Decision Support for Countering Terrorist Threats against Transportation Networks

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Author Biography
Dr. Richard Adler is Founder and Chief Architect of DecisionPath, Inc. He designed and implemented the company’s ForeTell software platform for critical decision support and currently directs development and delivery of ForeTell solutions for government, and for the life sciences and financial services markets. ForeTell systems provide modeling, “what-if” simulation, and analysis capabilities to help clients “test drive” complex decisions including preparedness strategies for countering terrorist threats and managing organizational change. Before that, Dr. Adler was a partner at Computer Science Corporation, holding positions as the Solutions Architect for the company’s Internet marketplace practice and software component framework for transactional business applications. Dr. Adler was previously VP of R&D at Symbiotics, Inc., a middleware software startup, and was a key member of the technical staff at the MITRE Corporation.

Dr. Adler has over two decades of experience developing advanced software technologies and innovative systems architectures in business applications, mission-critical operations support, decision support, process control, modeling and simulation, and knowledge management. Dr. Adler has spoken and published extensively on topics including pandemic preparedness, counter-terrorism decision support, knowledge management, component software, executable specifications, intelligent systems, and software architectures for distributed control. He holds advanced degrees in Physics and Philosophy. Dr. Adler can be reached for comment at: rich@decpath.com.

Jeff Fuller is the Director of Homeland Security Services at Teledyne Brown Engineering, Inc. He has supported the U.S. Coast Guard Port Security Assessment program since its inception. Mr. Fuller has extensive experience with antiterrorism and security assessments, planning, training, exercises and program management for protecting military forces and critical infrastructure, crisis management, mission analysis and planning for homeland security, special operations, WMD counter-proliferation, conventional and joint military operations, and command and control. He served as Project Manager and Senior Analyst for the U.S.S. COLE Commission Support Team, led mission area analysis for Joint Chiefs of Staff, Antiterrorism Force Protection Directorate (J-34) and managed the Pentagon Antiterrorism/Force Protection Plan Project. He served as a Department of Defense Representative to the Department of Homeland Security Interagency Incident Management Group and the DOD Coordination Project. He served as a Department of Defense Representative to the Department of Homeland Security Interagency Incident Management Group and the DOD Coordination Project.

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Mr. Fuller was a Lt. Colonel in the U.S. Army and participated in four Special Forces missions in support of counter-terrorism and security training programs around the world. Mr. Fuller served as a member of the Special Operations Command’s Threat Assessment Team and led the COE’s Enhanced Joint Integrated Vulnerability Assessment Program, and execution and update of the JCS Web-delivered Antiterrorism Awareness Training program. Mr. Fuller has extensive experience with antiterrorism and security assessments, planning, training, exercises and program management for protecting military forces and critical infrastructure, crisis management, mission analysis and planning for homeland security, special operations, WMD counter-proliferation, conventional and joint military operations, and command and control. He served as Project Manager and Senior Analyst for the U.S.S. COLE Commission Support Team, led mission area analysis for Joint Chiefs of Staff, Antiterrorism Force Protection Directorate (J-34) and managed the Pentagon Antiterrorism/Force Protection Plan Project. He served as a Department of Defense Representative to the Department of Homeland Security Interagency Incident Management Group and the DOD Coordination Project. He served as a Department of Defense Representative to the Department of Homeland Security Interagency Incident Management Group and the DOD Coordination Project.

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DOI
http://dx.doi.org/10.5038/1944-0472.2.3.5

Subject Area Keywords
Homeland security, Intelligence analysis, Methodology, Security management, Terrorism / counterterrorism

Abstract
This article presents a dynamic decision support methodology for counter-terrorism decision support. The initial sections introduce basic objectives and challenges of terrorism risk analysis and risk management. The remainder of the paper describes TRANSEC, a decision support framework for defining, validating, and monitoring strategies focused on managing terrorism risks to international transportation networks.
The methodology and software tools underlying TRANSEC are applicable to other homeland security problems, such as critical infrastructure and border protection.

**Recommended Citation**

DOI: http://dx.doi.org/10.5038/1944-0472.2.3.5
Available at: https://scholarcommons.usf.edu/jss/vol2/iss3/5

Countering and defending against terrorist threats has become a key focus of dialogue and practical cooperation with all partners. Terrorism continues to morph as it adapts to new technologies and evolutions in the security environment. The threat of cyber terrorism to critical infra-structure is of increasing concern. For this reason, effective protection against terrorism and unconventional security challenges must focus not only on defence and deterrence but also on prevention and resilience, which will help societies to recover quickly after an attack. Protecting populations and infrastructure. Thus, to counter terrorist threats and terrorist mechanisms for initiating emergency situations to an even greater degree than for natural and man-made risks, a systemic approach is needed for ensuring security and developing an optimal strategy for counterterrorism force and resource deployment. Inasmuch as concentrating resources on protecting one system element (or protecting a target from one scenario of terrorist action) could prove useless because, after evaluating the situation, the terrorists could redirect the attack against another element of the system or switch to a different attack...

Complex engineering systems are becoming global networks. The currently available methodologies of risk assessment and reliability are not adequate for building resilience against terrorism. Canada's counter-terrorism strategy 5. The Terrorist Threat. Terrorism is not a new tactic. Support for the prosecution of terrorists demonstrates the Government's commitment to protecting the public and to countering terrorism. ADHERENCE TO THE RULE OF LAW

Canadian society is built on the rule of law as a cornerstone of peace, order and good government. It follows that all counter-terrorism activities must adhere to the rule of law.