# National Transportation Security Center of Excellence (NTSCOE)

*A DHS Center of Excellence*

## ABOUT THE CENTER

The Department of Homeland Security (DHS) established the National Transportation Security Center of Excellence (NTSCOE) within its Science & Technology Directorate (S&T) in August 2007 to address all aspects of transportation security, including identification of existing and emerging threats, development of new technologies for resilient infrastructure, the establishment of national transportation security policies, the training of transportation professionals, and the development of undergraduate and graduate education to build and maintain a quality transportation security workforce of the future. S&T manages the NTSCOE and its seven member institutions through the Office of University Programs (OUP) in accordance with House Resolution 1 (H.R. 1), Implementing the Recommendations of the 9/11 Commission Act of 2007.

## VISION

Our nation's transportation systems, infrastructure, and skilled professionals are vital resources to ensure the safe and secure movement of people and goods, resources which are critical to our nation's economic and social prosperity. The vision of the NTSCOE is to be the foremost resource within our nation's homeland security enterprise for developing new technologies, policies, and practices, and training future professionals to build and maintain secure and resilient transportation systems and infrastructure. Our goal is to strengthen surface transportation security today…for a better tomorrow.

## MISSION

The NTSCOE will: support our nation's homeland security enterprise through premier research, education, and training initiatives; develop and transition new technologies, effective tools and advanced methodologies to defend, protect, and increase the resilience of the nation's multimodal surface transportation infrastructure and those who utilize it; and provide innovative and relevant education and training for transportation security and emergency response professionals.

## NSTCOE STRATEGIC ACTIVITIES

The NTSCOE, through its seven member institutions, has defined four key activities to support its strategic mission: Research, Education, Training, and Transition and Outreach.

## MACK-BLACKWELL RURAL TRANSPORTATION CENTER (MBTC), UNIVERSITY OF ARKANSAS

MBTC at the University of Arkansas has been a nationally recognized transportation research and education center since 1991. As a member of the NTSCOE, MBTC conducts engineering research and education programs that focus on the security of the multimodal transportation system at the local, state, regional, and national levels. The goal is to develop comprehensive, cost-effective, and imminently implementable solutions to critical security issues facing the transportation systems of the nation, and to prepare transportation professionals for leadership roles in professional and research careers in support of securing the nation's transportation systems. MBTC research strengths include supply-chain modeling, risk analysis, statistical and probabilistic modeling, emergency logistics planning, and structural health monitoring of transportation infrastructure.

Key Focus Areas:

- Inland Waterways and Rural Transportation Networks
- Supply Chain Risk Assessment & Emergency Logistical Response
- Transportation Infrastructure Protection

## CENTER FOR RESILIENT TRANSPORTATION INFRASTRUCTURE (CRTI), UNIVERSITY OF CONNECTICUT (UConn)

CRTI operates within the School of Engineering at the University of Connecticut and serves as the Research Lead Institution for the NTSCOE. CRTI is part of the UConn Consortium of Transportation Centers, along with the Connecticut Transportation Institute and the Center for Transportation and Livable Systems, which together provide a full spectrum of transportation-related research. CRTI research encompasses a multilevel strategy for transportation security that incorporates the development of new materials, monitoring and modeling of transportation infrastructure and analysis and simulation of large-scale transportation networks. CRTI expertise includes advanced construction materials; modeling and simulation of infrastructure behavior, including bridges, tunnels, earth structures, and rail; transportation network simulation and analysis; sensor system development and structural health monitoring; and infrastructure protection and control.

Key Focus areas:

- Advanced materials for transportation infrastructure
- Modeling and simulation of transportation infrastructure and networks
- Sensor networks and structural health monitoring systems.

## HOMELAND SECURITY MANAGEMENT INSTITUTE (HSMI), LONG ISLAND UNIVERSITY

HSMI at Long Island University offers a 36-credit Master of Science in Homeland Security Management degree and a 15-credit graduate-level Advanced Certificate in Homeland Security Management. Both programs are fully accredited and delivered entirely in an asynchronous

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online format. Since its inception in 2004, HSMI was quickly recognized as the nation's leading graduate educator in the Homeland Security Management field. Approximately 90 percent of students hold management- or executive-level positions in agencies and entities that include the Port Authority of New York and New Jersey, National Security Agency, DHS, FBI, NYPD, U.S. Coast Guard, and all branches of the Department of Defense, as well as leading defense contractors. Students also include professionals in the financial, health care, and education sectors as well as state and local law enforcement in urban and rural agencies across the nation.

Key Focus areas:

- Graduate degree and graduate-level certificate programs for Homeland Security managers, executives and professionals
- Training of transportation security and Homeland Security professionals, first responders, and the public
- Public education and the development of K–12 curricula in awareness and preparedness

## MINETA TRANSPORTATION INSTITUTE (MTI), SAN JOSÉ STATE UNIVERSITY

MTI at San José State University was established by Congress in 1991 to conduct research, education, and information transfer programs, specializing in transportation policy and management. MTI is under the policy control of a 25-member world-class Board of Trustees led by former Secretary of Transportation Norman Mineta. Since 1996, MTI has completed numerous transportation security research projects, including threat analysis; security systems development and training, emergency plan development and exercises (NIMS); continuity of business/government plans and exercises; international case studies; and a coded terrorist attack database. Since 1998 MTI has offered a fully accredited California State University System's Master of Science in Transportation Management and professional Certificates in Transportation Management and Transportation Security Management.

Key Focus areas:

- Historical and current threat analyses of terrorist attacks against surface transportation
- Passenger screening policy and procedures
- Training programs and materials for security, safety, and emergency planning and response.

## CENTER FOR TRANSPORTATION SAFETY, SECURITY, AND RISK (CTSSR), RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

CTSSR at Rutgers University develops state-of-the art responses to transportation security and risk analysis challenges of the 21st century. CTSSR research projects apply decision tools, GIS mapping and risk modeling to real-world transportation contexts in order to better assess and manage risks and improve resiliency related to security incidents. CTSSR creates relevant and innovative security training products for both frontline employees and managers in the transportation industry. A strong foundation of research grounds this training in the best security practices and latest delivery technologies of the day. The Center also offers a Certificate program for graduate students interested in careers in the transportation security field.

Key Focus areas:

- Training for surface transportation industry on security topics
- Policy-focused research on transportation risk and resilience.

## TEXAS SOUTHERN UNIVERSITY (TSU)

TSU spearheads the NTSCOE's research into the unique security issues surrounding the transportation security of petrochemical products. In addition, TSU researchers conduct research in the fields of public transit systems; multimodal transportation systems; port security; transportation design and analysis; transportation modeling; highway traffic operations; traffic signal control and optimization; air quality issues in transportation; Intelligent Transportation Systems (ITS); and transportation planning and management. TSU has developed advanced transportation laboratories for transportation-related education and research, and offers transportation degrees, concentrations which include a new concentration in Homeland Security, and specializations in both the College of Science & Technology and the School of Public Affairs.

Key Focus areas:

- Petrochemical security
- Transportation security planning and management.

## TOUGALOO COLLEGE

Tougaloo College is responsible for integrating the NTSCOE member institutions' Surface Transportation Security Education and Training efforts. Tougaloo College was instrumental in transforming the legislative directive into reality, through the development of a strategic plan for NTSCOE education and training initiatives. The strategic goal of the NTSCOE efforts at Tougaloo College is to educate and train transportation executives, employees and customers to heighten their knowledge and awareness of threats and appropriate responses, particularly in the area of detection of suspicious behavior.

Key Focus areas:

- Behavior awareness training
- Public awareness campaigns for surface transportation security
- Civil rights/civil liberties.


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