IMPROVING SCHOOL SAFETY
ADVANCING TECHNOLOGY AND SUPPORTING SCHOOL RESOURCE OFFICERS

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Student safety has long been a priority for everyone connected with educating our children—parents, teachers, administrators, and the School Resource Officers (SROs) who are entrusted with protecting and guiding students while they're at school.

While many local districts have had basic safety measures in place for decades, the FBI's review of active shooter incidents in the U.S. between 2000 and 2019 reports that schools (Pre-K through 12) are the third most common location for active shooter incidents.[1]

The Columbine High School massacre in 1999 grabbed the nation's attention on targeted school violence and led to a new focus on improving school safety. In 2019, "nearly 100% of schools serving 12- to 18-year-olds use at least one safety or security measure [including] locked doors, security cameras, hallway supervision, controlled building access, metal detectors, and locker checks."[2]

However, a series of reviews by the National Institute of Justice has concluded that no single school safety technology can ensure security for students. Each school district has different, individualized needs. School Resource Officers (SROs) are critical in recognizing those individual needs and identifying and implementing technologies to protect students from targeted violence.

School Resource Officers—Addressing Threats and Averting Attacks

The first SRO was placed into a Flint, MI, school in the late 1950s, with a goal to improve relationships between the student community and the local police force.[3] The Flint program's success led to similar programs throughout the country.

SROs are armed law enforcement or police officers specifically trained to work with and around students; however, many school districts assign non-SRO law enforcement officers who have not received SRO training. This distinction between SROs and non-SRO law enforcement officers is meaningful, especially when considering the expanded role of SROs. The not-for-profit National Association of School Resource Officers (NASRO), established in 1991, currently defines the SRO role as having three facets: (1) educator, (2) informal counselor/mentor, and (3) law enforcement officer.[4] By building relationships and keeping open lines of communication across the community (i.e., students, parents, faculty, and school administrators), the SRO gains invaluable situational awareness that can help mitigate threats.

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As recently as 2021, the U.S. Secret Service analyzed 67 averted school attacks, finding that all were prevented because community members alerted authorities. Of these, the SRO played a role in almost one-third of them—either by reporting the plot themselves or acting on reports from others, signifying the SRO's trusted role with students and parents.[5] Specialized SRO training introduces participants to best practices in handling different behaviors and applying de-escalation techniques. They learn trauma-informed approaches that help them identify when students may be in crisis. And while many states are adopting training requirements that clearly define who can identify as an SRO, there is a need to further understand and enhance this critical role throughout our educational system.

While SROs often help protect students from targeted violence, there are ongoing concerns that school policing and zero-tolerance policies lead to inequitable disciplinary outcomes for students of color. An SRO's success depends on establishing trust with all students through in-person interactions and creating a rapport that improves the likelihood that students will share confidential information with them. While outside the scope of this paper, the SRO community has recognized the impact of systemic inequity and is responding. For example, the NASRO SRO course now devotes an entire module to "Developing and Supporting Successful Relationships with Diverse Students."[6]

Warning Signs on Social Media

Because the majority of attackers perpetrating violent crimes in schools indicate (to some degree) their intentions online prior to the event, SROs' use of social media monitoring tools can be critical in preventing attacks, but school uses of these tools vary across the country and are often driven by available dollars, resources, and privacy concerns.[7] For many SROs, these monitoring tools can help flag areas of concern, even when the officer is familiar with the student community.

One possible downside is that the level of effort needed to track student activity on platforms like TikTok and Instagram, even when using social monitoring tools, reduces the SRO's face-to-face time with the student community. Additional SRO hours, or additional support from administrative staff, might be required to adequately monitor social media sites to provide greater visibility into student behavior and activities.

An Integrated Approach: Physical Deterrents and Technological Tools

While school administrators and teachers focus on students learning in a safe environment, SROs focus on a safe environment wherein students can learn. Many schools already have physical deterrents in place: building access controls, staff/faculty identification badges, security cameras, even metal detectors—all of which support the SRO in keeping the campus free from non-authorized persons and weapons. If an intruder enters the school, follow-on measures can include panic buttons, mass messaging software, and desktop alerts displaying on all school computers. Similar to the use of social media monitoring tools, numerous versions of these deterrents are applied to varying degrees throughout U.S. schools.

Following the 2018 Parkland shooting, schools and school districts expressed difficulties navigating the numerous security equipment and technology offerings. In response, the Federal Commission on School Safety (established one month after the shooting) issued a report recommending establishing a site as a clearinghouse for school security information. The Department of Homeland Security (DHS), along with the Departments of Education, Justice, and Health and Human Services, created the SchoolSafety. gov site to provide federal resources and school safety strategies. Schools are not mandated but can register to share information like emergency operations and active assailant plans.[8, 9]

Federal funding for school safety is limited, and the government funds all states without explicitly considering whether the states are distributing those funds equitably.

The Partner Alliance for Safer Schools was formed from a community of interest established in 2014 and led by the National Systems Contractors Association and the Security Industry Association. It provides a set of guidelines to help school administrators, school boards, and public safety and security professionals discern the best security solutions for their schools' unique needs and budgets and develop an emergency operations plan by initially establishing collaborative planning teams. These on-site teams should comprise school district personnel (e.g., administrators, educators, school psychologists/nurses, facilities managers, transportation managers, family services representatives) working together to devise a comprehensive plan to address potential threats/risks. They should also include students and parents, as well as individuals and organizations that require special consideration and attention in the school environment (e.g., persons with disabilities or those from underserved communities). Together, these teams can evaluate their district schools' existing capabilities, prioritize the security needs, and align funding to support them.[10] Often, the cultural shifts that occur from bringing these teams together are as valuable as the plans and budgets they develop for improving security technology in their schools.

A Need to Distribute Funds More Equitably

The level of funding available for SROs and supporting technology varies considerably across the country, and administrators are challenged to find the most affordable combination of policies, procedures, equipment, software, and staff to increase security and reduce risk. According to the Peter G. Peterson Foundation, K-12 education funding for the 2018–2019 school year was 8% federal, with state and local districts shouldering the balance of 47% and 45%, respectively.[11]

While federal funding is a relatively small part of the mix, it is important. The No Child Left Behind Act of 2001, based on the 1965 Elementary and Secondary Education Act of 1965, provides that schools may use up to 40% of Title IV dollars for "the hiring and mandatory training, based on scientific research, of school security personnel (including School Resource Officers) who interact with students in support of youth drug and violence prevention activities … that are implemented in the school."[12] This was further revised by the Obama administration's 2015 Every Student Succeeds Act, which includes provisions that help ensure student health and safety.[13]

There is also the Students, Teachers, and Officers Preventing School Violence Act of 2018, which gave the U.S. Department of Justice Community Oriented Policing Services (COPS) Office authority to award grants to eligible organizations to improve their school security through evidence-based school safety programs and technology.[14] In 2021, the COPS Office School Violence Prevention Program granted 153 awards across 39 states with an average award amount of $339,412 (impacting 6,309 schools).[15]

The current administration's fiscal year 2023 budget includes $18.387 billion, an increase of $850 million or 5% more than the fiscal year 2022 level, for the Title I-A grants to the local educational agencies program.

Despite these and other national initiatives, federal funding for school safety is limited, and the government funds all states without explicitly considering whether the states are distributing those funds equitably.[16] It's also difficult to discern how much of the funding that is distributed goes toward school security and safety because most dollars are not specifically earmarked.[17]

Following the Parkland and El Paso shootings in 2018, many states formed state school safety centers (SSSCs) to consolidate and organize their safety efforts. While the exact number of SSSCs operating in states today is unknown, the WestEd Justice and Prevention Research Center identified and surveyed key security and education experts in each state. Of the 51 surveyed, about 84% responded, with a large majority reporting that their SSSC was funded by both state and federal dollars.[18]

The Washington State Institute for Public Policy conducted a 50-state study in 2017 looking at state funding for elementary and middle school safety and security. Across the states, the varied sources included dedicated state education formula funding, ongoing grant programs, one-time budget measures, and federal grant programs. The institute found that 23 states primarily funded school safety and security through ongoing categorical grant programs that, for the most part, allocate funds to education agencies that administer them through competitive grants.[19]

While the Washington State study looked at funding specific to school safety and security, a paper published in a Cornell Legal Studies research series looked at school crime and safety data and per pupil spending data at the district level in conjunction with administrator perspectives on concessions related to budgeting for school safely. A core finding was that inconsistent student per pupil spending "persistently informed the administrators' reports about the inadequacy of school funding and how it limits school crime prevention and reduction efforts."[20]

Public-Private Partnerships for Research and Information Sharing

Perhaps other affordable technologies and practices could be discovered through private-public partnerships in the name of promoting public school safety. Three promising examples are the School Shooter SIMEX, K-12 School Shooting Database, and SAFECOM/NCSWIC Information Sharing Framework.

School Shooter SIMEX. August 3–14, 2020, the DHS Cybersecurity and Infrastructure Security Agency (CISA) sponsored a simulation experiment (SIMEX) event in coordination with the George Mason University College of Education and Human Development and the MITRE Corporation.[21]

The SIMEX—a human-in-the-loop experiment conducted in a unique MITRE lab—placed participating volunteers in an operationally realistic but simulated high school environment to investigate the effectiveness of several school safety options. Using virtual reality and other advanced modeling capabilities, the SIMEX team simulated active shooter events in its digitally replicated high school. Live participants included teachers, students (in this case, college students playing the role of high school students), SROs, and a front office administrator, with one student filling the active shooter role.

The SIMEX looked at three factors and how they affected student casualties: (1) the presence of an SRO, (2) door-locking policies, and (3) lockdown notification policies. After several days of multiple simulated runs, the findings for each factor, respectively, made several conclusions:

- When an SRO was present, more students were able to evacuate the school or move into locked classrooms, and there were fewer student casualties than in runs with no SRO (note that the SRO did lose their life in the majority of runs being the shooter's priority target).

- Classrooms with pre-locked doors completed lockdown procedures—and more students got safely outside the school or into locked classrooms—compared with classrooms with doors that were manually locked.

- Decentralized notifications, whereby teachers directly give lockdown notification over the PA system, versus centralized reporting, whereby teachers reported to the front office—from which the announcement was then made—did not significantly impact the number of casualties or the number of students evacuated or in lockdown during the active shooter event.

The SIMEX report recommends that schools consider the use of an SRO or equivalently trained security professional(s) and investigate strategies or technologies that improve SRO situational awareness. It also recommends that schools establish a policy requiring classroom doors be kept in the locked position at all times and adopt technology to achieve a full lockdown when needed. Further, it recommends developing a communications plan for all students and staff to share information, as well as investigating modern communication technologies to support the plan.[22]

K-12 School Shooting Database. Continued research through public-private partnerships or through academic institutions should be encouraged, supported, and, most

importantly, shared. For example, in 2018, researcher David Reidman founded the open-source K-12 School Shooting Database, which partners with the Violence Project Research Center. Data generated through their efforts includes incident details with reliability scores and verified source citations for public use in academic research and analysis of gun violence in schools.[23]

SAFECOM/NCSWIC Information Sharing Framework. Another information sharing effort comes from a partnership between the CISA SAFECOM program and the National Council of Statewide Interoperability Coordinators (NCSWIC). SAFECOM was formed in response to the September 11 terrorist attacks to improve the emergency response provider communications ecosystem across federal, state, local, tribal, and territorial governments, as well as across international borders. The SAFECOM and NCSWIC effort addresses information sharing challenges based on a school active shooter response scenario. While there is a need for first responders to coordinate with one another as well as with dispatchers and other outside resources in crisis situations, critical information—such as floor plans, access codes, and points of contact contained in school action response plans (ARPs), intelligence data on potential suspects, or the location of the nearest medical facilities—is not easily and quickly obtained. SAFECOM and NCSWIC propose an information sharing framework implementing existing federated Identity, Credential, and Access Management (ICAM) processes available to public agencies. Their emerging technology, called "trustmarks," offers a cost-effective way for agencies to use trusted information sharing systems to grow trusted relationships through transparent communications. Authorized users could share action items, quickly access intelligence data, improve coordination with off-site resources (e.g., dispatchers), and create and update their ARPs.[24]

Recommendations

- Standards and training for SROs are not consistent from state to state. The Department of Education could focus national attention on this critical role and encourage states and school districts to provide standardized security staff training through school-based policing organizations (e.g., NASRO) that inform and certify law enforcement personnel to be SROs.

- Because SROs can have a significant impact in averting school attacks, government agencies and industry should partner with SROs to understand their needs (e.g., enhanced social media tools). This could help SROs attain greater visibility into student activities, improving their ability to identify and prevent bad behavior and violent acts.

- While the level and variety of school security needs vary by facility, enrollment size, and location, all school districts could benefit from additional resources, security technology, and specialized equipment. Federal action may be needed to incentivize states to distribute monies more equitably across their school districts, giving low-income and high-poverty school districts an opportunity to adopt improved security measures.

- The federal government should also consider partnering more closely with industry in two main ways:

  – Continue conducting research, including iterative SIMEX events, that evolve with advances in communications and safety practices.

  – Co-create technology specific to school security, such as developing communication technologies for school staff to use during an active shooter event that go beyond a standard PA system.

In Closing

School Resource Officers have been embedded in many schools since the mid-20th century and even more so since the 1999 Columbine school shooting. Adopting standard training requirements across the states and throughout our educational system will help improve security in schools and inform the public's understanding of the SRO role.
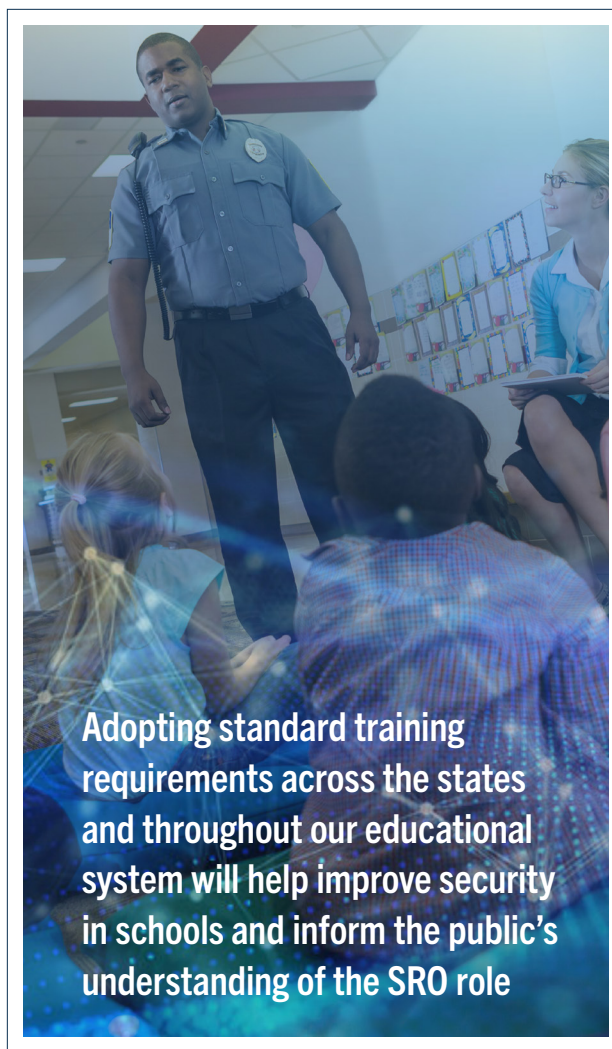
Providing processes and technologies to help SROs, teachers, and administrators keep students safe depends on federal, state, and local governments providing equitable funding; establishing public-private partnerships to advance technology; and conducting or sponsoring research and data collection—all of which might make a difference in saving children's lives.

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For more information about the Center for Data-Driven Policy, contact policy@mitre.org

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