Introduction

This resource is intended to provide an overview of physical security measures. It highlights research-based considerations on using physical security measures in general, as well as evidence on specific security measures to help assess their effectiveness and understand how to utilize selected measures in your building. Also featured are questions that schools may wish to ask a vendor when determining which measures to pursue as part of a comprehensive school safety strategy.

Definition

Physical security measures are intended to detect, delay, and respond to threats. These security measures are one piece of creating a safe school. There are five elements, including: physical security equipment and technology, school security personnel, security policies and procedures, site and building design, and training drills and exercises. These five elements are intended to be part of a layered approach to school safety. The primary focus of this document is the physical security equipment and technologies element.¹

Physical security measures may include:







Considering Specific Measures

This section provides considerations for implementing physical security measures based on current research. Please be sure to do your own research before selecting a security measure.



Security cameras need dedicated staff to monitor and respond throughout the school day. Using security cameras inside schools has been associated with students feeling less safe. Yet, researchers report evidence that some use of cameras on the outside of the school buildings increase students' feelings of supportiveness in schools. Careful placement and consideration of school climate is important before installing.^{9, 19}

Interior door locks can be effective at keeping people safe during an active shooting event, and should be paired with drills that ensure those in the building and first responders know the process for using them.^{20, 21}





Researchers report some evidence that **metal detectors** deter students from bringing weapons to school and can detect and prevent weapons from entering school buildings. However, they can also increase other forms of violence by making the school a less welcoming environment. School climate should be considered before installing.^{10, 11, 13-15, 21}





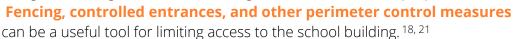
Researchers have shown that faster response times in an active shooting event can support better outcomes. **Panic buttons** and other types of communication technologies are a tool that can encourage communication with first responders in an active shooting event.²²

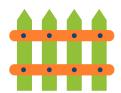




One of the principles of Crime Prevention Through Environmental Design, natural surveillance, calls for using environmental design to enhance visibility in a space. **Proper lighting** plays a role in in encouraging natural surveillance.¹⁷

Access control, another principle of Crime Prevention Through Environmental Design, encourages the use of strategies that limit access to properties.







Remember that physical security measures are one piece of an effective safety plan. No matter what physical security measure you are considering, think about how it fits into your comprehensive plan. Make sure you consider how to communicate about your chosen measures with school community members including students, teachers, parents, and first responders. They will need to know how those measures work in order to use them effectively.





Key Considerations

If staff are appropriately trained, physical security measures can be useful in an emergency or when an event is occurring. Here are some considerations before implementing physical security measures:

Planning for any physical security updates should begin with a comprehensive risk assessment that identifies gaps in campus, building, and classroom security.





Researchers have found that physical security measures are just one of the necessary components of school safety. A **positive and supportive school climate** is one of the most important parts of prevention, and school climate and physical security have been found to be directly related. ²⁻⁷

Many researchers have found that school security measures can result in students and parents **perceiving school as less safe**. A survey of 3,780 students in the United States showed that every increase in security measures increased the odds of students feeling fearful by 23%.





Physical security measures can **find objective and visible behaviors**, like fighting and stealing. However, they are not as effective in handling other forms of violence, like bullying or threats.^{5, 14, 15}





Talking With Vendors

This section suggests topics and specific questions to ask a vendor before implementing a physical safety intervention.

Maintenance

- What if it breaks?
- How quickly can you repair it?
- Do I need to buy a subscription?
- How often do I need to renew my subscription?
- What is included with my subscription?
- Can I bundle services?
- How burdensome is it to operate/train?

Research

- Are there studies you can share with me?
- Is there data that suggests effectiveness?
- Is that data based on grade level?
- How do different students feel about the product?
- How do school personnel feel about it?

Installation

- How much construction is required?
- How disruptive will it be?
- Can it be scheduled during off hours or summer?
- What are my options as far as placement?
- For cameras and metal detectors, where should they be installed?
- If I want to see a certain location, how can I do that?

Training

- Is training required?
- How much training is needed?
- Who needs to be trained?
- Do you offer training?
- How often will people need to be trained?
- Is there training for students?
- Is there training you will give me to give to students?

Satisfaction

- What if we're not satisfied with the service?
- Are there testimonials you can share with me?
- What do other schools say about this?
- What kinds of positive and negative feedback have you received?





Additional Resources

For more information, consult these how-to guides:

- K-12 School Security Guide
- Ten Essential Actions to Improve School Safety
- Preventing School Shootings
- The Design of Safe, Secure, & Welcoming Learning Environments
- Partner Alliance for Safer Schools Safety and Security Guidelines

References

- 1. CISA K-12 School Security Guide. (n.d.). 40. https://www.cisa.gov/sites/default/files/publications/k12-school-security-guide-3rd-edition-022022-508.pdf
- 2. Osher, D. M., Poirier, J. M., Jarjoura, G. R., Brown, R., & Kendziora, K. (2014). Avoid simple solutions and quick fixes: Lessons learned from a comprehensive districtwide approach to improving student behavior and school safety. Journal of Applied Research on Children, 5(2). Scopus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84922778924&partnerID=40&md5=20bab3110778b3a1f8fb3badd3b6527b
- 3. Connell, N. M., Barbieri, N., & Reingle Gonzalez, J. M. (2015). Understanding school effects on students' willingness to report peer weapon carrying. Youth Violence and Juvenile Justice, 13(3), 258–269. psyh. https://doi.org/10.1177/1541204014544512
- 4. Mayer, M. J., & Leone, P. E. (8). A structural analysis of school violence and disruption: Implications for creating safer schools. Education & Treatment of Children (ETC), 22(3), 333–356. eax.
- 5. Fisher, B. W., Mowen, T. J., & Boman, J. H. I. V. (2020). 'School security measures and longitudinal trends in adolescents' experiences of victimization': Correction. Journal of Youth and Adolescence, 49(9), 1940–1941. psyh. https://doi.org/10.1007/s10964-020-01286-y
- 6. Gerlinger, J., & Wo, J. C. (2016). Preventing School Bullying: Should Schools Prioritize an Authoritative School Discipline Approach over Security Measures? Journal of School Violence, 15(2), 133–157.
- 7. Laughout, R. D., & Annear, L. (2011). Safe and Unsafe School Spaces: Comparing Elementary School Student Perceptions to Common Ecological Interventions and Operationalizations. Journal of Community & Applied Social Psychology, 21(1), 71–86.
- 8. Nguyen, K., Yuan, Y., & McNeeley, S. (2020). School security measures, school environment, and avoidance behaviors. Victims & Offenders, 15(1), 43–59. psyh. https://doi.org/10.1080/15564886.2019.1679307
- 9. Lindstrom Johnson, S., Bottiani, J., Waasdorp, T. E., & Bradshaw, C. P. (2018). Surveillance or Safekeeping? How School Security Officer and Camera Presence Influence Students' Perceptions of Safety, Equity, and Support. Journal of Adolescent Health, 63(6), 732–738. Scopus. https://doi.org/10.1016/j.jadohealth.2018.06.008





References

- 10. Hankin, A., Hertz, M., & Simon, T. (2011). Impacts of Metal Detector Use in Schools: Insights from 15 Years of Research. Journal of School Health, 81(2), 100–106.
- 11. Reingle Gonzalez, J. M., Jetelina, K. K., & Jennings, W. G. (2016). Structural school safety measures, SROs, and school-related delinquent behavior and perceptions of safety: A state-of-the-art review. Policing, 39(3), 438–454. Scopus. https://doi.org/10.1108/PIJPSM-05-2016-0065
- 12. Mowen, T. J., & Freng, A. (2019). Is more necessarily better? School security and perceptions of safety among students and parents in the United States. American Journal of Criminal Justice, 44(3), 376–394. psych. https://doi.org/10.1007/s12103-018-9461-7
- 13. Gastic, B. (2011). Metal detectors and feeling safe at school. *Education and Urban Society*, *43*(4), 486–498. psyh. https://doi.org/10.1177/0013124510380717
- 14. Cheurprakobkit, S., & Bartsch, R. A. (2005). Security measures on school crime in Texas middle and high schools. Educational Research, 47(2), 235–250. psyh. https://doi.org/10.1080/00131880500104366
- 15. Bhatt, R., & Davis, T. (6). The Impact of Random Metal Detector Searches on Contraband Possession and Feelings of Safety at School. *Educational Policy*, *32*(4), 569–597. eax. https://doi.org/10.1177/0895904816673735
- 16. Lamoreaux, D. J., & Sulkowski, M. L. (2020). Crime prevention through environmental design in schools: Students' perceptions of safety and psychological comfort. Psychology in the Schools. psyh. https://doi.org/10.1002/pits.22459
- 17. Lamoreaux, D., & Sulkowski, M. L. (2020). An Alternative to Fortified Schools: Using Crime Prevention through Environmental Design (CPTED) to Balance Student Safety and Psychological Well-Being. Psychology in the Schools, 57(1), 152–165.
- 18. Cozens, P., & Sun, M. Y. (2019). Exploring crime prevention through environmental design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory. Property Management, 37(2), 287–306. Scopus. https://doi.org/10.1108/PM-04-2018-0023
- 19. Heinen, E., Webb-Dempsey, J., Moore, L., McClellan, C., & Friebel, C. (2007). Safety Matters: How One District Addressed Safety Concerns. Journal of School Violence, 6(3), 113–130.
- 20. Mosechkin, I. N., & Krukovskiy, V. Y. (2019). Victimological measures for preventing school shootings: Expert view. International Journal of Criminal Justice Sciences, 14(2), 256–266. Scopus. https://doi.org/10.5281/zenodo.3722888
- 21. Jonson, C. L. (2017). Preventing school shootings: The effectiveness of safety measures. Victims & Offenders, 12(6), 956–973. psyh. https://doi.org/10.1080/15564886.2017.1307293
- 22. Paez, G.R., Capellan, J.A. and Johnson, M.G. (2021), Contextualising mass school shootings in the United States. J Investig Psychol Offender Profil, 18: 170-184. https://doi-org.proxy.lib.umich.edu/10.1002/jip.1577



