AIA New Jersey

The New Jersey Society of Architects
A Chapter of the American Institute of Architects

Safe School Design Task Force

OBJECTIVE, RESEARCH, & TRENDS FRAMEWORK

Welfare: RAISING AWARENESS + FUNDING ACCESS FOR SCHOOL SAFETY IMPROVEMENTS

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A. Objective Statement

Our AIA NJ Safe School Design Task Force is focusing attention on the timely and important topic of "**Raising Awareness and Funding Access for School Safety and Security Improvements**" and how it relates to the overall framework of designing safe schools in New Jersey. Our Task Force objective is to share national best practices in K-12 schools and show how they can help local communities to meet their schools' *health, safety, and welfare* needs. The strategies used by NJ Architects to design and renovate schools shall not only protect building occupants but also create highly successful learning environments through innovative design solutions integrated with safety systems, physical security, and wellness practices.

GOAL: "*Making Schools Safer*" **with tips on how to pursue federal and local** "*Grant Funding Resources*" **to help implement security upgrades and enhance** "*Community Connections*" **to broaden the understanding and communications to address top concerns of law enforcement, educators, parents, and citizens.**

Curbing school violence requires a multifaceted approach which can range from incorporating physical deterrents and installing cameras to setting up training sessions with law enforcement, upgrading supervisory practices, and adding new technology devices – all of which cost money. *The question is how to address safety and wellness concerns along with how to prepare school facilities for emergencies, restore community confidence in its safety, and allow students to focus on learning.*

Two recent acts of federal legislation have created funding opportunities *for states and communities to identify their security needs and implement initiatives to reduce violence and bullying while creating positive learning environments for all.* The goal of federal funding is to accelerate and enhance the implementation of programs and initiatives surrounding school safety and to help communities, families, and districts expand successful school safety strategies. *AIANJ Task Force hopes the following information can help school administrators and communities increase access to tactics, tools, and cost-effective solutions strengthening school security along with tips on how to access funding resources to help pay for safety improvements so schools can focus their energies on education and services.*

The Pillars of a School Security System:
Applying pillars of security involves **detect, analyze, communicate,** and **respond** steps coordinated with responses to questions asked when setting up a security plan. *"How can you detect something quickly? How can you analyze it in real time? What communication protocols are in place for a given situation? Where are and What are the essential resources needed to make an efficient and effective response?"*

The [Partner Alliance for Safer Schools](#) **recommends a multifaceted approach building layers of protection starting from the district level down to classrooms**. *A school's security plan is based upon people, policies, and processes which must be seamlessly coordinated to address everyday concerns and emerging situations.* For example, detecting an open door or unauthorized visitor and getting immediate notifications to the right person for a quick response allows schools to be proactive about security rather than reactive. Today's teachers must not only handle everyday tasks, but also, they must prepare for critical emergencies. While many resources are being directed towards active shooter defense or restoring safe mental health environments in schools, there is no one solution. *Technology should be used as part of a connected ecosystem integrating critical communications, video security, data, and analytics on a common platform* to give schools powerful tools to detect, analyze, communicate, and respond to unfolding security incidents. Unifying voice, video, data, and analytics into one integrated platform can allow schools to create a wide network of safety across campuses and properties, including school buses.

"Safe School Ecosystems" offer a variety of tools enabling schools to:
• *Control entry access, monitor, and detect open doors.*
• *Monitor suspicious activity with cameras.*
• *Analyze video in real time and provide appearance searches.*
• *Set automatic notifications to activate upon certain events.*
• *Send alert messages to key personnel or all staff.*
• *Identify and dispatch response resources.*
• *Broadcast mass notifications to personnel, parents, and guardians.*
• *Communicate among security staff, key personnel, and law enforcement.*
• *Optimize response times to emergency situations.*
• *Provide critical incident insights to maximize safety.*
• *Monitor locations of response resources through GPS positioning.*
• *Gain situational awareness and enable the right level of response.*
• *Share critical information (images, videos, plans) quickly and accurately.*

Safe schools are created when there is the right mix of technology, people, and processes aligned to achieve an efficient and sustainable safety environment. As urgent as needs may be, few schools have the resources to acquire everything they want in the way of security all at once. Schools are best served when they can establish a flexible, integrated platform upon which solutions and services can grow and evolve over time as budgets allow them to add new features as needed.

Federal Awareness Campaign to Support School Safety:

Federal awareness campaign highlights school safety resources and evidence-based practices and is available online at **SchoolSafety.gov**. This campaign launched in the 2023 back-to-school season is aimed at ensuring schools have tools they need to achieve welcoming, safe, and supportive learning environments for students and staff. The *SchoolSafety.gov* campaign released a wide range of resources, including videos, communication toolkits, and research links to help schools learn more about enhancing school safety, access funding support, and share information with others. The **Grants Finder Tool** helps find applicable funding opportunities to improve school and community safety. The **federal training and technical assistance center** spotlights issues of *school safety*, *school climate*, and *mental health support* and posts links to downloadable infographics on the website.

Federal Funding Available to assist in School Security Improvements:

SchoolSafety.gov includes several easy-to-use tools to help schools discover specific resources on implementing comprehensive and holistic safety programs, including a feature to make it easier to locate, identify, and apply for federal school safety funding and grant programs. The informational resources address a range of topics and issues critical to school safety, and infographics include evidence-based tips on bullying prevention, mental health support, social services, school climate, emergency planning, and preventing acts of school and community violence.

June 2022, President Biden signed the ***Bipartisan Safer Communities Act*** (BSCA) into law, providing historic levels of funding to support education agencies and improve school safety. Overall, this legislation expands mental health services and provides support for states and districts to identify their safety needs and implement initiatives to promote safer, positive school environments for students and staff. This law was created in response to the upsurge in mass shootings over recent years and the goal of keeping guns out of the hands of high-risk individuals by providing critical support to states and communities intervening to stem the crisis of violence.

Regarding school safety, the BSCA provides funding for a range of initiatives, including *installing security cameras, door locks and other physical measures, as well as training teachers and staff in responses to violent incidents*. The BSCA also provides funding for school resource officers, who are trained law enforcement officers assigned to schools. A core element of this act is to help schools improve safety infrastructure, and for districts to leverage their own dollars to ensure schools have clear emergency plans plus necessary resources in place to prevent violence. *Grant funding also can be leveraged to deliver professional development training to foster safe and inclusive learning environments, resolve conflicts, and connect students with appropriate social services they need*. The Department of Education recommends districts and staff use this funding to implement training strategies that are sustained, intensive, collaborative, data- driven, and classroom-focused.

<u>Getting Started on Applying for Funds to assist in Security Improvements</u>:
The funds available under the *Bipartisan Safer Communities Act* (BSCA) and the *Stronger Connections Grant Program* include **$1 billion** through the *Title IV, Part A of the Elementary and Secondary Act* for state education agencies to award and administer competitive subgrants to *Local Education Agencies* (LEAs) with the highest need. Funds are available through September 30, 2026, and each state has flexibility in determining how to leverage its dollars to improve schools and community safety. Each allocation is determined via state funding formulas designed to ensure fair and equitable distribution across states regardless of their size or political leanings. The BSCA stated priorities for grant awards include:

1. *Implement evidence-based strategies meeting student social, emotional, physical, and mental well-being needs to create positive, inclusive, and supportive school environments along with providing access to place-based intervention services*.
2. *Engage students, families, educators, staff, and community organizations in the selection of strategies and interventions for safe and supportive environments*.
3. *Implement policies and practices that advance equity, respond to the underserved, protect student rights, and demonstrate respect for student dignity and potential*.

Awards for **Stronger Connections Grants (SCG)** are on a competitive basis, with *State Education Agencies* (SEAs) charged with overseeing procedures and funding. One component to create safe and healthy schools is focused on ways to address students' emotional and physical safety. This includes leveraging funds to install security cameras, door locks, sliding gates, and related physical security measures. Another initiative includes support for mental health and court system alignment, and the **School Violence Prevention Program (SVPP)** will provide up to 75% of funding for school safety measures in and around K–12 schools and school grounds.

<u>Tips for Grant Funding Success:</u>
- Successful grants include plans to bring in stakeholders including students, parents, law enforcement, and first responders to help with safety assessments.
- Successful grants include plans for training local law enforcement officers to prevent student violence against themselves, other students, and communities.
- Successful grants include metal detectors, locks, lights, and other deterrents.
- Successful grants include technology for expediting notification of local law enforcement during emergencies and plans from *Community Oriented Policing Services* (COPS) which aim to produce a significant improvement in security.
- Successful grants include plans to improve security at schools and on school grounds through installing evidence-based school safety technology systems.
- Successful grants are awarded to districts with a *school safety plan*, *emergency response plan* (ERP), and *emergency operations plan* (EOP) all in place.
- Successful grants include installing allowable equipment and devices which significantly improve security and address problems listed in the safety plan.
- Successful grants are awarded to those assigning funds to deal with major threats.

B. Design Innovations & Creative Solutions

Leveraging Innovative Technologies for Safer Schools

There are new innovative approaches in technology showing potential to be applied to the education sector and efficiently enhance K-12 school security. These include using artificial intelligence (AI), machine learning (ML), and deep learning for new enhanced security, using digital twin technology for preparedness training, and using biometric technology for access control in our rapidly changing world.

Artificial Intelligence for Enhanced Security: There has been incredible progress in artificial intelligence (AI), machine learning (ML), and deep learning resulting in powerful analytical tools being available to improve security. Two ways to achieve this are via *AI-powered computer vision technology* and *video analytics*, which are currently transforming the physical security industry. Traditional video security systems are reactive and used only after an incident has occurred. Modern video security, however, is proactive and uses AI technology to identify emerging threats. This allows staff and authorities to respond appropriately and promptly. *Intelligent algorithms and object recognition measures can be added to existing security systems to allow security personnel to receive alerts.* Security-related alerts may include suspicious activity, unauthorized individuals, dangerous objects, open doors, people in distress, and more. AI-self-learning video analytics help to monitor school properties 24/7 with the video software detecting abnormal or concerning activity. AI-powered cameras can provide instant alerts thereby empowering staff to respond quickly and help prevent situations from developing into emergencies.
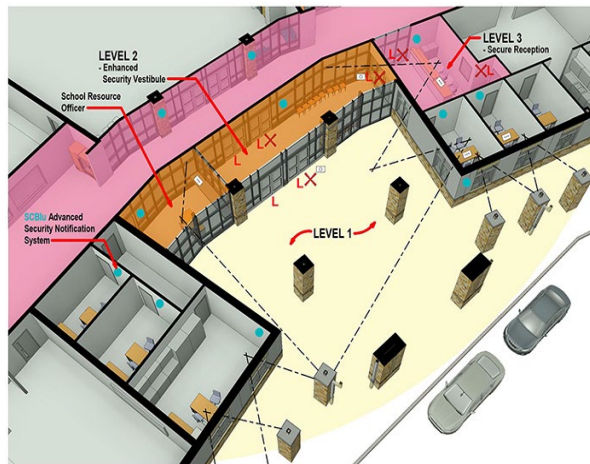
Digital Twins for Emergency Response and Preparedness: Recently the global director of physical and cybersecurity ecosystem and partnerships at Intel spoke about how virtual models (digital twins) can benefit emergency responses and preparedness. Schools typically rely on protocols in an *Emergency Operations Plan* (EOP) to handle emergencies. However, by incorporating digital twin technology (which includes virtual models replicating school physical environments) into EOP practices, the overall coordination effectiveness can be enhanced. Doing so allows staff and security personnel to simulate emergency scenarios. Officials can conduct drills, test security measures, and improve response strategies in a virtual setting. *The use of digital twins enhances our understanding of school layouts and the need to quickly share critical and accurate data. Virtual models enable users to optimize security measures such as positioning cameras, mapping emergency exit routes, and devising evacuation plans.* Using digital twins for emergency response training and applying the feedback can improve the preparedness and safety of a school.

Biometric Technology for Access Control: The use of biometric technologies in schools is a promising way to improve access control. The ***Partner Alliance for Safer Schools* (PASS) Guidelines on School Safety and Security** cites biometric technology as becoming more common in K-12 schools and anticipates its use will soon be as ubiquitous a presence as what is seen on higher education campuses.
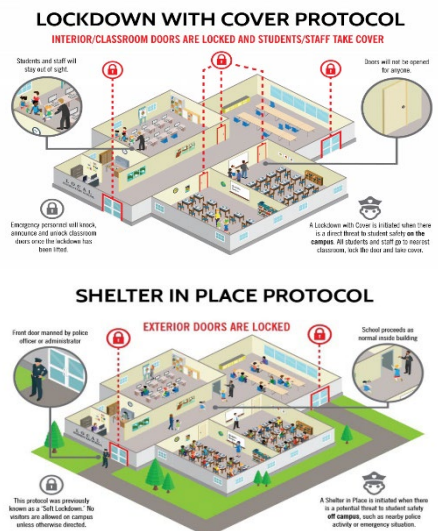
The main purpose of using biometrics is to increase the efficiency of administrative functions regarding identity verification and data storage security. But it also can be used for physical security measures since biometric scans offer a convenient and reliable way to authorize individuals to enter premises. One effective method to secure school property is by using finger-scanning technology. This biometric tool can enhance privacy and security by limiting access to only authorized individuals. Staff and students can create a unique code by scanning fingers, which would grant them entry into premises. Facial identification systems are another way to provide access control via a touchless interface. This tool has the advantage of being able to scan faces against district databases of images in real time, thereby alerting staff of possible matches with unauthorized individuals and preventing their entry.

Addressing Bias and Privacy Concerns about Technology: Using technology in schools can raise concerns for parents, administrators, and communities regarding issues related to bias and privacy. When facial biometrics first became used, parents expressed fears about its potential to compromise students' privacy or to lead to unfair outcomes. Protecting privacy is a major concern and requires clear policies on collecting, storing, and using data. Consent must be given before sensitive data like fingerprints are collected for scanning. Data must also be anonymized and kept securely stored to prevent unauthorized access using cybersecurity practices.

All technologies including automation and artificial intelligence have limitations. AI-powered systems like facial identification have received criticism for exhibiting racial and gender biases, particularly against people of color. Tech companies are responsible for prioritizing diversity and inclusivity in developing and training the next-generation systems to address this issue. Constant testing of algorithms with diverse datasets and regular audits will help identify and correct emerging biases. Advocates for school safety and security can also assist by thoroughly vetting AI-powered technology to determine which solutions best enhance children's schools.

Technology systems & devices need to be coordinated with tiered levels of security & operational protocols.

C. Resource Reference Links

Partner Alliance for Safer Schools (PASS) https://passk12.org/

PASS is a nonprofit 501(c)(3) bringing together expertise from the education, public safety, and industry communities to develop and support a coordinated approach to making effective decisions with respect to safety and security investments. PASS offers resources,   whitepapers, and comprehensive information on various topics such as barricade devices, lockdown drills, and more as well as best practices pertinent to securing school facilities as vetted by experts across the education, public safety, and industry sectors.

2023 PASS School Safety and Security Guidelines for K-12 Schools:
https://passk12.org/guidelines-resources/pass-school-security-guidelines/

The *Partner Alliance for Safer Schools (PASS) Guidelines* are an important tool providing K-12 schools with insights needed to implement a tiered approach to securing and enhancing the safety of school environments based on individual needs, nationwide best practices, and effective utilization of available resources. The *PASS School Safety and Security Guidelines* convey best practices specifically for securing K-12 elementary schools, middle schools, and high schools. The *PASS School Security Checklist* allows you to assess the current state of safety and security efforts in your school or district compared to nationwide best practices. The guidelines are free to download, and the current sixth version of PASS Guidelines was released in March 2023.

Leveraging Innovative Approaches to Technology for Safer Schools:
https://passk12.org/new-technologies/future-of-school-security-leveraging-innovative-approaches-in-technology-for-safer-schools/

Ensuring the safety and health of children is of utmost importance to schools. PASS advocates that the future of school security must consider different strategies including emerging and innovative technologies such as *artificial intelligence (AI), machine learning (ML),* and *deep learning for enhanced security, digital twins for preparedness training, and biometrics for access control* to create safe learning environments in our rapidly changing world. Adapting these innovative technologies to K-12 applications must also address privacy, cybersecurity, and bias concerns.

Motorola Solutions for Education https://www.motorolasolutions.com/

Motorola Solutions' history of innovation is who we are. We have advanced global safety for a century, from communications on Apollo moon missions to analytics powering smart cities. Our legacy forms the backbone of our modern *safety ecosystem*, integrating the four pillars of security: detection, analysis, communications, and response. Innovations being worked on today will transform the future. We work directly with people to keep them connected, from first responders to global leaders, and those keeping our world running safely, smoothly, and sustainably. To learn more about school challenges and needs, visit: www.motorolasolutions.com/education.
Whether starting a new safety project or adding final touches to a grant application, Motorola Solutions has partnered with educators and grants experts at www.EducationGrantsHelp.com to help support schools with the grant application process and their security implementation plans.

Making Schools Safer: A Guide to Grant Funding and Technology

(2023 eBook) www.EducationGrantsHelp.com Sponsored by Motorola Solutions; Edited by Sarah Wilson, VP of the Grant Division at Lexipol & Education Grants Help.
School safety is a high priority for Motorola Solutions, and the company has built a unified and connected technology ecosystem to help schools meet security challenges from initial detection to final response. Their *Safe Schools Technology Ecosystem* integrates critical communications, video security, data and analytics on one common operating platform, giving schools systems the tools they need to detect, analyze, communicate, and respond to unfolding incidents, emergencies, or threats.

School and Law Enforcement Partnerships – provides self-paced training from the *National Center for School Safety (NCSS)* to help schools and law enforcement agencies discuss what form they want their partnerships to take and what are the key issues and challenges currently facing the partnerships. The NCSS school and law enforcement objectives:

•   *Identify the types of school and law enforcement partnerships that exist currently.*
•   *Determine new roles and responsibilities in schools and law enforcement partnerships.*
•   *Describe ethical information sharing between school and law enforcement agencies.*

How to apply for COPS SVPP Grants (*Instructions at COPS Office* **https://cops.usdoj.gov**).

1.   Register with the SAM (System of Award Management) database.
2.   Confirm contact information (name and email) of your entity's point of contact.
3.   Register with www.Grants.gov or confirm your existing registration.
4.   Submit the first part of your application in www.Grants.gov.
5.   Enroll your agency in the *JustGrants* justice grants system.
6.   Complete second part of application in JustGrants https://justicegrants.usdoj.gov.

School Safety: Challenges and Needs of Modern Day Classrooms (eBook)
https://www.motorolasolutions.com/en_us/solutions/education.html
Motorola Solutions for Education is committed to creating next-generation school safety with four *modular blocks of technologies helping schools detect, analyze, communicate, and respond.* With a mission-critical ecosystem and unified security platform, schools can better respond to everyday incidents from entry to classrooms and prepare for critical emergencies from detection to response.

Resource – U.S. Federal Campaign to Support School Safety

www.SchoolSafety.Gov *highlights how to mental health and wellbeing strategies can contribute to a positive and safe school climate.* Members of the school community can also download this **SchoolSafety.gov infographic** to learn more about mental health issues and tips on best practices as well as access a sampling of resources.

U.S. Department of Homeland Security (DHS), in partnership with the U.S. Departments of Education (ED), Health and Human Services (HHS), and Justice (DOJ), has launched a 2023 *public awareness campaign to highlight federal school safety resources and evidence-based practices available through* **SchoolSafety.gov**. The resources available at this federal website provide sound starting points for learning about bullying and cyberbullying plus a wide range of school-safety topics. The public is encouraged to help implement safety and wellness initiatives.

Grants Finder Tool **https://www.schoolsafety.gov/grants-finder-tool**
At **SchoolSafety.gov** the *Grants Finder Tool* helps you find applicable funding opportunities to help keep your school community safe. The tool features a variety of federally available school safety-specific grants that can be navigated based on safety topic, award amount, application level of effort, and more. As Federal agencies release new school safety funding opportunities and grants throughout the year, the tool will be updated on an ongoing basis to reflect these new opportunities.

To get started, take the *Grants Finder Tool Quiz* to view a list of applicable grants based on your quiz selections. Available grant results will appear as you answer each question. Your results will narrow down as you proceed throughout the quiz process to give you the most relevant grant opportunities for your school and community. You can explore all available grant opportunities in the *Grants Library*. Filter the grants based on needs or use quick filter links to view grants in frequently searched for categories.