

Infrastructure

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Balanced plans emphasize violence prevention

Physical security is a component of the broader school safety system. A critical understanding of infrastructure can enable governance teams to be creative and collaborative with their local educational agency (LEA) resources. This brief describes the relationship between infrastructure and school safety, provides questions for board members to consider, and outlines relevant resources, including sample policies. The material included is not intended to provide a detailed manual for infrastructure planning. It is intended to provide an overview of key concepts and considerations so that governance teams are prepared to engage in informed discussions with LEA staff and other educational and community partners.

Infrastructure improvement

Infrastructure can play a role in the prevention, protection, mitigation, response, and recovery phases of emergency management. These five preparedness areas are all connected and directly address the greatest risk in an emergency event.

According to the Cybersecurity Infrastructure Security Agency (CISA), when thinking of developing or improving physical security, LEAs should consider:

- ▶ How might certain physical security measures already in place or under consideration negatively affect efforts to prevent threats from occurring? For instance, could highly visible and intrusive

Key Terms and Definitions:

- ▶ **Infrastructure:** Infrastructure encompasses all the tangible facilities and technologies on a school campus, from buildings and trees to stadiums and classroom technologies.
- ▶ **Facilities master plan:** A facilities master plan is the culmination of a process in which the board of education and LEA staff collect and analyze data regarding the current and future facilities needs of the LEA. The data collected is used to inform future LEA facilities planning.
- ▶ **Crime Prevention Through Environmental Design (CPTED):** CPTED principles recommend improving security through "natural surveillance," established via clear sightlines rather than surveillance technology or security personnel; perimeter barriers constructed from landscaping instead of fencing; and clear signage to aid building evacuation and first-responder access instead of equipment- and personnel-reliant communication or surveillance systems.
- ▶ **Prevention:** Refers to the capabilities to avoid, deter, or stop an imminent crime, or a threatened or actual mass casualty incident.
- ▶ **Protection:** Refers to the capabilities necessary to secure schools against acts of violence and manmade or natural disasters.
- ▶ **Mitigation:** Refers to the capabilities necessary to eliminate or reduce the loss of life and property damage by lessening the impact of an event or emergency.
- ▶ **Response:** Refers to the capabilities to stabilize an emergency once it has already happened or is certain to happen; establish a safe and secure environment; save lives and property; and facilitate the transition to recovery.

security measures such as indoor surveillance cameras or metal detectors work to elevate student fears of victimization and degrade school climate?

- ▶ How might certain physical security measures already in place or under consideration hinder efforts to respond to incidents and recover from their negative consequences? For instance, could certain measures such as automatic locks on classroom doors hinder response from law enforcement personnel and emergency responders?¹

Each LEA has different needs and resources; there is no one-size-fits-all approach to school safety. Some communities may focus more on the physical infrastructure aspects of campus safety and security than others.

Although infrastructure plays an important role in comprehensive school safety, new improvements and initiatives should be driven by an LEA's overall goals, vision, and standards — with an emphasis on how the tangible physical elements impact both the perception of safety and *actual* safety. This is an area where governance teams can offer useful guidance and support.

Unlike fire and structural (e.g., earthquake emergency procedures) design standards set in law or code, education physical security guidelines often lack the same level of clarity and mandates. Therefore, school leaders are routinely faced with multiple challenges and responsibilities when considering upgrading existing facilities in terms of scope, priorities, and return on investment.

Given that security standards are not regulated in education facilities (with few exceptions), LEAs have the latitude to form their own security guidelines for upgrading, retrofitting, and new construction. LEAs also generally have the latitude to form their own internal review process and cycles. It is recommended that LEAs develop layered review processes that inform their technical and education standards in consultation with a range of subject matter experts and practitioners.

Items that should be reviewed more frequently can be assessed by the School Safety Committee members with special training and structured self-assessments and documented in the Comprehensive School Safety Plans (described in greater detail within a separate companion brief [\[insert hyperlink\]](#)). Items requiring more extensive facility upgrades, modification, retrofitting, and construction are more suitable for an LEA review process. The LEA review process should incorporate site inputs alongside standards.

Facilities master plan process

Some may find it surprising that few design and construction professionals have specific expertise in aspects of school physical security design beyond strict building code requirements. It is not uncommon for schools built or upgraded in recent decades to still have multiple features that may complicate efficient daily supervision, monitoring, and access.

For example, it is common to find school facilities of varying ages with glazing (glass) on or near doors — a well-documented vulnerability to vandalism, break-ins, and forced entry during an armed attack (refer to options-based section [\[insert hyperlink\]](#)). Although this is only a single example, identifying and creating a priority scale for addressing existing deficiencies can be a complex process that is ideally incorporated into a longer-term facilities master planning process that leverages multiple funding sources.

School sites should provide input into the long-range planning process and should retain the latitude to propose shorter-term infrastructure enhancements.

Developing District Technical and Education Standards

It is a best practice for medium- to larger-sized LEAs to develop District Technical and Education Standards (district-level requirements and guidelines for all layers of education physical infrastructure), together with collaborative task forces of both staff and consultants to establish requirements for new construction, as well as provisions for retrofits and upgrades for all types of infrastructure. These standards may augment all current California Building Code (CBC) requirements, as administered through the Division of the State Architect (DSA), but never contradict them.

Technical and Education Standards can help ensure appropriate inter-systems coordination to avoid patchwork, incompatible, and unserviceable systems. Regarding campus safety, the standards should also involve Crime Prevention Through Environmental Design (CPTED) considerations. CPTED considerations improve design efficiencies across areas such as access control, lighting, lines of sight, boundary control, paths of travel, and natural and electronic supervision appropriate for multiple student developmental levels.

Although smaller LEAs may not have a dedicated planning department to help develop such detailed documents, they can work with their county offices of education or form partnerships with neighboring or larger LEAs to help establish physical safety as a key area in their Technical and Education Standards.

While governance teams are not solely responsible for the infrastructure design of schools in their LEA, boards of education do have influence on the policies, procedures, and projects that can be advanced at the school and district level to address concerns to improve safety. Understanding these key concepts of infrastructure and the need for upkeep of school facilities to enhance safety allows board members to make informed decisions.

Questions for governance teams to consider

1) Staffing and internal coordination

- ▶ To what extent is there a centralized LEA process to support each site's needs?
- ▶ If the LEA doesn't have a dedicated safety and security and/or planning position, how can processes be coordinated to support a range of safety and security infrastructure needs — from short- to long-term objectives and projects?
- ▶ Are there procurement and contract review processes in place to ensure compliance with existing LEA goals, purchasing requirements, and overall efficient use of resources?

2) Partnerships and external coordination

- ▶ Do LEA leaders in all fields related to infrastructure have relationships with partners, authorities, and subject matter experts who can help inform assessment, decision making, and procurement processes? These may include awareness of independent contractors, consultants, and others without proper credentials, experience, etc.

3) Standards-driven process

- ▶ To what extent are the LEA's safety and security upgrades driven by a careful, long-term process informed by authoritative and comprehensive assessments, established Technical and Education Standards, and return on investment considerations?

4) Implementation

Training:

- ▶ Are LEA leaders in fields related to safety and security infrastructure knowledgeable of DSA requirements?
- ▶ Do they have collective awareness of pertinent concepts of CPTED, federal resources from CISA and Department of Homeland Security, and FBI's community outreach organization Infragard?
- ▶ Are they familiar with common facility vulnerabilities during active shooter attacks?
- ▶ Does the LEA have at least one designated person trained or certified through the regional federal-local law enforcement **fusion centers** as Infrastructure Liaison Officer (ILO), or similar? (Fusion centers are law enforcement coordination and intelligence sharing hubs for federal, state, local, and tribal partners.)

Balanced Funding:

- ▶ Although LEA infrastructure upgrades may often be managed through separate funding sources than those for training, professional development, and student support initiatives, to what extent do infrastructure upgrades balance infrastructure safety, physiological safety, and behavioral safety?

Relevant resources

CSBA Business Affiliate Total School Solutions, Facilities Master Plans

Total School Solutions (TSS) professionals assist districts across the state in planning for their facilities needs through the development of high-quality comprehensive facilities master plans. Well-constructed and maintained facilities, designed to serve the planned educational programs and needs of the district students, are vital to the success of all students and their learning. Acknowledging that correlation, TSS offers a comprehensive slate of services in the areas of facilities planning, funding and construction.

[Facilities Master Plans \(csba.org\)](https://www.csba.org/facilities-master-plans)

School Security Assessment Tool (SSAT) Glossary

A glossary of school security assessment terms.

[School Security Assessment Tool Glossary \(cisa.gov\)](https://www.cisa.gov/school-security-assessment-tool-glossary)

K-12 SSAT Tool

SSAT is provided by CISA and is designed to help inform the school's safety and security planning process by taking stock of what security measures and associated supports are in place across the campus and where improvements can be made to improve the safety and security of the school community. SSAT is a web-based tool that focuses on protection (keeping people and property safe from threats and emergencies) and mitigation (reducing the damage or harm from safety-related incidents) and will help to apply the three physical security strategies of detection, delay, and response.

[School Security Assessment Tool \(cisa.gov\)](https://www.cisa.gov/school-security-assessment-tool)

Readiness and Emergency Management for Schools (REMS)

Resources for site assessment teams and/or school planning teams to improve the safety and security of schools in the short term and long term.

[REMS K-12 Site Assessment Resources 2021](https://www.cisa.gov/rem-s)

CISA K-12 School Security Guide

This guide shows how taking a systems-based approach to school physical security planning can help schools create safe and secure learning environments — without requiring school staff to become security experts or compromising the broader educational mission. The guide provides schools with actionable, practical, and cost-efficient resources and tools that enhance their safety and security postures.

Cybersecurity & Infrastructure Security Agency (CISA) K-12 School Security Guide 3rd Edition 2022

National Institute of Building Sciences

Protective design can reduce the risk of an active shooter incident and, if one occurs, can mitigate or reduce the number of potential victims. A facility, school, or office building should conduct a security risk assessment. This guide provides infrastructure risk assessment information and resources to mitigate and reduce mitigate harm.

Whole Building Design Guide. Active Shooter: A Role for Protective Design

Public Broadcasting Service (PBS) and Education Week video on school tip lines

Schools have scrambled to boost secure buildings, adding surveillance cameras and police officers. There is a lower cost, less intrusive measure that can help prevent school violence — encouraging students to report threats or other safety concerns to an anonymous tip line. Colorado started its statewide tip line after the Columbine shooting 20 years ago. The idea picked up after the Sandy Hook tragedy in 2012, and now, in the wake of Parkland, has taken off. The latest state to join this effort is Pennsylvania, where a new tip line has received thousands of tips in just the first month of operation. PBS and Education Week take a look at how the effort is going, and whether tip lines work.

<https://youtu.be/QE1pOQKGa8A>

Relevant CSBA board policies and administrative regulations

CSBA GAMUT Policy and Policy Plus subscribers have access to sample policies. The following are sample policies and administrative regulations that are relevant to infrastructure.

- ▶ BP/AR 0450 - Comprehensive Safety Plan
- ▶ BP 1112 - Media Relations
- ▶ BP/AR 1250 - Visitors/Outsiders
- ▶ BP/AR 3515 - Campus Security
- ▶ BP/AR 3515.2 - Disruptions
- ▶ BP 3515.21 - Unmanned Aircraft Systems (Drones)
- ▶ BP/AR 3515.3 - District Police/Security Department
- ▶ BP/AR 3516 - Emergencies and Disaster Preparedness Plan
- ▶ AR 3516.3 - Earthquake Emergency Procedure System
- ▶ AR 3517 - Facilities Inspection
- ▶ BP/AR 5142.2 - Safe Routes to School Program
- ▶ BP 7110 - Facilities Master Plan
- ▶ AR 7111 - Evaluating Existing Buildings
- ▶ AR 7160 - Charter School Facilities

Endnotes

- 1 Cybersecurity and Infrastructure Security Agency (CISA). (2022). K-12 Security Guide 3rd Edition. Retrieved from <https://bit.ly/3Tjzpic>.

