

Counterterrorism Research and Development

Terrorist attacks and threats at home and abroad have led NIJ to expand its focus on what is arguably the most pressing issue of the new century. The need for institutions entrusted with guarding the public's safety—particularly first responders—to be equipped with the most advanced equipment in order to do their jobs in the event of an attack is self-evident. The same is true of those who protect the Nation's infrastructure. NIJ continues to support research that helps meet these and related needs, with the goal of ensuring better public safety.

In addition to technology-based research, the Nation also needs research in order to understand the structure of terrorist groups, identify patterns of terrorist conduct prior to an incident, and examine how terrorist activities are funded. In 2003, NIJ intensified its commitment to these types of issues, and from 73 proposals submitted in response to a solicitation for research, selected 13 areas for study. (See "Social Science-Based Counterterrorism Research Funded by NIJ in 2003," page 5.)

Building knowledge to enhance the criminal justice response

The projects funded by NIJ in 2003 are addressing gaps in counterterrorism research. With terrorism creating new responsibilities for law enforcement and the courts, NIJ is looking at the detection, investigation, and prosecution of terrorist incidents as well as the link between terrorist organizations and transnational crime.

Understanding terrorists' behavior and operations. Like other criminals, terrorists create their own opportunities for crime and learn from others how to commit them. Researchers will examine the process terrorists use to plan and carry out their special crimes and the means they use to develop and pass on their criminal skills (such as how to launder money).

Terrorist groups know how to manufacture weapons, master weapons and tactics, and gather the information needed to plot their attacks. How they do so is the topic of a study of terrorists' tactical and operational learning. Researchers are compiling data on the patterns of past terrorist conduct—criminal as well as noncriminal—before the attacks occurred, in an attempt to arm law enforcement and prosecutors with tools to predict future terrorist activity.

Exposing international links. There is evidence that terrorists are working with international organized crime to advance their operations. How exactly the two are linked (and also how they diverge) is the subject of research to improve law enforcement investigations. In the past, terrorists have used international organized crime groups to help finance their operations. One way is by trading in commodities, such as gold and tobacco, and circumventing the regulatory process (by smuggling and false invoicing, for example). They also engage in money laundering to transfer funds. Analysis

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of these operations here and abroad should aid in the design of detection and intervention strategies.

Protecting "targets" at home.

In the interest of enhancing preparedness and security, NIJ is sponsoring studies related to the possibility of an attack in public and other places where considerable harm could be done by dispersing biological or chemical agents.

Shopping malls are among the potential targets of attack. Although mall owners have security measures in place, they may not be adequate for a terrorist threat. NIJ is assessing private security in 2,000 large retail spaces, examining the adequacy of preparation, detection capabilities, and response plans. Part of the study will be a review of State regulations covering private security hiring and training standards.

The Nation's 185 seaports are also high-risk targets for terrorists seeking to cause destruction and disrupt U.S. international trade. Protecting these seaports is the responsibility of law enforcement, often in partnership with private firms. To date, there has been no comprehensive public study of port security. NIJ is meeting this need by examining the public-private partnerships and the resources and expertise available to them. The study should provide guidelines for more effective security.

A bioterrorism attack on American livestock could cripple the industry and damage the U.S. economy by forcing a halt in beef exports.

NIJ research funded in 2003 will pinpoint vulnerabilities in this agricultural sector, identify what law enforcement needs to prevent an attack, and develop a law enforcement response plan and training manual focused on protecting the industry.

In the event of an attack with chemical or biological agents, the Nation's public health surveillance systems can be an effective method of detection and recognition. Understanding the importance of law enforcement and public health agencies working together to prepare for and respond to this type of threat, NIJ funded a study to assess the potential for such partnerships by comparing the U.S. public health surveillance system to those in Canada and the United Kingdom. The outcome will be a set of best practices that can be adopted for use in the United States.

Technology-based solutions for bomb squads

The Nation's bomb squads face greater challenges than ever as explosive devices become more sophisticated and dangerous. Bombings are not uncommon: between 1988 and 1997, there were more than 38,000 explosive incidents in the United States. And the quest to stay ahead of the bomb builders and develop better disablement strategies and devices is all the more pressing in this era of terrorist threats and attacks. The Department of Defense, the Federal Bureau of Investigation, and the Bureau of Alcohol, Tobacco, Firearms, and Explosives are partners with NIJ in pooling expertise to support State and local bomb technicians.

SOCIAL SCIENCE-BASED COUNTERTERRORISM RESEARCH FUNDED BY NIJ IN 2003

Crimes Committed by Terrorist Groups: Theory, Research, and Prevention

Indiana State University
Mark Hamm
\$133,977
2003-DT-CX-0002

Defining the Role of Law Enforcement in Protecting American Agriculture

Kansas Bureau of Investigation
Terry Knowles
\$233,832
2003-IJ-CX-1024

Exploring the Links Between International Organized Crime and Terrorism

American University
Louise Shelly
\$235,810
2003-IJ-CX-1019

Identifying the Links Between White Collar Crime and Terrorism

West Virginia Office of the State Auditor
Glenn B. Gainer III
\$78,136
2003-IJ-CX-1018

Impact of Terrorist Attacks on State Law Enforcement and Criminal Justice Systems

Council of State Governments
Magdalena Mook
\$281,769
2003-DT-CX-0004

Improving Cooperation Between Law Enforcement and Arab Communities

Vera Institute of Justice, Inc.
Robert Davis
\$355,329
2003-IJ-CX-1020

Local Prosecutors' Response to Terrorism

American Prosecutors Research Institute
Elaine Nugent
\$175,000
2003-IJ-CX-1025

Pre-Incident Indicators of Terrorist Incidents

University of Arkansas
Brent L. Smith
\$343,885
2003-DT-CX-0003

The Preparedness of Private Security in Shopping Malls

Vera Institute of Justice, Inc.
Robert Davis
\$395,136
2003-IJ-CX-1017

Protecting America's Ports: Assessing Coordination Between Law Enforcement and Private Security

Police Executive Research Forum
Gerald Murphy
\$398,462
2003-IJ-CX-1021

Research on Terrorism

Research Triangle Institute
David Faucette
\$332,018
2003-IJ-CX-1023

Tactical and Operation Learning by Terrorist Groups

Rand Corporation
Brian Jackson
\$368,580
2003-IJ-CX-1022

Terrorism Finance and the Nexus With Transnational Organized Crime

Northeastern University
Nickos Passas
\$612,298
2003-DT-CX-0001

The Vanguard robot achieves more than 90 percent of the mission requirements identified by practitioners, at less than one-third of the cost of other commercially available bomb robots.

Improving protective devices.

Bomb technicians wear protective suits that are designed to protect against overpressure, fragmentation, impact, and heat; the protection they provide is well documented. However, there are drawbacks to these suits: reduced mobility, fatigue, heat stress, and a reduction in dexterity. NIJ is now developing a performance standard for bomb suits that will help agencies make informed decisions when purchasing this vital equipment.

One device that can perform some of the more dangerous tasks and thereby reduce or eliminate the technician's time on target is the "bomb robot." These devices can be used in areas that would be unsafe to enter, allowing the operator to remain at a safe distance. Even if a robot cannot reach and disrupt the bomb, it can still relay information to aid in the selection of tools and procedures.

NIJ sponsored the development of a robot built to practitioners' specifications and intended to correct shortcomings in the current generation of robots. In 2003, NIJ funded a project to modify this robot, called the "Vanguard," and deliver five modified bomb robots to law enforcement agencies to evaluate under operational conditions. The Vanguard robot achieves more than 90 percent of the mission requirements identified by practitioners, at less than one-third of the cost of other commercially available bomb robots.

Making information more accessible. NIJ is leveraging the revolution in information technology to

provide bomb technicians ready access to vital data. Three projects are noteworthy for 2003:

- For bomb squads working at an incident scene, portability of information devices is important. Building on its work in developing a palm-size device that meets this need, NIJ is conducting an evaluation of the device, which is now in operation at the Philadelphia Police Department. The device affords quick access to manuals, charts, and publications to aid technicians in their operations. NIJ also developed a set of four CD's containing bomb information from the FBI's Bomb Data Center and distributed the set to bomb squads across the country.
- NIJ funds Critical Incident Response Technology Seminars (CIRTS) to give bomb squads access to the latest information on threats and technology. In 2003, CIRTS seminars featured presentations on terrorist trends, by the Defense Intelligence Agency, and on improvised nuclear devices, by the U.S. Department of Energy.
- X-ray imaging systems help bomb technicians "see" the composition of an explosive device. NIJ is contributing to the improvement of these systems by publishing a standard for their development; by evaluating diagnostic system tools; and by providing to bomb squads in 27 States a portable, PC-based x-ray system that diagnoses explosives in real time. In 2003, work continued on a device that will quadruple the image area of current x-ray systems.