



Secure Schools: Six Key Areas for Violence Prevention and Safety Enhancement

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Executive Summary

A safe school is the foundation of a good education. Studies have shown that when students feel safe, they learn better. Teachers can become more effective when they know student safety is under control and can concentrate on instructing the class. Conversely, violence at school interferes with education and leads to higher rates of teacher turnover and student dropouts.¹

After the Sandy Hook Elementary school shooting incident in Newtown, Connecticut in 2012, the nation demanded new strategies and safety protocols to make children more secure at their schools. The Federal government and many states have taken action, putting together school security guidance, implementing new programs, and extending grants to help schools bolster safety.

There are many ways to improve school security and keep students safe in an environment more conducive to learning and growing. This paper examines the most common threats to school security that can impact students, teachers, administrators, and communities. It also offers six areas that schools can examine for potential improvements in safety and security. These areas include:

- Developing an effective Emergency Operations Plan (EOP)
- Getting the right security team in place and properly equipped
- Implementing prevention programs
- Conducting good training programs and safety drills
- Enhancing incident record keeping and review
- Implementing safety-oriented IT systems

"This job of keeping our children safe, and teaching them well, is something we can only do together, with the help of friends and neighbors, the help of a community, and the help of a nation."

— President Barack Obama¹

¹ Kylee Crews, Jack Crews, Freda Turner, "School Violence Is Not Going Away, So Proactive Steps Are Needed," College Teaching Methods and Styles Journal, January 2008.

One IT system that can make a measurable, positive impact on staff safety is the Real-Time Location System (RTLS). These solutions provide location-based information for staff, students, and important school equipment. A solid RTLS can direct authorities to students or staff members in duress, help students and teachers move around dangers to escape the building, improve school safety record keeping, enable teachers to locate equipment quickly, and lead to more thoughtful analysis of school response after a real-world event or safety drill.

Are Schools Safe Enough?

Fortunately, schools are fairly safe from the risk of fatality for students. They are much safer at school than other places. According to the CDC's School Associated Violent Death Study, between 1% and 2% of all homicides among school-age children happen on school grounds or on the way to and from school or during a school sponsored event.² Across the nation, there were 14 school-associated violent deaths where the victims were between the ages of 5 and 18 during the 2010-2011 school year.³ In contrast, 1,336 students became victims of homicide during that same time period outside of school.

While the tragedies of school shootings garner more headlines, students are much more likely to become victims of non-lethal school violence—bullying, fights, and assaults. For instance, when the CDC surveyed a sample of high school students about their school experiences, it discovered⁴:

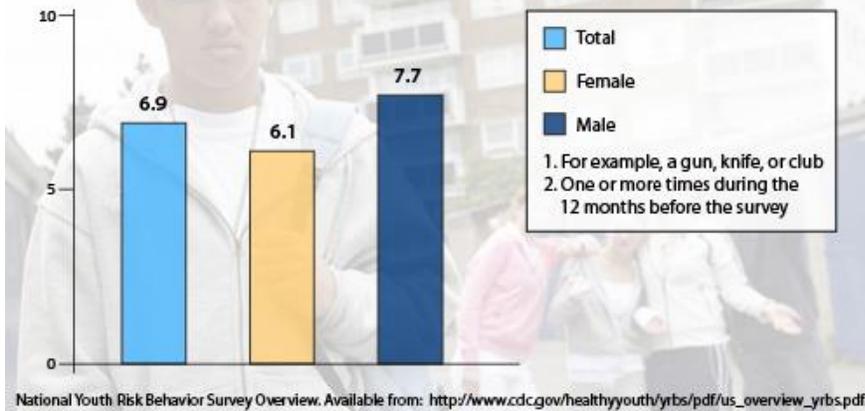
- 12% had been in a physical fight on school property in the prior 12 months.
- 5.9% did not go to school on one or more days in the prior 30 days because they felt unsafe at school or on their way to or from school.
- 5.4% reported carrying a weapon (gun, knife, or club) on school property in the prior 30 days.
- 7.4% reported being threatened or injured with a weapon on school property in the prior 12 months.
- 20% reported being bullied on school property in the prior 12 months.

² U.S. Centers for Disease Control and Prevention, [School-Associated Violent Death Study](#)

³ U.S. Department of Education, National Center for Education Statistics, [Indicators of School Crime and Safety: 2013](#).

⁴ U.S. Centers for Disease Control and Prevention. [Youth risk behavior surveillance—United States, 2011](#), June 8, 2012.

Percentage of High School Students Threatened or Injured with a Weapon¹ on School Property², Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System (YRBSS) 2013



In 2012, students aged 12 to 18 were victims of nonfatal violence (including theft, assault, etc.) 1,364,900 times.⁵ The rate of violent victimization was 29 per 1000 students at school versus 20 outside of school—meaning students were hurt on campus 45% more often than off campus.⁶ Is it a wonder that some students feel anxiety and fear about going to school?

Teachers are impacted by violence, too. In the 2011-2012 school year, 10% of public school teachers reported being threatened with violence by students; 6% were actually attacked.⁷

⁵ U.S. Department of Education, National Center for Education Statistics, [Indicators of School Crime and Safety: 2013](#).

⁶ U.S. Department of Education, National Center for Education Statistics, [Indicators of School Crime and Safety: 2013](#).

⁷ U.S. Department of Education, National Center for Education Statistics, [Indicators of School Crime and Safety: 2013](#).

Benefits to Educational Systems of Additional Investment in School Security

Public and private school systems and institutions are discovering that improving security can deliver numerous benefits beyond protecting faculty, students, and visitors from injury. Research has shown that good school security plans and protocols can enhance the mental wellbeing of the entire school ecosystem, reduce absenteeism, help prevent theft and spoilage, and improve student academics scores. Solid security protocols can also reduce expenditures related to all of these, too.

Safer Students, Teachers, and Visitors

First and foremost, school security saves lives. School shootings are tragic and devastating to families and communities. Good security protocols minimize the possibility of a shooter getting into the school and will also contribute to keeping students and teachers safer in the event of an active shooter situation.

Active shooter situations are the most horrifying potential security breach, but there are many more likely safety situations that occur in schools, including student altercations, student or teacher injuries, and medical emergencies. Solid security procedures and systems will help ensure the fastest, best response to these safety concerns.

Peace of Mind for Parents and the Community

Children are the future and they deserve the best possible protection. Children are sensitive to the stresses of their parents. When parents know their children are safe in school, the whole family breathes easier. Further, the community gains peace of mind from knowing the school system employs top-notch security protocols and systems.

Lower Dropout Rates

Students who face violence at school are more likely to stay home from school or drop out. Research studies have borne out that students who do not achieve success academically are also more likely to struggle financially and will earn less than higher-achieving peers throughout their working years. There are many individual, family,

community, and school risk factors that influence school dropout rates. According to the National Dropout Prevention Center, among other school-related factors, students are more likely to drop out when:⁸

- The school has a negative environment or climate
- The school has high rates of absenteeism
- Students exhibit high rates of misbehavior
- Students feel unsafe at school
- The school has a high level of violence or safety problems

Better Educational Outcomes

When students do not feel safe, it can be more difficult to concentrate and learn. In fact, school security can have a fundamental impact on learning outcomes.

At New York University, education researchers attempted to prove how students' feelings of safety in the classroom, or lack thereof, impacted their academic success. Over 340,000 students responded to a survey about their feelings of safety at school. Of students who strongly disagreed with the statement 'I feel safe in school', 37% said they stayed home from school some or most of the time, and records confirm a higher number of days absent from school than students who felt safe. The researchers also found a direct correlation between feeling unsafe and lower standardized test scores.⁹

Reduced Fixed Asset Theft and Loss

From audio-visual system, to laptop computers, to scientific equipment—academic settings have a lot of fixed assets being shared among instructors and sometimes even students. Securing those assets is another aspect of overall school security.

If teachers have to search a long time for equipment, it can be an interruption to student learning and a loss of faculty productivity. Additionally, lost or stolen assets can hit school budgets hard, as this sampling of recent news demonstrates:

⁸ Jay Smink and Mary Reimer, "Rural School Dropout Issues: Implications for Dropout Prevention," National Dropout Prevention Center

⁹ Johanna Lacoe, "How Feelings of Safety at School Affect Educational Outcomes," New York University, 2013.

- Former students at Stony Point High in Round Rock Texas stole \$17,284.27 worth of school calculators in September and October 2014.¹⁰
- At least \$10,000 worth of musical instruments and electronics went missing from a school in Puyallup, Washington in October 2014.¹¹
- In Chicago, Illinois, hundreds of iPads and computers worth more than \$100,000 were stolen from a grade school in October 2014.¹²

¹⁰ "\$17K in calculators stolen from Stony Point High School," KVUE.com, an ABC affiliate, November 3, 2014.

¹¹ Cathy MacLain, "\$10,000 in instruments, electronics stolen from Puyallup school," *The Seattle Times*, October 27, 2014.

¹² "Hundreds of iPads, laptop computers stolen from south side grade school," *The Chicago Tribune*, October 14, 2014.

Six Key Areas for Improving School Security

There are many ways to improve safety in schools, from protecting against external threats to identifying at-risk students and developing strong programs for prevention of school violence. Careful consideration for these six areas will help educators and administrators identify opportunities to strengthen existing safety protocols.

Develop an Emergency Operations Plan (EOP)

In order to help schools plan to prevent and/or respond to emergencies effectively, the White House issued Presidential Policy Directive 8 (PPD-8), signed by President Obama in 2011. In 2013 the U.S. Departments of Education, Justice, Health and Human Services, and Homeland Security offered guidance and models for how to develop and implement high quality emergency management plans for schools.

These guides help schools anticipate potential security and safety events, from terrorism to natural disasters, and organize planning into five basic categories:

- **Prevention** – Strategies and programs to prevent safety and security emergencies from arising by identifying threats and deterring crime.
- **Protection** – Capabilities and resources brought to bear on securing the school facility and keeping students, teachers, and other staff safe from threats or hazards.
- **Mitigation** - Actively reducing or eliminating the chance of loss of life, or damage to school property, by lessening the impact (and likelihood) of an event or emergency.
- **Response** – If emergencies do arise, having the resources and procedures in place to respond quickly, save lives, and prevent injuries and property damage.
- **Recovery** – Restoring the learning environment as quickly as possible and transitioning back to normalcy after an emergency event.

Schools should put a lot of time and thought into developing an EOP. A well-written and -implemented EOP can guide a school through unexpected emergencies and establish procedures that will save lives and avoid injuries. The U.S. Department of Education's Readiness and Emergency Management for Schools Technical Assistance Center

provides an excellent website to help develop an effective EOP. Access the many resources on this website at <http://rems.ed.gov/>

Get the Right Security Team in Place

Every school today needs a security team—from high population urban center schools to rural districts. Depending on the school, the security needs may be different. For example, some schools might employ metal detectors at every door. Other schools may have greater need for a mental health counselor. Some schools hire resource officers and security guards; other schools opt for a police presence on campus. Larger schools most likely require a bigger security team. Team members need to be properly equipped to ensure the security of the facility and the safety of students.

Implement Prevention Programs

Safety begins to improve when everyone understands that it is a top priority, from administrators to teachers to students. There are many ways to prevent school violence by identifying at-risk students, employing mitigation strategies, and working to create a culture of respect in the classroom. Students should perceive they are treated and disciplined fairly. Teachers should be respected as the authority in the classroom. Students should be expected and required to respect one another.

Some of prevention strategies recommended by the CDC include teaching students skills such as “emotional self-awareness and control, positive social skills, problem solving, conflict resolution, and teamwork.”¹³ The CDC also recommends programs to engage parents and families to lower the risk for violence by children, and mentoring programs to pair at risk students with positive, adult role models.

Review Safety Procedures and Offer More Training

When safety situations arise, training kicks in. Conduct regular safety meetings within teams and create safety drills as needed. All school employees should participate in a solid training program that helps them review important safety procedures on a regular

¹³ U.S. Centers for Disease Control, “Understanding School Violence Fact Sheet”, 2013.

basis. Some training should also include student drills. Training programs should be proactive, not reactive. School safety depends on it.

- School safety and security training programs should include:
- Natural disaster drills appropriate for the geographic area (hurricane, tornado, etc.)
- Fire safety drills
- Active shooter situation training (often in conjunction with law enforcement)
- Lock down procedures for an emergency or a missing student
- Food contamination and recall
- Infection diseases containment
- Personal safety

Enhance Safety and Security Record Keeping and Review

In addition to improving training programs, schools should seek to enhance their ability to keep accurate records of safety and security incidents, so they can measure the effectiveness of security procedures. This includes having the ability to review incident types, locations, response times, and outcomes. It's especially helpful if a system is in place to record this information for both real-world events and practice drills. This enables a school to learn from potential mistakes and improve processes that are highlighted during drills.

Implement Safety-Oriented Information Systems

Another way to help protect students, teachers, and administrators is to ensure that IT systems both support and enhance school security. As discussed above, this includes having a reliable system for recording information about staff injuries and illnesses.

Real-Time Location Systems (RTLS) are an important system for improving staff safety. RTLS tracks the exact location of staff, students, visitors, and important assets such as computers or audio/visual equipment. The most popular form of RTLS uses active radiofrequency identification (RFID) technology to track dynamic, real-time location information—giving school administrators and security personnel the ability to locate any teacher or student instantly, at any moment.

How a Real-Time Location System Greatly Enhances School Security

A highly accurate, low-cost RTLS can be deployed using active RFID over an existing Wi-Fi infrastructure that does not require a lot of additional IT resources. RTLS can make an immediate impact on the security and safety of students, employees, and visitors, as discussed below. It also provides many additional benefits that help schools experience a good return on investment (ROI).

Monitor the Location of Staff, Students and Visitors in Real Time

RTLS enables school security personnel to monitor students and teachers on the go without physically being in the same location. With RTLS, security and police can instantly see the location of any individual wearing a device such as a Wi-Fi badge tag. If students or visitors enter prohibited areas, an RTLS can identify and provide an alert to security, which can even work as a preventative for encroachment.

Provide an Instant, Silent Alarm for Emergencies

A good RTLS system can help protect staff and students from school violence by equipping them with wearable panic button devices that sound an alert and pinpoint the location of the incident to facilitate a rapid response. One of the most effective systems is a wearable badge tag attached to a lanyard that can be pulled down sharply to trigger the alarm. If a threat arises, the wearer can quickly summon help. If a fight breaks out, any student or teacher could pull their badge tag to alert other teachers close by as well as the school resource officer or security. If a teacher is threatened by a visitor or student, help can be summoned discreetly and quickly.

Reduce Response Times in Medical Emergencies

When help is needed, it's important to send the right person to assist. The right person is not only someone trained for the situation, but also someone who can get to the situation quickly. By the time first responders, police, and firemen locate the person reporting an emergency with manual map look-ups or calling, it could be too late.

RTLS reduces emergency response times by allowing security staff and school resource officers to know the location of any student or teacher in distress or visitor in an unauthorized location, without having to perform any manual map look ups.

In a life-threatening emergency where seconds and minutes count, it's vital to get the school nurse and other trained responders to the situation quickly with the right equipment, such as a rescue asthma inhaler or automated external defibrillator (AED). If a student or teacher has a medical emergency, RTLS helps the school notify medical responders quickly, send the nurse to assist while waiting for outside help to arrive, and send the first responders to the right location, right away.

Guide Staff and Students to Safety

RTLS can also instantly and silently communicate with all staff and students wearing badges using text messaging capabilities. In the event of an emergency, integrate systems can allow security and police to lock down the school immediately and provide staff and students with directions—all without using the PA system. Police can communicate without dependence on cellular networks or VOIP based dialing. In the event of a student on a rampage or an active shooter situation, the police and school security can use the messaging feature to guide groups or teachers and students out of harm's way.

Improve Documentation and Reporting of Safety and Security Incidents

Careful tracking of all safety and security incidents helps schools document resolutions for continuous improvement and legal defense. RTLS software can help automate incident recording, noting the location and timestamp of safety incidents or security events. School security personnel can document who was involved and how the incident was resolved. These records can also enable security personnel to further identify students at risk of additional violent behavior and to document their infractions.

Use Forensic Replay Information to Strengthen Emergency Safety Procedures

In addition to documentation of all incidents and events—both real-world and safety drill—some RTLS solutions enable the school security team (and police, if appropriate) to review a forensic replay of safety exercises. When the fire alarm sounded for the drill, did everyone follow the correct emergency procedures? When the mass text messages simulating an active shooter scenario went out, did they successfully guide all students and staff to safety? Forensics replay enables security personnel to travel back in time and see what worked and what needs additional training or improvement.

Forensics replay capability allows a complete post emergency analysis from the time the event started to the time it stopped. Everyone who's been alerted by a message to their badge tag will be seen in the visual replay for the entire event. Forensic replay can allow security to analyze the performance of students, teachers, and security personnel, and identify every bottleneck in the system. By analyzing the bottlenecks in security procedures and policies, emergency planning can be improved.

Minimize Disruptions by Using Two-Way Messaging Instead of Overhead PA Systems

RTLS two-way text messaging can be used effectively in non-emergency situations, too. When a student is needed in the office, for example, a personal text can be sent to that student's badge. This is far less disruptive to other students than an announcement over the PA system or someone knocking on the classroom door.

Keep Better Track of Expensive Educational Assets

Wireless RTLS is a key system for enhancing personal and facility security, but it also delivers other important benefits to educational institutions.

RTLS can help deter theft in several ways. First, on high-value assets, would-be thieves can see the asset tracking tag physically attached to the items. Further, when staff and students know there is a system tracking their movements, any temptation to steal will likely dissipate. If a tagged asset is stolen, the Wi-Fi enabled RTLS, for instance, can show it moving throughout the campus on a map using intelligent software.

RTLS saves teachers time by eliminating searching for equipment, and helps schools keep track of expensive assets to minimize losses. The system monitors the location of every tagged asset, and employees can search for assets by type, attributes, location (to find the nearest one), status, and other criteria. The RTLS can even trigger alerts for producing maintenance work orders (for example, cleaning or recharging) when an asset changes status or location.

Monitor and Preserve Climate-Sensitive Assets

Wireless temperature monitoring with RTLS can ensure that school refrigerators and freezers are functioning properly to ensure food safety. Wireless temperature monitoring can also be deployed in temperature-sensitive research labs, storage areas, and network server closets. Without RTLS, either employees have to spend time manually checking thermometers and recording temperatures, or the school must risk spoilage and other preventable waste. RTLS will monitor refrigeration units and send alerts to appropriate personnel when breach-thresholds have been reached.

Conclusion

Increased school security benefits everyone—students, teachers, administrators, visitors, and the community as a whole. Not only can an investment in school safety save lives, it also helps reduce assaults, minimize classroom disruption and distraction, improve the effectiveness of safety drills and incident documentation, decrease theft, and instill a greater sense of well-being and safety in teachers and students.

There are many ways to improve safety and security in a school, starting with developing an effective EOP. Other safety strategies include identifying students at risk for violent behavior, employing prevention strategies, ensuring an adequately staffed and equipped school security team, enhancing record keeping, and strengthening training programs.

In the information technology realm, a Real-Time Location System (RTLS) can greatly improve school security by enabling dynamic tracking of teachers, students, and visitors, as well as expensive equipment at all times. For staff and student safety, it's important to choose a system that offers silent alarm/distress signals from Personal Safety Devices (for example, a wearable badge) and includes two-way messaging capabilities to improve communication. RTLS can also provide forensic replay of a security drill or real-life safety situation, so that school resource officers and security personnel can find ways to improve response for any future incidents.

Beyond physical security, RTLS offers other important benefits for schools. It can monitor the location of fixed assets, help protect no-go areas, and remotely monitor the temperature of sensitive materials, such as refrigerator contents, to help prevent damage, spoilage, and even possible food-borne illness. An RTLS solution designed with RFID over Wi-Fi™ is easy to deploy and affordable because it can be done wire-free leveraging the school or campus' existing Wi-Fi infrastructure.

About AiRISTA Flow

AiRISTA Flow is a leader in providing Wi-Fi-based Real Time Location Systems (RTLS), process improvement, and hand hygiene solutions. With innovative products and patented technologies such as RFID-over-Wi-Fi™, AiRISTA Flow delivers superior software, hardware, and services for forward-thinking organizations, globally. AiRISTA Flow hand hygiene solutions help meet FDA regulations while RFID, IR, GPS, and BLE-based tags, accompanied by user-friendly software interfaces, enhance visibility into the location, condition, and status of assets, people, and workflows. Partners include wireless software developers, leading systems integrators, and resellers. Users of AiRISTA Flow solutions include a diverse, international portfolio of healthcare, manufacturing/industrial, retail, and government clients.

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