



POSITION STATEMENT

SURFACE TRANSPORTATION SECURITY

*Adopted by the IEEE-USA
Board of Directors, 16 Nov 2007*

The United States contains more than four million miles of paved roadways; more than 600,000 bridges and tunnels; over 141,000 miles of rail track used for freight; more than 10,000 miles used for transit systems; and 361 ports of entry that handle over 6,000,000 marine containers each year. Surface transportation vehicles and infrastructure have been used as weapons, for transporting contraband, and as terrorist targets. Ensuring that our vast surface transportation network remains an open conduit for moving the nation's goods and population, while at the same time providing responsible authorities the ability to detect contraband transportation, and respond to potential terrorist activity is a significant challenge. That challenge is complicated by the fact that the various transportation systems are subject to multiple federal, state and local government jurisdictions and funding authorities. Whereas past transportation security requirements focused on end-point control of the load contents and the vehicle; current security needs require more robust monitoring and control systems -- both during transport and at both ends -- to benefit the public and ensure operational security of these transportation modes.

IEEE-USA supports a substantial security-related research and development effort in highways, rail and waterways, as part of a comprehensive homeland and transportation security strategy. Further, IEEE-USA believes that an improved surface transportation security program would reduce vulnerability, improve protection and preparedness against security threats, and enhance threat detection and characterization to improve responsiveness and recovery from security-related incidents.

IEEE-USA recommends increased federal funding for research and development in surface transportation security-related technologies that enhance protection while maintaining our transportation infrastructure capability to transport people, goods and services in a timely manner, while maximizing security. Priority areas for surface transportation security-related research and development include:

- Establishing transportation security standards
- Screening shipping containers bound for entry into U.S. ports
- Surveillance and sensors, including hazardous material detection

- Promising emerging technologies, such as robotics and automated response systems
- Geographic location and identification
- Data gathering and analysis
- Communications and disseminating information
- Physical security controls that uniquely identify individuals, such as biometrics

R&D in these areas will give the United States technology options to match the necessary security level to counter the threat.

Looking beyond the challenges of addressing surface transportation security, IEEE USA strongly supports the developing a comprehensive “All-Modes” national transportation security strategy, which would leverage security-related technologies among all four transportation modes -- roads, rail, water and aviation. This comprehensive, all modes approach would assist in identifying security gaps, while highlighting opportunities to share developed technologies and capabilities throughout the U.S. transportation infrastructure.

This statement was developed by the IEEE-USA's Committee on Transportation and Aerospace Policy, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of more than 215,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 370,000 members in 160 countries. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE or its other organizational units.