY 2019 ends. In December 2018, TSA chief David Pekoske said he anticipates an installation base of up to 2,400 CT machines at US airport checkpoints.



*Traditional checkpoint processes have led to increased queuing times and considerable inconvenience for passengers. (Getty Images)*

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Long considered the gold standard for inline hold baggage screening but too bulky, heavy, slow and expensive for the checkpoint, the latest generation of CT systems have sped into service over recent years as rapid traffic growth prompted new ways of thinking on how to reduce congestion and queuing times.

However, while exciting new technologies and enhanced capabilities may be the answer, the US has been disappointed before. For example, after the terrorist attacks on 11 September 2001, much was made of the potential of explosives trace detection portals (known as ‘puffers’) to tighten checkpoint security and defeat evolving threats. However these machines were removed from airports after encountering operational and maintenance issues. Likewise, much time and research and development (R&D) funding was devoted to producing technology that detects explosives hidden in shoes, but this has made little impact in the field although efforts continue.

Initial field deployments of body-scanning systems also encountered privacy and health concerns, although these have largely been addressed and the portals are now a common sight in major airports around the world.

### **Sense of urgency**

In 2016, spurred in part by overestimates from the TSA on the number of travellers expected to enrol in the PreCheck expedited screening programme, staffing adjustments at major US airports resulted in checkpoint waiting times of up to 90 minutes – causing passengers to miss flights. With frustration boiling over, airports and airlines urged the TSA to act. While the agency responded, it was clear that more effort was needed to resolve the problem in the long term. The unique model in the US – where the government regulatory body sets the rules, procures equipment, and operates security – created challenges and a new formula for collaboration.

American Airlines was quick to recognise the potential of CT technology. The airline took the unprecedented step in 2017 of spending USD6 million dollars to buy checkpoint CT scanners before donating them to the TSA for testing and evaluation. Two units purchased by American Airlines are in service at New York JFK and Phoenix Sky Harbor, with additional systems to be deployed in the coming months.

“As the checkpoint lines kept growing in the spring of 2016, American [Airlines] felt the need to support TSA and our customers by helping trial technology and speed up testing phase with the ultimate goal of helping secure more government funding for new security systems that enhance the passenger experience,” said Ross Feinstein, director of operations communications at American Airlines. “The feedback from our passengers so far has been excellent and, while change takes time, CT scanners at the checkpoint will eventually be standard and airports, airlines, and passengers will benefit.”

### **Rollout report card**

Mindful of previous difficulties in deploying new technologies, the TSA and airport authorities are proceeding carefully with checkpoint CT. No more than one system is in operation at a US airport.

“The CT units are performing well and the feedback received from airports and airlines is positive,” TSA spokeswoman Michelle Negrón told *Jane's* . “Like existing CT technology

used for checked baggage, the checkpoint units create a clear picture of a bag's contents that computers can automatically detect bulk and liquid explosives.”

The TSA began testing checkpoint CT in 2017 at Phoenix Sky Harbor International Airport. “The CT scanner technology has worked well for us. It’s been a positive experience and a fruitful collaboration between us, American Airlines, and TSA,” said James Bennett, director of aviation services in City of Phoenix Aviation Department. “We are always looking for innovative solutions that lead to a more efficient screening process. Safety, security, and customer service are always our priorities.”

In late 2018, a single unit was deployed to Terminal 1 at Chicago O’Hare as part of a continuing pilot programme led by the TSA and United Airlines. “We work closely with our federal partners to engage new technology and practices that strengthen our security posture,” explained a Chicago Department of Aviation spokesperson. “The recent addition of new CT baggage screening technology further increases capacity and efficiency at Chicago-O’Hare, and complements new automated screening lanes with our partners at TSA.”

### **Expansion challenges**

As the checkpoint CT rollout is still at an early stage, and given the inherent learning curve for passengers and TSA screeners that comes with the introduction of new technology, accurate field data is not yet available on the bags per hour processing speed compared to legacy x-ray systems. However, the TSA continues to deploy checkpoint CT units at more airports.

“With any new deployment, it takes time for TSA officers to become familiarised with the new technology,” explained Negrón. “This can be improved with additional training and continued use.” To facilitate this, TSA has a CT training programme that employs training emulators, purchased from each original equipment manufacturer (OEM), to provide onsite training at each airport where a checkpoint CT system is deployed.

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