School Safety: Finding Affordable and Practical Solutions

In Today’s Tough Economic Environment

If you were to Google school safety and security funding, your search would reveal thousands of posted articles about schools receiving monetary awards and grants ranging from a few hundred, to millions of dollars. This might cause the casual reader to believe that safety funding is flowing to our schools, but in reality the well is dry for many schools and districts. Many schools are still reeling from the budget cuts that eliminated federal programs for school security, emergency preparedness, and violence prevention prior to the nation’s economic downturn five years ago.

The purpose of this paper is to explore how schools and districts can still address safety and security concerns with little or no funding. While not every school has the luxury of a full-time grant writer or a local business benefactor schools can still take real action steps to help enhance their overall safety and security. SafetySolutions4School.com (SS4S), is a site dedicated to helping schools find practical and affordable solutions to meet their safety and security needs. For the purposes of this discussion we are going to start with a school receiving a $5,000 grant from their State Department of Education for School Safety. How might that money be best allocated so the school gets the “biggest bang for the buck?” Throughout further assistance there are links embedded throughout this article to help guide the reader to additional resources and supporting documents. For example, the National Clearinghouse for Educational Facilities put together a summary of low cost solutions which can be a great starting point for your security enhancement project. You can review their recommendations by clicking on the “low cost” tab. (Low Cost)

Vulnerability Studies and Risk Assessments; A Great Place to Start

“Helping me to know what I don’t know”

It isn’t enough to simply want to make your school campus a safer place. You need to start by realistically identifying both strengths and weaknesses across your entire campus. A great place to start is with a comprehensive risk and vulnerabilities assessment. If your school has no
funding to complete a study, there are several excellent guides available to assist a team of your staff members to complete the study by utilizing existing staff within your school. Here are several links to assessment templates to assist you. ([Guide](#)), ([Checklist](#)) and ([Tactical](#)). While contracting with a credentialed professional to assist you with this process is preferred, even security experts like Ken Trump, President of the National School Safety and Security Services, have recognized the value of self-assessments ([Self](#)) when you have no other options. Simply put, doing something is better than doing nothing. Many local police agencies may also be called upon to assist with a vulnerability/risk assessment for your school if you believe some type of direct law enforcement oversight would be beneficial. However, care must be taken to make sure that the officer conducting the assessment has the proper credentials/training to complete a school assessment. Municipal police training in Pennsylvania, for example, does not currently include any vulnerability assessment training and certainly has no information regarding school climate or educational policy. The Pennsylvania State Police (PSP) Risk Vulnerability Assessment Team ([R-VAT](#)) in conjunction with Pennsylvania Office of Homeland Security, has officers with the appropriate training that will conduct a security audit for any Pennsylvania school. However their resources are limited and you may have to wait a significant amount of time before they can provide service to your school. According to the Pennsylvania Center for Safe Schools the PSP report should contain detailed descriptions, photographs, and a complete risk and vulnerability analysis for each building where the audit was conducted. Administrators should check on the availability of state level law enforcement in their location to see if such a service is offered. There are also non-traditional resources within the education community that can assist your school in conducting a study. For example Lancaster Lebanon Intermediate Unit 13 employs John Baker a Board Certified Protection Professional (CPP) and a certified specialist for Crime Prevention Through Environmental Design (CPTED). IU 13 makes Baker’s services available to schools and other organizations throughout the region at very affordable rates ([Baker](#)). Finally, there are many private sector professionals who conduct vulnerability studies for schools for a fee. Ken Trump provides an excellent guide to assist schools in evaluating the bidding process for private sector vendors recognizing that schools must closely scrutinize private sector vendors in order to be assured they are contracting with a qualified vendor ([Expert](#)).

Michael Dorn, noted security expert and founder of Safe Havens International, stresses that schools must work with their consultant throughout the entire process to make sure the final report has integrity and the goals are obtainable for the school. Investing time during the study process with the consultant can significantly reduce future liabilities for the school by developing mitigation strategies that are obtainable and provide practical solutions ([Dorn](#)). Recommendations for short-term improvements and long-term strategic plans should be clearly identified in any report.
Prioritizing Improvements

"There are so many projects. Where do I start?"

The three areas that most administrators can expect to see identified in a thorough assessment includes: access control, classroom and office door security, and staff training and development. Studies conducted by Campus Safety Magazine also mentioned parking lots, bus transport, windows, emergency communication, and exterior doors, just to name a few.

One of the least expensive procedures to put into place is a violent intruder program. Greg Crane, founder of the A.L.i.C.E. program, teaches that most school violent intruder incidents begin at the main office or primary entrance to the school. In an article from the School Administrator, November, 2000, Ruth Sternberg notes that school administrators, particularly superintendents and principals, are very often the primary target of school violence. According to Sternberg’s research the majorities of these attacks are done by disgruntled former employees or upset parents as opposed to rebellious students who may already be in the facility. Regardless of the source of the attacks, the basic concern is how these folks get into the building and end up face to face with their intended target (Aggression). Sternberg’s work also reveals that many of these incidents could have been avoided had a comprehensive building access program been in place at the time of the assault.

Understanding Access Control Issues

“How many resources should we dedicate to access control when most violent intruders are known to the school and no one knows what the intruder is going to do until after the violence has started?”

As strange as it may seem, school security experts note that there are still schools that rely on paper logbooks, reusable visitor badges, and task visitor access to anyone who just happens to be in the office when the visitor arrives. At the same time these same school experts warn that many school assessments can tip heavily toward very costly reconfiguring of entrance ways and the purchase of extremely expensive technology to restrict school access. Those charged with developing and implementing access control measures must and passive security measures and
weigh the proposed improvements and find a middle ground between reasonable access control and Fort Knox.

Is there currently an industry standard for school access security, and what kind of costs are associated with that standard? Once again, Ken Trump does an excellent job of providing an overview of what schools should consider when they are looking at improving access systems. Trump mentions a number of low cost suggestions from increased signage to educational programs for parents, frequent vendors, and guests. Perhaps the most expensive suggestion in Trump’s article entitled “An Expectation of Safety” is the reconfiguring of the entrance way to create two sets of doors. A visitor to the school is buzzed through the first door after a visual check and stopped at the second check point for further verification (Access). While the two layered entry approach could easily be incorporated into new construction, the cost of retrofitting older buildings could be significant. In addition, after the publication of the Connecticut Bipartisan Task Force on Violence Prevention and Children’s Safety findings, bullet resistant glass was recommended to further harden the controlled access vestibules recommended. A bullet resistant glass vendor, Total Security Solutions, reports that retrofitting requires replacing all the glazing with bullet resistant glass held in place with unified building code required UL rated framing members. Ballistic rated fiberglass can be used for opaque portions of the security “air locks”. Since a bullet resistant door can weigh several hundred pounds, door hardware for a ballistic system costs roughly twice as much, according to the vendor. On average, Total Security Solutions estimates the cost of a conversion from a conventional entryway to a secure vestibule to be in the area of $30,000 (Bullet Resistant). Some schools have opted to build the security vestibule but cover the glass with a security film which is ballistic rated. While much of this film will stop a wide variety of small arms fire, the glass is still held in place by traditional stock frames. Reportedly the entry at Sandy Hook was gained by shooting out the door glass after Adam Lanza discovered the door was locked, allowing him to push out the remaining door glass and enter the school. While some film vendors remain steadfast that their product is bullet resistant (Tough), other vendors now don’t call the film ballistic but rather show that even multiple holes in the glass will allow the glass panel or door to remain intact through quite a bit of damage (Glass Video). A large roll of “bullet resistant film”, enough to laminate a small “air lock”, costs approximately $1,700. Extreme care should be given in examining the claims of “ballistic film” manufacturers. You should consult a qualified consultant before making any ballistic film purchases.

The investment for retrofitting is indeed very large, and not every school has approximately $30,000 available for every school entrance that needs upgraded. Another less expensive procedure utilizes a doorbell, intercom, camera, and remote door releases. Mike Vining, Security Consultant for The Protection Bureau of Exton, PA, reported that the average cost of such a system might be in the area of $7,500 depending on the complexity of the locks involved. It
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was also noted that schools on a budget might consider used but very serviceable equipment that can be purchased at a substantial savings and that such a question should always be asked when looking at an entry security system. Ty Espenshade, Sales and Marketing Manager for the MVE Group indicated that a basic system with a camera, electric door releases and 3 monitoring stations could substantially run less than $5,000 depending on the complexity of the locking systems. Espenshade commented that schools have to start somewhere, and the “... layering of security, suggested by professionals, can come when more funds become available”. Security professionals note that the layering should always begin with a system that is compatible with the school’s technology.

New visitor management and access control systems don’t stop with simply controlling who gets to the final check-in area at each school. Visitor management software is now one of the hottest items in the school security marketplace. Most software systems will scan a form of identification, usually a driver’s license or passport, and run the name against a data base or Watch List. Currently several systems such as Raptor (Raptor), Lobbyguard (Lobbyguard), and School Gate Guardian (School Gate Guardian) utilize a national sex offender data base for the initial assessment. When a registered sex offender is identified, or a person banned by the school is identified, an alert can be sent to mobile phones, law enforcement, or forwarded through any number of means. If a visitor is cleared, an ID badge is printed with the visitor’s picture, name, and reason for the visit, date, length of visit, and affiliation. Most people in the security industry agree that I.D. systems are not foolproof, but they do allow building staff to track who is in the school at any given time. Many vendors also offer self-expiring printed badges that will display a clearly visible “expired” on the badge after exposure to light for predetermined period of time. Many current users of this new technology report that the toughest part of implementing the new system is changing the school culture and training those who need access to their school buildings (Step). On average the systems cost $1,500 each plus a subscription cost for the data which costs in the area of $250 to $400 per year. The school should consider the time needed to collect and input data for those persons banned from school property, child custody issues, protection from abuse orders, and managing other selected persons who should be either limited or denied access. Self-serve kiosk devices can also be purchased and installed making the system very visitor friendly. However these small kiosks can cost up to $5,000.

With all that has been said about access control, we are still faced with the reality that most violent intruders in today's schools are known to the school and would typically be granted. Tragically only after the first shot is fired or the knife wielding assailant begins slashing wildly in the hallways are schools aware of the violent person’s intentions. This isn’t to say that access control isn't important but it does compel administrators to make sure they aren't relying to heavily on access control to prevent school violence.
School Door Security

“Recent events have shown our classroom doors are failing; we need something more to help protect us”

The National Clearinghouse for Educational Facilities provides an excellent summary of what schools really must have in order to comply with both NFPA and ANSI requirements for classroom door locksets (Locks). It is noted in the explanatory document provided by the Clearinghouse that for decades school doors had a key cylinder located on the outside of the classroom door. If the classroom door is unlocked and a lockdown occurs, the door must be opened and the teacher must step into the hallway to lock the door. This placed staff in a dangerous position if a violent person was in the hallway. Many schools have since changed to a “prop and lock method” that requires teachers to keep the door locked at all times and simply prop it open to allow access in and out of the room. If there is a need to quickly secure the door the staff member need only remove the door wedge and the door shuts and is locked from the outside. The installation newer lever handled locksets on school doors that are compliant with new code standards unfortunately cost several hundred dollars per door. A internet check of a national lock vendor revealed that levered classroom rated locksets meeting both F88 standards and ADA compliance ranged in price from $258.00 to $306.00 for each unit plus installation (Vendor).

For those that find the cost of replacing 50-100 locksets in a single building too costly a secondary locking systems that keep a locked classroom door from latching might be a more affordable solution. Safe Latch is a metal device that fits over the door frame at the strike plate and is held in place by a magnet which keeps the latch from engaging. In an emergency the device is easy pulled from the frame, allowing the locked door to latch (Safe Latch). These devices sell for $24 each and can be customized for specific doors according to the web site. Still yet another latch defeating device is the lockdown magnet. One device, manufactured by Master Grinding and Security, is a magnetic strip approximately 1 1/2 inches wide and 7-8 inches long that attaches to the metal door frame over the strike plate and keeps the latch from engaging. If a lockdown is called the door need only be opened an inch or two to remove the magnetic strip (Magnet). At a cost of $5.00 per door the magnets can be customized with a printed safety slogan. If $5 is still too rich for your school, schools could make their magnet sets by buying large sheets of magnetic material and cutting them out themselves. What a great Industrial Arts project or PTA activity. A fifty foot roll of sheet magnet could easy make hundreds of magnets for each school and costs only $125.00 (Sheet) in materials.
Recent school shootings have revealed that violent intruders have discovered how to overcome the locked classroom door. This recent revelation has caused many schools to install a secondary locking device to help fortify the classroom door. Many devices are now available in the marketplace in response to this demand. One such device is Classroom Defender. Classroom Defender attaches to the bottom of the door and relies on the insertion of a pin thicker than a standard deadbolt into a mounting plate attached to the floor. The Classroom Defender sells for $35.00 plus shipping (Defender). Tac Cinch is another secondary device which when looped around a door handle, then tightened, uses a hook that attaches to the door frame. With the hook firmly secured to the door casing the webbing loops to the door knob it becomes virtually impossible to breach the doorway and gain entry. Even if the door glass is broken it would take an intruder sometime with a knife to slice through the heavy woven nylon straps. Bulk purchases can reduce your per door costs to as little as $2 per door (Cinch).

Concerns about the problems created by the glass in most classroom doors and surrounding construction have been addressed by several companies. After the Minnesota incidents at Hastings and Red Lake, where shooters entered rooms by breaking out door glass the Hastings School replaced door tempered door glass with laminated glass. While bullets can still go through laminated glass, the glass will remain in the frame due to a thin sheet of plastic within the pane. Local glass vendors can replace door glass with laminated glass panels for about $60.00 per door. Still yet another consideration might be using sheets of the ballistic laminate noted earlier in this document. One company, TempShield, manufacturers several sizes of door window coverings for prison cells that can be held in place by magnets or Velcro (Shield). These shields have no ballistic properties but prevent viewing of the interior of the classroom. The 8X24 window covers are sold in 120 count boxes for $764.99. Orion Armor, a ballistic shield company, offers a complete door covering which reportedly meets National Institute of Justice standards for small to medium arms fire but at a price tag of $2,499.99 per door.

While most classroom doors open outward toward the hallway, the majority of standard office doors open inward. A typical floor mounted device is the Door Club which relies on a pin type device that must be inserted into a hole drilled in the floor behind the door. The Door Club sells for $24.95 (Club). A device developed by tactical teams and EMS staff is the TacWedge. According to TacWedge advertisements, jamming the device under a door positively locks the door with its patent-pending dual leaf-spring tension effect digging four hardened steel spikes into the floor surface. The manufacturer warns that the device can be used only once and must be destroyed for removal. The cost of the device is $12.95 (Wedge). For offices where appearance might be a higher consideration a product like the $34.95 Night Lock might be utilized as it comes in several finishes. Installation of the Night Lock does require drilling holes and mounting hardware on the office floor (Night Lock). None of the door security devices
should ever be considered a single solution and should be used in conjunction with proper barricading techniques. While there are many products available to meet just about any door configuration or budget there are also a few ideas that incorporate good old fashion American ingenuity at virtually no cost. John Baker, CPP from Lancaster Lebanon IU 13 suggests installing a heavy eye bolt near the bottom of the door on the door handle side. With the eye bolt installed a ½” hole is drilled about 3” deep through the eye bolt and into the door jam. Each classroom is then provided a 3/8”x 6” bolt or a piece of rebar cut to length that is kept in the teacher’s desk. When a lockdown is required the teacher closes the door and inserts the bolt through the eye bolt, at the bottom of the door, and into the hole in the jam. Even with a complete lockset failure this door will not open until the violent intruder is able to bend the bolt to gain access. Baker states there are a variety of other low cost, DIY solutions for those schools with little or no safety budget.

**Personal Ballistic Barriers**

"While they may offer a level of comfort for parents are there better ways to equip our staff and students?"

The Washington Post, in their December 20, 2012 edition reported that sales of ballistic items for school-aged children has increased as much as 500 percent following the Sandy Hook shooting. Ballistic backpacks, seat cushions, briefcases, and multi-use panels are now readily available and can even be found among products produced for “Avenger” and “Disney Princess” models. According to the Post article, the backpacks, which sell for between $200-$500, can even come with upgrades equivalent to military specifications. Many educators are being asked for their opinion about personal ballistic items. Wisely, Ken Trump and many other security experts have spoken out against the proliferation of ballistic items for children. As Trump noted “they deflect such issues as whether the school has an up-to-date safety plan and how often teachers receive safety training (Armor).” Other concerns about the use of the child shields include the doubt expressed that a child would think to hide behind a backpack or 12X17X1.5 ballistic seat cushion if they came under fire. Many experts agree that there are more productive ways to spend safety dollars and better techniques to help keep staff and students out of harm’s way rather than purchasing personal ballistic accessories.

The most recent ballistic item controversy came about when schools across the country began purchasing ballistic whiteboards marketed by Hardwire. The boards are priced at $299 for the large, 18X20, and $109 for the small, 10X13 (Hardwire). The web-site for Hardware contains
a very interesting video of a live fire test of the shield. Indeed the device will stop rounds fired from the test weapons in the video. Critics note, however, that the boards are both too small to protect the holder, and bullet impact on the board would not allow it to be held while taking multiple hits especially by those persons with lesser hand strength. The internet is filled with stories of private or business donors providing these items to schools and in spite of the controversy over the usefulness of the shields administrators are readily accepting the gifts.

**Training; Developing Life Skills Not Just School Skills**

"There must be balance between hardware, security procedures, and people in order to have success."

In April of 2013 Campus Safety Magazine published an article “Post-Sandy Hook School Security: What the Experts Are Saying”. In this article, fifteen security experts from around the country were surveyed on a variety of issues related to K-12 security. Answers were quite diverse, but one consistent response dealt with staff training and preparedness. Michael Dorn noted that schools can have the most sophisticated security technology available, but if the staff is not trained how to use the technology during a crisis then the technology is virtually useless. Still yet another expert, Ed Clark of Clark Consulting Group, stated that schools tend to spend too much money on technology like camera systems, and funds should be allocated for on-going staff training in school safety/security training and emergency preparedness. John Baker discusses the need for proper balance between hardware, policies and human interaction with the hardware and policies. Baker states “there is little value to establishing procedures that everyone tries to work around or install hardware that people aren’t willing to consistently use. A building’s occupants must embrace both procedures and hardware in order for the program to succeed. This requires training in order for people to understand how the three components work together to make a comprehensive emergency response as well as a cultural change in many of today’s schools.”

When experts begin discussing training there is a broad range of opinions. There is direct “hands on” training such as the popular A.L.i.C.E. program. The A.L.i.C.E. program offers options for people to explore and is very cost effective for a school or district since it is build upon a train the trainer model and at the end of the day schools will have their own staff members certified as instructors and able to reach out to everyone within their organization for years to come. Another popular method of evaluating training is the table top exercise.
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Federal Emergency Management Agency provides free templates for table top exercises as does several other Federal agencies. Highly recommended by Ken Trump and other security experts, such exercises can often be opportunities to partner with local law enforcement and EMS services (PARTNER). A recent incident where a staff member was able to talk a violent intruder down and eventually deescalate the situation pointed out the need to add verbal de-escalation skills to our responses toolkit. Groups such as the Crisis Prevention Institute present well established and internationally recognized programs centering on verbal de-escalation and improvement of school climate. Instructor training costs $2,200 and there are on-going costs which accompany initial and yearly training for staff (CPI). The Vistelar Group also has nationally recognized programs that have been used in the public safety arena for many years. A four day instructor class in Verbal Defense and Influence is offered for $1,197 (Vistelar).

Topics for general training abound as Ken Trump lists almost three dozen training topics on his web site ranging from dealing with the media to a lessons learned presentation. Michael Dorn has more than a dozen training topics on his Safe Havens International site including several “train the trainer” programs. While this training is excellent it can be costly when you consider contracting with a trainer and paying for training fees and travel. Often these costs can reach up to $5,000 a day. In these tough economic times it is wise to seek out local conferences that feature national recognized keynote speakers and take advantage of the sharing the costs of their expertise with other conference attendees. Many of these national recognized experts will offer consultations for significantly reduced costs once you understand their program by either attending a conference or buying their books.

While everyone agrees that training is important in order to empower staff and students, school administrators struggle with finding time for drills when they are competing with increased academic requirements. Again a balance must be found that is unique to each school and community. A broad range of training topics and strategies exists as does a broad range of costs for that training. Many of these training are free and some can range upwards of $300-5000 per day depending on who you select to facilitate the training event.

So how could a school potentially spend a $5,000 school safety grant and create real enhancements to their existing emergency preparedness program? Provide secondary locking systems for every classroom, certify multiple instructors in today’s Run, Hide, Fight strategies, Enhance access control in one building, facilitate school wide emergency training and drills or maybe start with a thorough vulnerability study to learn where the needs really are. If you would like to explore how your school can best utilize their safety dollars feel free to contact John Baker at Lancaster Lebanon IU 13. John regularly shares with groups that “phone calls are free” and having a conversation about how to improve anyone’s school safety is exciting and he loves partnering with schools throughout the region.
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Hopefully this paper has stimulated some thought and provided some guidance as to where to go next with your schools safety and security program. There are a lot of great resources out there to help you and many highly qualified and skilled consultants to guide you. At the end of the day select a group of people you have confidence in to help make the tough safety and security decisions; listen closely to your staff, students, parents and community, find tools and methods that are simple, sustainable, and practical; and practice all hazard safety and security drills as much as possible. Those of us working in the safety and security industry thank you for being educators and for the care you take in teaching our children and helping them grow and learn. Let’s work together to keep them safe.