TSA Multimodal and Public Area Capabilities (MPAC) Program Overview

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RCA | REQUIREMENTS & CAPABILITIES ANALYSIS

Surface Security Technology (SST) Overview

Mission

Evaluate advanced technologies and **facilitate industry awareness** to identify and **mature promising technologies** that help address identified surface transportation security **capability gaps.**

Domains


Mass Transit


Maritime


Pipeline


Highway


Freight Rail


Public Areas


Infrastructure Protection

Key Themes

Partnerships

Collaborate with government agencies, technical experts, vendors, and end users to communicate security technology capabilities with a variety of stakeholders

Engagements

Re-engage traditional communication and testing practices in addition to virtual activities to continue to support and inform surface transportation end users

Data Analytics

Leverage reports and assessments from new and advanced technologies to better address threats and share operational feedback with stakeholders

SST Capability Gaps

SST collaborates annually with stakeholders in the Research and Development Working Group (RDWG) to identify new capability gaps and refine and reassess existing gaps, and integrates feedback from end users to inform next generation technology. The RDWG helps to set priorities for TSA and Department of Homeland Security Science and Technology (DHS S&T) Research and Development (R&D).

Capabilities

Mode	Anomaly/ Explosives Detection	Intrusion Detection	High Throughput Threat Detection	Behavior Detection & Biometric Identification	Freight Tamper Prevention & Detection	Blast Mitigation	Remote Disruption of Attack	System Resiliency & Recovery	Interoperable Information Systems	Chem/Bio Threat Security	Rad/Nuc Threat Security	UAS Detection	Remote Area Detection
Mass Transit	✓	✓	✓	✓	n/a	✓	✓	✓	✓	✓	✓	✓	✓
Pipeline	✓	✓	n/a	✓	n/a	✓	n/a	✓	✓	n/a	n/a	✓	✓
Highway Motor Carrier	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Freight Rail	✓	✓	n/a	✓	✓	✓	n/a	✓	✓	✓	✓	✓	✓
Public Area	✓	✓	✓	✓	n/a	✓	✓	✓	✓	✓	✓	✓	n/a
Maritime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Infrastructure Protection	✓	✓	n/a	✓	n/a	✓	✓	✓	✓	✓	✓	✓	✓

✓ Gap Identified and Mitigation Underway

n/a Gap Not Applicable for Mode

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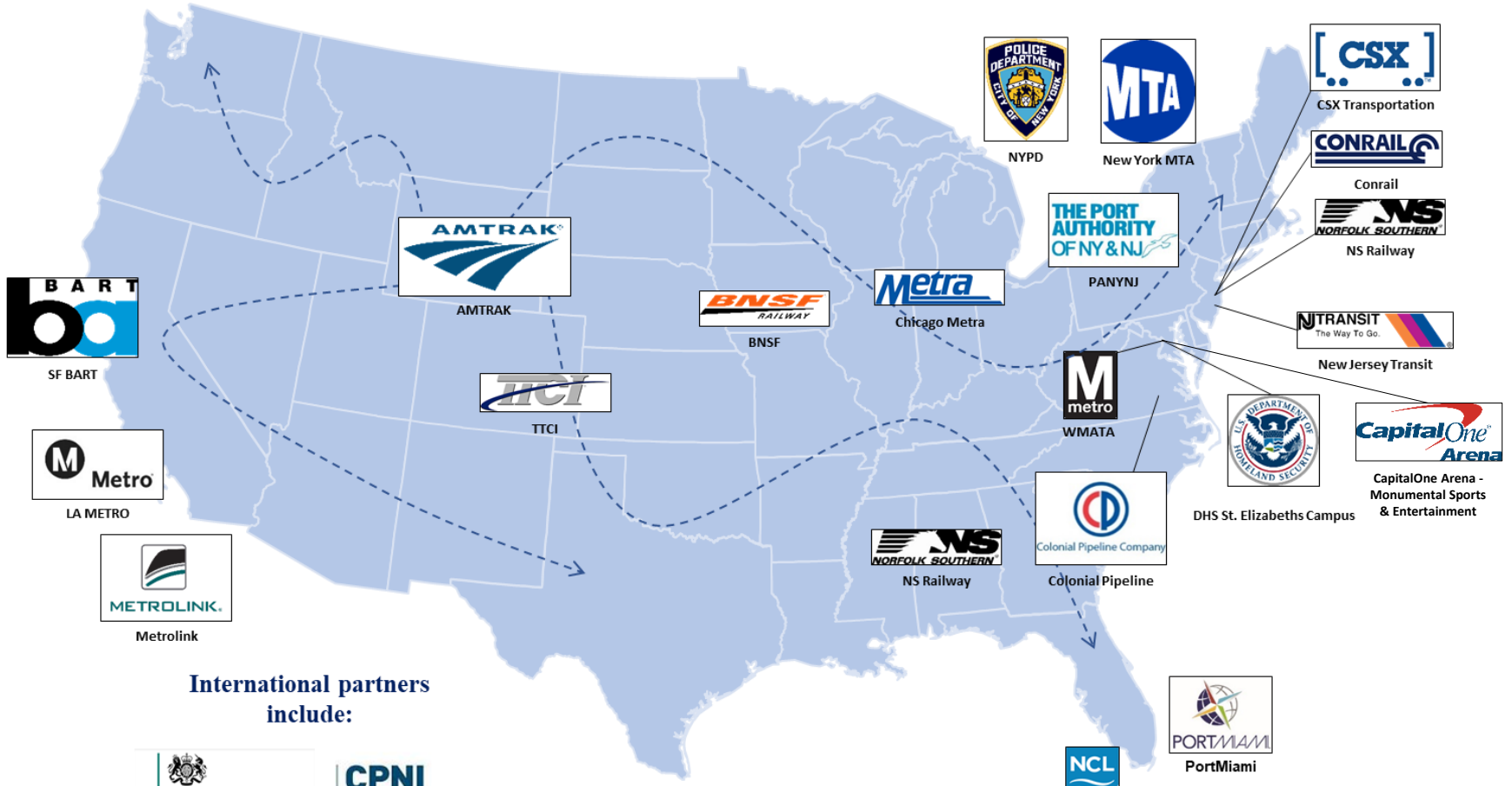
Operational Testing Partners

SST supports an extensive set of transportation modes and security missions across the continental United States, including 11 mass transit test beds (MTTBs). SST will continue to pursue and establish test beds across the country.



Through formal **Memoranda of Agreements** (MOAs), MPAC partners with representative and **higher-threat transportation venues** to test and evaluate **next generation and emerging technologies** in operational transportation conditions

TSA Benefits

- Collection of end-user requirements and feedback
- Access to technology testing in live operational environments

End-User Benefits

- Exposure to next generation security solutions
- Access to TSA technology expertise and solutions to address end-user capability gaps

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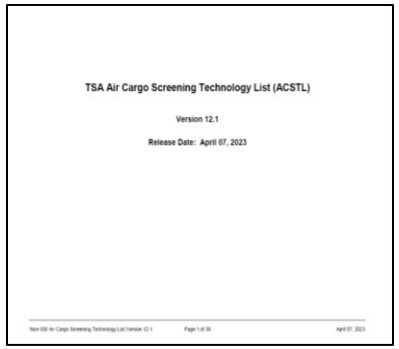
MPAC Stakeholder Communication

Public Area Security Infrastructure Protection Branch (PASIPB) Quarterly Newsletter

- Communicate PASIPB program updates with a distribution list of over 300 Transportation Stakeholders, TSA employees, and Interagency Partners
- Volume 3 Issue 3 was disseminated in July 2023

Air Cargo Screening Technology List (ACSTL)



- TSA's official guide for regulated parties to use when procuring screening devices in accordance with TSA approved Security Programs
- Two versions of the ACSTL were released in FY23

State of Technology Report

- Communicate the present and outline a vision for the future of a variety of technology types
- Past issues covered: PBIED Detection Systems and Vehicle BIED Detection Systems
- Next issue will cover C-UAS

Surface Transportation Security Technology Catalog

Assist surface stakeholders on technology investment decisions, enabling them to tailor their CONOPS and develop improved grant applications

The 2022 Catalog contains:

15 Years of technology assessment data from lab and field testing
37 Summaries from Security Technology Demos Since FY16
45 Commercially Available Technologies
28 Legacy Systems

Exit Lanes Technology Toolbox

This online toolbox will be made available to all airports to assist the evaluation of Exit Lane Technology applicability to their environments

Key Features:

Self Assessment: Evaluate existing exit lane technology solutions
Decision Aid: Determine suitable technologies for their environment
Cost Benefit Analysis: Identify break even on new technologies
Videos and Documents: Instruct on use and requirements

C-UAS Security Technology Catalog

Since 2002, TSA has developed a catalog of current independently evaluated surface security technology solutions and is developing a similar publication for C-UAS technology solutions. **MPAC will annually produce a C-UAS Security Technology Catalog of equipment that is effective and suitable for use in operational airport environments.**

***Notional Data**

Item Identification	
Vendor/ Product Name	UAS System
Technology	Mobile, detection at-range person screening system
Sensor Phenomenology	Single-frequency, passive Terahertz (250 GHz) and CCTV

Tested Attributes									
CONOPS Type	Stationary			Walking			Multiple		
Garment Type	Thin	Med	Thick	Thin	Med	Thick	Thin	Med	Thick
P_D Expl. Simulant									
P_D Handgun									
P_{FA}									
Range	14'–26' standoff recommended								
Screening Angle	Up to 30° from centerline								
Automated Detection	Manual evaluation only; capability exists but is not recommended								
Detection Area	Torso (front or back) only								
Types of Threats	Concealed large PBIEDs, handguns								

General Information	
Description	Passively senses the naturally occurring THz wave emissions and allows an operator to observe the differences between the skin and concealed, person-borne metallic and non-metallic foreign objects. Presents the operator with a visible camera and THz image with no anatomical detail or personal characteristics (i.e., no privacy impact). System is capable of screening single or multiple persons while walking or when paused for a few seconds (i.e., opportunistic stationary).
System Application	Anomaly detection of potential threats (e.g., large PBIEDs, handguns)
Pros	• Easy to setup and intuitively operate • Adjustable field of view (FOV) that enables multiple person screening
Cons	• Elevated ambient temperature can make it difficult for the operators to detect threat articles
Acquisition Cost	Approximately $120,000
Vendor Contact Information	Web: www.sample.com Phone: (123) 456-7891 Address: Sample Address, Sample Address, Sample Address

Product Specifications	
System Specifications	
Physical Dimensions	26" x 10" x 24"
Weight	59 lbs
Power Requirements	• Standard power (i.e., 110V, 15A) and battery (supports 8 hours continuous operation) • Consumes 130W with typical operating voltage of 90V–264VAC, 47–63 Hz
Primary Components	• Sensor • Laptop/Software GUI
Accessories	• Mobile trolley (houses the sensor, laptop; see photo above) • Battery (included in trolley): BAT24 with two lead acid batteries

C-UAS Security Technology Catalog

TSA will develop and disseminate a UAS technology testing catalog which will include the following deployment information:

- Installation and operational guidance
- Effective range, probability of detection, probability of false alarm
- CONOPS recommendations
- Speed of operation, data accessibility and storage
- Tested attributes and deployment considerations

Please direct all questions or inquiries to:

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