

TechBeat

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by JTIC

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About TechBeat



TechBeat is the monthly newsmagazine of the National Law Enforcement and Corrections Technology Center System. Our goal is to keep you up to date on technologies for the public safety community and research efforts in government and private industry.

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The NLECTC System

The Justice Technology Information Center (JTIC), a component of the National Institute of Justice's National Law Enforcement and Corrections Technology Center (NLECTC) System, serves as an information resource for technology and equipment related to law enforcement, corrections and courts and as a primary point of contact for administration of a voluntary equipment standards and testing program for public safety equipment.



JTIC is part of the NLECTC System, which includes the Justice Innovation Center for Small, Rural, Tribal, and Border Criminal Justice Agencies, which focuses on the unique law enforcement challenges faced by those types of agencies; the National Criminal Justice Technology Research, Test and Evaluation Center, which provides technology-related research and testing and operational evaluations of technologies; and the Forensic Technology Center of Excellence, which supports technology research, development, testing and evaluation efforts in forensic science. In addition, a Priority Criminal Justice Needs Initiative exists to assess and prioritize technology needs across the criminal justice community.



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Victims of Crime; the Office of Juvenile Justice and Delinquency Prevention; and the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking.

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JUSTNET News. Includes article abstracts on law enforcement, corrections and forensics technologies that have appeared in major newspapers, magazines and periodicals and on national and international wire services and websites.

Testing Results. Up-to-date listing of public safety equipment evaluated through NIJ's testing program. Includes ballistic- and stab-resistant armor, patrol vehicles and tires, and more.

Calendar of Events. Lists upcoming meetings, seminars and training.

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Tech Topics. Browse for information on law enforcement, corrections and courts technologies.

<http://www.youtube.com/JUSTNETorg>



Planning Tool Helps Agencies Pool Disaster Resources

Planning Tool Helps Agencies Pool Disaster Resources

By understanding the hazards to their communities and the resources needed to respond, emergency managers can better prepare and plan for catastrophic events. An online planning tool is available that can help agencies improve preparedness and share resources across jurisdictions.

Developed through the U.S. Department of Homeland Security Science and Technology Directorate First Responders Group (FRG), the Mutual Aid Resource Planner (MARP) is an online collaboration emergency planning tool that helps emergency managers create shareable plans for hazard-based scenarios such as hurricanes, earthquakes and wildfires.

Ron Langhelm is the FRG program manager for MARP, which became available to agencies and communities in late 2016.

“Using MARP, agencies can identify a potential disaster or scenario to plan for, work through requirements, identify resources and resource shortfalls, and work with neighboring

jurisdictions to fill those voids. If an agency does not have the resources, it can work to meet those requirements by collaborating with other jurisdictions,” Langhelm says.

The National Information Sharing Consortium (<https://www.nisconsortium.org>) hosts the free MARP tool, which is an ArcGIS Online configurable template. ArcGIS is mapping and analytic software on a cloud-based platform. Users can create and share information such as maps and data.

Users can track the resources necessary to meet desired capability in the event of a disaster. As a geospatial-based online system, MARP can ease information sharing and collaboration. Participating communities can enter their resources into MARP.

While other mutual aid planning tools may use geospatial technology to develop a plan, the plan is frequently a paper document, Langhelm says. Not so with MARP.

“MARP uses geospatial technology and so is visual by nature. It is good for spurring additional discussion and collaboration because of the nature of the tool. It is more interactive and leads to better overall planning. At the end of the process you have better documentation, better discussions and a more solid plan,” Langhelm says.

“You consider transportation corridors, and ingress and egress for an area,” he adds. “For example, if there is an earthquake and resources are on the other side of a large river with four bridges, those resources may not be able to help out, so you look to identify resources in a different direction.”

During the pilot phase of the project, emergency planners in Michigan and Ontario, Canada, used MARP to develop mutual aid resource sharing plans in a cross-border environment. In New Orleans, the program was tested as part of the DHS Flood Apex program.

To access MARP, see <https://www.nisconsortium.org/>. For more information, contact John Verrico of DHS Science and Technology Directorate Office of Media Relations at john.verrico@HQ.DHS.GOV.



Article photo: Background Image Shutterstock/Website Screenshot MARP

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NIST Offers Free Software to Help Agencies Test Computer Forensics Tools

NIST Offers Free Software to Help Agencies Test Computer Forensics Tools

Such a small item, this cellphone dropped by a suspect fleeing at the scene of a failed drug deal. But potentially, this small item could yield vital evidence in preparing a case that would stop the drug deals for good. And the investigators want to be absolutely sure they're using the right version of the right forensic tool that will produce that evidence in a manner that will hold up in court.

They turn to the National Institute of Standards and Technology (NIST) Computer Forensics Tool Testing (CFTT) project to get the help they need to ensure that it will.

Created in 1999 in the early years of the Information Age, CFTT offers computer forensics assistance to law enforcement agencies in two ways: through posting tool testing reports produced by NIST researchers and through offering free Federated Testing software that allows agencies to test tools on their own.

Launched in November 2015 with a version that allows agencies to check disk imaging

capabilities, Federated Testing consists of a downloadable Linux CD .iso file. Agencies can burn the file to a blank CD, then use that CD to boot a forensic workstation and test a tool or tools via a user-friendly interface.

“For 15 years we just did this ourselves, and law enforcement used our reports to help select the appropriate tools,” says



Barbara Guttman, leader of the Software Quality Group. “We got to the point where there are so many tools out there, with new versions released all the time to correspond with new versions of mobile devices and new versions of apps, and how can you test all of them? The obvious answer was someone other than NIST has to do some of it or we can’t keep up.”

The Federated Testing software started with disk imaging because the first and most basic step in computer forensics investigations is to make a copy, thus leaving the original intact. NIST added the capability to test mobile forensics data extraction tools in June 2017, and write blocking capability will come online this fall. Agencies can sign up on the CFTT website (<https://www.cftt.nist.gov/>) to receive notification when a new version becomes available.

In its early months of availability, Version 1.0 of Federated Testing averaged about 35 downloads a month, and with the addition of the mobile forensics suite, that number should increase, says the Software Quality Group’s Ben Livelsberger. During 2017, NIST has provided technical assistance to a public defender’s office in Missouri and officers out of the United Kingdom, indicating agencies are already putting the downloaded software to use. And NIST encourages users to submit copies of their reports via email so that they, too, can be posted on the CFTT website and shared with other agencies.

“Law enforcement agencies and universities can use it to not only help themselves directly, they can also use it to help each other,” Guttman says. “Sharing information will reduce everybody’s workload, and if we can help each other out, isn’t that a more efficient way of doing things? The result is a big win for law enforcement, and it can also be a big win for the vendor community, because they can use the reports to help them improve their tools.”

Guttman cautions that tools that “work correctly” still aren’t perfect; for example, it’s not possible to recover every single deleted file.

“We say we want the tools to work right, and in order to do that, we first have to define what ‘right’ is. Sometimes all we’re doing is characterizing what they can and can’t do so they can be used effectively,” she says.

The Scientific Working Group on Digital Evidence is developing a soon-to-be-released report that will help support using test reports even if a different version of the tool was tested.

“What they’re really saying is it’s unlikely that major versions will have bugs that will turn out to be relevant to your workload, and if you did extremely specific testing all the time, you’d never get any actual work done,” she says.

The Office of Justice Programs’ National Institute of Justice, along with the Federal Bureau of Investigation and the Department of Defense Cyber Crime Center, provided the original funding. Ongoing funding for the project comes from the U.S. Department of Homeland Security.

To research posted test reports or download the Federated Testing software, visit <https://www.cfft.nist.gov>. Reports produced prior to March 2013 can be located at [here](#).

For more information, contact Rich Press in the NIST Public Affairs Office at Rich.press@nist.gov.

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Firearms Training and Prevention of Hearing Loss

Firearms Training and Prevention of Hearing Loss

Ryan Lee Scott, Deputy Sheriff with the Alachua County Sheriff's Office in Gainesville, Fla., and adjunct faculty at the Santa Fe College police academy, noticed several years ago that a number of the longtime firearms instructors had significant hearing loss and were wearing hearing aids. His concern for his colleagues hearing health led him on a journey to quantify the problem and package sound mitigation strategies officers could immediately implement.

Law enforcement officers undergo qualification training during the year in the use of firearms. In general, Scott says firearms training probably occurs about four times a year for a typical law enforcement patrol officer, monthly or more frequently for SWAT and special operations members, and a firearms instructor could be on the firearms range up to 20 times a month.

Concerned about adequate protection against potential hearing loss for himself and others, Scott contacted audiology experts at the University of Florida a few years ago to learn about the high-level impulse sounds produced by firearms and ways to minimize risk. In one

subsequent study, researchers evaluated the sound pressure level effects of suppression, ammunition and barrel length on AR-15 rifles. Suppressors (silencers) were found to be helpful in mitigating noise, but Scott says it is still necessary to use hearing protection devices such as earmuffs and earplugs during training as well. No one device provides an adequate amount of protection, but by using all three categories of hearing protection devices together, a sufficient hearing protection strategy can result.

To bridge the information gap between science and law enforcement and help agencies and officers understand the issues, Scott developed an educational workshop, Firearms Training and Hearing Loss, a 90-minute presentation he has been providing free to law enforcement agencies around the state of Florida, traveling to about 30 agencies thus far, along with organizations such as the Fraternal Order of Police and Police Benevolent Association.

The workshop covers audiology research studies and the potential for unprotected exposure to firearms sounds to damage hearing, and the importance of use and proper fit of hearing protection devices such as earplugs and earmuffs, along with firearms suppressors, to reduce sound levels during training.

“It is largely a training issue to properly fit the devices, and use the devices in the proper combinations, not a problem with the devices themselves,” Scott says. “Most of the hearing loss is occurring in a training context. It is very preventable and relatively inexpensive to address. Agencies need to be aware of and have a good hearing conservation program to get the information out to officers on how to protect their hearing.”

Scott says most agencies are using either earplugs or earmuffs, rather than both, and not providing training on fitting.

“Agencies should use both earplugs and earmuffs at the same time and properly fit them. Most agencies I have seen are using earmuffs, which is a good start, but they need to use earplugs too. You have to spend 20 to 30 minutes to train officers to fit them so they get the proper level of attenuation for the device, and agencies need to create a hearing conservation plan to address these issues.

“In a training context using all three — suppression, earmuffs and earplugs — is the best strategy. In Alachua, the SWAT team uses suppressors in the field, which reduces noise while

these firearms are deployed in real-world events. In training they use suppressors in combination with their typical earmuffs/earplugs.”

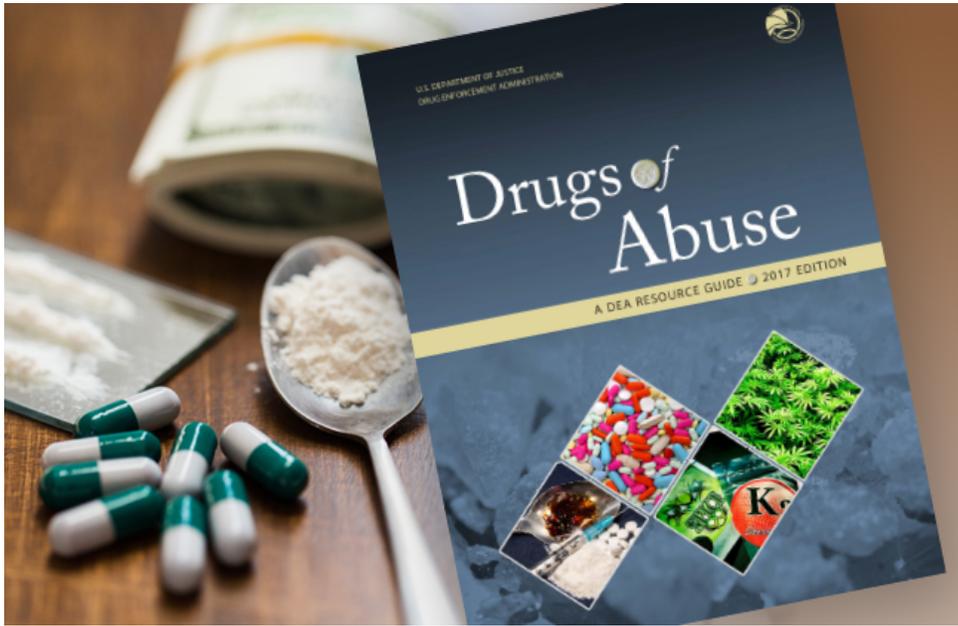
Scott provides the workshop in a classroom setting, but if an agency has the time he will go out to a firearms range and use the protection devices with the type of firearms the officers are using. By integrating the agency’s equipment with the various types of hearing protection devices, he says a balanced approach can result in adequate protection, reasonable price and a practical training environment.

Scott’s efforts led to his receipt earlier this year of a Safe-in-Sound 2017 Excellence in Hearing Loss Prevention award: Innovation in Hearing Loss Prevention in the Public Safety Sector. The Safe-in-Sound awards were created by the National Institute for Occupational Safety and Health (NIOSH) in partnership with the National Hearing Conservation Association.

Future activities include Scott’s plans to write hearing protection sections for the law enforcement recruit textbook in Florida. He also hopes to expand his hearing protection training outreach program to every state.

For more information, contact Deputy Sheriff Ryan Lee Scott at ryanleescott05@yahoo.com or rscott2@acso.us. For information on NIOSH research regarding firing ranges, click [here](#).

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2017 Drugs of Abuse Resource Guide

2017 Drugs of Abuse Resource Guide

U.S. Drug Enforcement Administration

The 2017 edition of *Drugs of Abuse, A DEA Resource Guide*, is available from the U.S. Drug Enforcement Administration.

The guide is designed to be a reliable resource on the most commonly abused and misused drugs in the United States. It provides science-based information about the harms and consequences of drug use, describing a drug's effects on the body and mind, overdose potential, origin and legal status. The 2017 edition updates the 2015 *Drugs of Abuse* publication with the most current information on new and emerging trends in drug misuse and abuse, including fentanyl, other opioids and synthetic drugs.

The guide is intended as a tool not just for medical practitioners and law enforcement

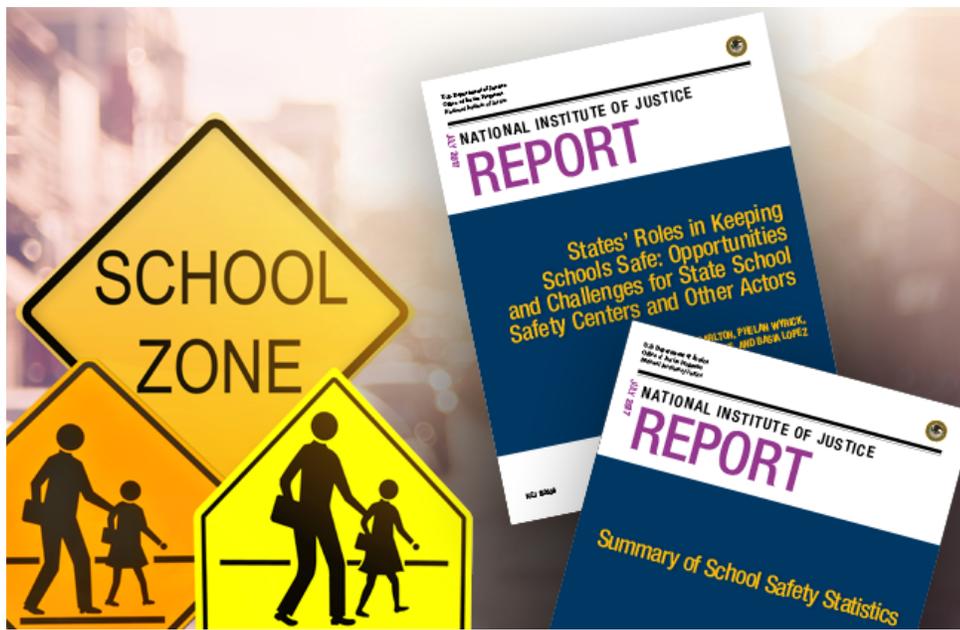
officials, but also for educators, families and communities. The guide also offers a list of additional drug education and prevention resources, including the DEA websites: www.DEA.gov, www.getsmartaboutdrugs.com for parents, www.justthinktwice.com for teens, and www.operationprevention.com for teachers.

For more information and to view the 2017 *Drugs of Abuse* resource guide, click [here](#).

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For more information and to receive updates on campus drug prevention efforts and resources, visit www.CampusDrugPrevention.gov.

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Reports on School Safety Statistics and States' Roles in School Safety

Reports on School Safety Statistics and States' Roles in School Safety

National Institute of Justice

Two reports are available from the Office of Justice Programs' National Institute of Justice that discuss school safety statistics and initiatives.

Summary of School Safety Statistics. This report contains data collected by researchers and federal agencies, including the Department of Education and Department of Justice. It examines several common beliefs pertaining to school safety statistics and provides evidence to support or dispel each of them. Access the report [here](#).

States' Roles in Keeping Schools Safe: Opportunities and Challenges for State School Safety Centers and Other Actors. This report includes information shared at a two-day NIJ state

school safety meeting that included representatives from 20 states. The report provides a better understanding of the role of state school safety representatives, their priorities and challenges. Read the report [here](#).

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