

National Transportation Security Center of Excellence

A DHS Center of Excellence

CENTER OF EXCELLENCE

The National Transportation Security Center of Excellence (NTSCO) was established in accordance with HR1, Implementing the Recommendations of the 9/11 Commission Act of 2007, in August 2007. The National Transportation Security Center of Excellence (NTSCO) is made up of seven institutions: Connecticut Transportation Institute at the University of Connecticut, Tougaloo College, Texas Southern University, National Transit Institute at Rutgers, the State University of New Jersey, Homeland Security Management Institute at Long Island University, Mack Blackwell National Rural Transportation Study Center at the University of Arkansas and the Mineta Transportation Institute at San José State University.

MISSION

The NTSCO will develop new technologies, tools and advanced methods to defend, protect and increase the resilience of the nation's multi-modal transportation infrastructure and education and training base lines for transportation security geared towards transit employees and professionals. NTSCO has three primary focus areas: Research, Education and Training, and Petrochemical Transportation Security.

RESEARCH

The U.S transportation infrastructure is aging, complex, interdependent with other critical infrastructure sectors, and increasingly vulnerable to terrorist attacks. The NTSCO's Research focus area aims to both mitigate current security challenges and secure the Nation's surface transportation infrastructure of the future.

NTSCO research projects address a number of major challenges, including:

- Identification of most likely targets through threat analysis and other assessments;
- Development of technology and implementation strategies aimed at enhancing the security and monitoring of the most likely targets;
- Development of advanced multi-functional material technologies that will be ductile, blast resistant, self-healing and self-energetic;
- Development of coordination and effective communications networks for Emergency Response and Crisis Management; and
- Analyzing and mitigating the unique security challenges surrounding the transportation of petrochemicals



EDUCATION AND TRAINING

Education and training programs spanning a wide range of audiences are a critical component of DHS's efforts to secure the nation's surface transportation infrastructure, and serve as a direct complement to ongoing research efforts. The NTSCO Education and Training focus area is organized around three primary programs, corresponding to critical DHS needs:

- Developing a national training program tailored for the needs of DHS customers with the flexibility to respond to changing needs with training provided for local implementation;
- Establishing associate degrees, major emphasis, undergraduate majors, and graduate degree programs to train future employee for DHS and other federal, state and local agencies involved in surface transportation security; and
- Launching a national awareness program for the general population as well as program for the classroom.

PETROCHEMICAL

The mission of the NTSCO Petrochemical focus area is to investigate and advance methods and strategies to defend, protect and strengthen the nation's movement of petrochemicals and the infrastructure that serves and surrounds its conveyance. Specifically, this mission area comprises two major objectives:

- Identification of gaps in the security of petrochemical transportation movement and recommend technological strategies to address the insecurities; and
- Transfer knowledge gained to a professional workforce that can apply the concepts and principles learned from this research to both the private and public sectors.





NTSCOE INSTITUTIONS

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

The Mack-Blackwell Rural Transportation Center (MBTC) at the University of Arkansas conducts research and education programs that focus on the security of the multi-modal transportation systems of the US 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 employs a "systems-of-systems" approach to identify and define critical technology and system needs related to the security of transportation infrastructure and systems- and ultimately to provide engineering solutions to those needs.

UNIVERSITY OF CONNECTICUT (UConn)

The School of Engineering (SOE) at the University of Connecticut houses UConn's activities as the Research Lead Institution for the NTSCOE. Within the SOE, the Connecticut Transportation Institute (CTI) provides critical support for the NTSCOE with expertise in transportation planning; traffic safety; structures; and advanced materials. The research thrusts for UConn efforts in transportation security include transportation network simulation and analysis, advanced construction materials, modeling and simulation of infrastructure behavior including bridges, tunnels, earth structures and rail, sensor system development and structural health monitoring and infrastructure protection and control.

HOMELAND SECURITY MANAGEMENT INSTITUTE (HSMI), LONG ISLAND UNIVERSITY

The Homeland Security Management Institute (HSMI) at Long Island University offers a 15-credit graduate-level Advanced Certificate in Homeland Security Management and a full 36-credit Master of Science in Homeland Security Management degree. Both programs are delivered entirely in an asynchronous online format. Approximately ninety 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, US Coast Guard, and all branches of the Department of Defense as well as leading defense contractors.

TRANSPORTATION INSTITUTE (MTI), SAN JOSÉ STATE UNIVERSITY

The Mineta Transportation Institute (MTI) at San Jose 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 lead 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 data base. Since 1998 MTI has offered a fully accredited Californian State University System's Master of Science in Transportation Management and professional Certificates in Transportation Management and Transportation Security Management. The MTI NTSCOE for both DHS and DOT is directed by renowned international security expert Brian Michael Jenkins supported by an experienced team of certified Research Associates.

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

Rutgers University's transportation security research and education efforts concentrate on two priority areas: Developing and providing professional security training for transportation employees and transportation employees and a master's level curriculum. The NTSCOE at Rutgers focuses its educational-oriented programs on the intersections of risk analysis, infrastructure, and human factors as a means of bringing together their wide range of expertise in transportation security – in training, engineering, modeling, and risk assessment. Rutgers's educational and research programs emphasize issues of resource allocation, and resilience in infrastructure, economic systems, and public health, as related to disruptions and recovery potential in highly urbanized metropolitan area transportation systems.

TEXAS SOUTHERN UNIVERSITY

Texas Southern University (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; multi-modal transportation systems; ports 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.

TOUGALOO COLLEGE

Tougaloo College has been designated a Co-Lead for the National Transportation Security Center of Excellence and 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 & 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.