Plan for Incorporating Biometrics for Identity Verification at the TSA Checkpoint

November 2019

Transportation Security Administration

RCA | REQUIREMENTS & CAPABILITIES ANALYSIS

TSA Biometrics Roadmap | Executive Summary

The TSA Biometrics Roadmap was signed and published in October 2018 and highlights how TSA plans to pursue and deploy biometric solutions for the aviation ecosystem

Vision: A biometrics capability, built with strategic partners, that enhances aviation security, streamlines operations, and simplifies the user experience.

Goal 1: Partner with CBP on Biometrics for International Travelers

- **Objective 1.1:** Prove Operational Feasibility
- **Objective 1.2:** Develop Interagency Policies and Procedures
- **Objective 1.3:** Simplify and Streamline Operations

Goal 2: Operationalize Biometrics for TSA Pre✓® Travelers

- **Objective 2.1:** Update TSA Pre✓® Data Holdings
- **Objective 2.2:** Modernize the TSA Pre✓® Passenger Experience

Goal 3: Expand Biometrics to Additional Domestic Travelers

- **Objective 3.1** Perform Business Case Analysis for Domestic Traveler Biometrics
- **Objective 3.2:** Evaluate Biometric Solutions for Domestic Travelers
- **Objective 3.3:** Effectively Use Existing and Available Traveler Data
- **Objective 3.4:** Establish Partnerships to Implement Scalable Solutions

Goal 4: Develop Infrastructure to Support Biometric Solutions

- **Objective 4.1:** Develop, Maintain, and Manage to a Strategic Roadmap
- **Objective 4.2:** Integrate Capabilities with DHS and Industry Partners
- **Objective 4.3:** Capture Requirements and Standards for Industry
- **Objective 4.4:** Implement Assessment Processes

Guiding Principles: Security Effectiveness & Operational Efficiency, Privacy, Cyber Security, DHS Unity of Effort, Public-Private Partnerships, Usability, Passenger Experience, Interoperability, and Future Proofing

Desired TSA End State

Automation of Travel Document Checker (TDC) Functions via Biometrics

Prior to physical screening, TSA must:

1. Verify the authenticity of the presented form of identification
2. Verify the passenger and his/her form of identification are a match
3. Validate passenger flight reservation status
4. Verify passenger's secure flight vetting status
5. Direct the passenger toward the path of receiving the right level of screening
6. Resolve any non-matches and security issues manually

Solution Space	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Current Process (manual + boarding pass scanner (BPS))	Manual	Manual	▭	▭	Manual	Manual
Near Term: Credential Authentication Technology (CAT)	✓	Manual	✓	✓	Manual	Manual
Interim: Biometric ID Verification w/ SF integration	✓	✓	✓	✓	Manual	Manual
Future: Biometric ID Verification System w/ SF integration and e-Gate	✓	✓	✓	✓	✓	Manual

Key: ✓ Automated ▭ Partially Automated

By developing an architecture that supports the automation of TDC functions, TSA can better control access to the sterile environment, improve the traveler experience, and reallocate resources to mitigate screening inefficiencies.

TSA Biometrics Capability Development Pathways

TSA is pursuing 1:1 biometric matching, 1:N biometric matching, and Mobile Drivers' License (mDL) capability integration to enhance biometrics capabilities at the TSA checkpoint for identity verification.

1:1 Biometric Matching	Integrate biometric capture with Credential Authentication Technology (CAT) machines to verify a live image capture against the image on a credential	Trusted/ General Travelers
1:N Biometric Matching	Utilize a backend repository to compare a live image capture to gallery of enrolled references	Trusted/ General Travelers
mDL Capability	Integrate mobile driver license (mDL) authentication capability with CAT machines to transmit digital identity information	Trusted Travelers

TSA plans on piloting these solutions with TSA Pre✓® passengers to evaluate technology performance before deploying solutions for additional population groups.

CAT with Camera (CAT-C) Phase I Pilot @ LAS Overview

TSA is conducting a short-term proof of concept at McCarran International Airport (LAS) for automating the identity verification portion of the Travel Document Checker (TDC) using biometric technology.

Pilot Objective

Inform TSA's understanding of: front-end capture requirements; biometric and ID verification performance; processing time; and evaluation of system accessibility, acceptability, usability, and ergonomics for users and operators.

Description

TSA is assessing the CAT-C's capability to compare the passenger's live facial image at the checkpoint against an image taken from the passenger's identity document for passengers who opt to participate.

The CAT-C device performs the following operations:

1. Validates that the ID is authentic
2. Photographs the passenger
3. Compares the photograph of the passenger to the image from the passenger's identity document
4. Records the transaction data, including demographic data from the ID document, for S&T assessment of the system

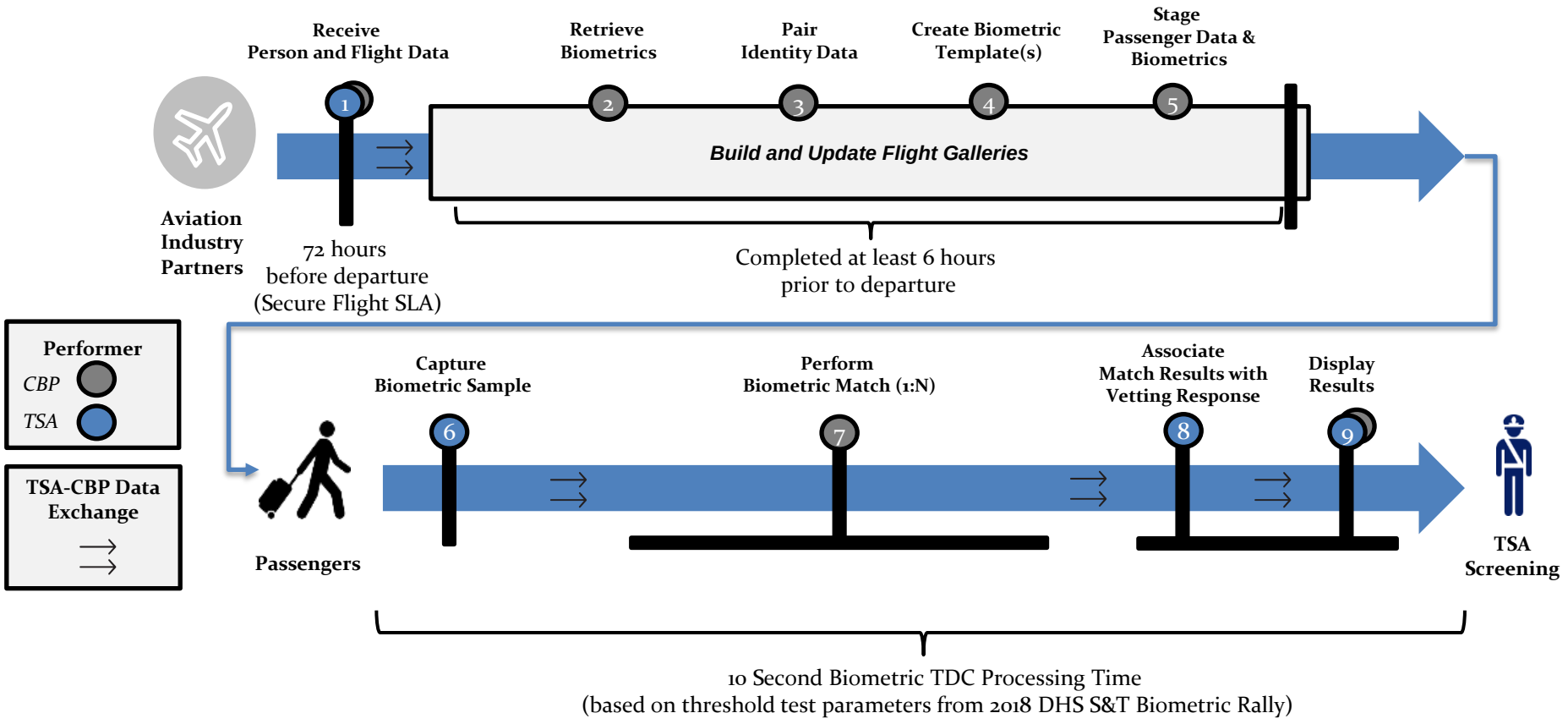
Passenger Notification

To participate, passengers voluntarily choose to enter a separate lane dedicated to the proof of concept. Signs are posted and handouts are available so that individuals may make an informed decision about whether or not to participate.

The CAT-C unit (pictured above) is located in Terminal 3 Concourse E at the Upper TSA Pre✓® Lane Area before the TDC

TSA Checkpoint Biometrics Needs for 1:N Biometrics

For the TSA-CBP Phase 3 Pilot, TSA will be using CBP's TVS to stage galleries for TSA's trusted traveler population with domestic itineraries. The CBP staged gallery will facilitate 1:n facial recognition at the airport by receiving the KTN and passport number from TSA.



Industry and External Engagement

TSA has continuously engaged industry and external stakeholders given their significant interest in its exploration of biometrics technology.

TSA will seek new and innovative approaches to extend opt-in biometric solutions to the general flying public by exploring a range of options for enabling a secure, scalable, biometric passenger experience.

Interagency stakeholders, the commercial aviation industry, and solution providers have a key role to play in scaling biometric solutions to additional passenger populations beyond international outbound and trusted travelers.[1]

[1] *TSA Biometrics Roadmap, published October 2018*