



Holistic Security Design

Mitigate vulnerability, reduce risk, and keep people safe

By Ryan Searles

Safety and security of people and assets are among the highest priorities for many organizations today. With the prevalence of violent events throughout the U.S.—active shooter events, assaults, civil unrest, etc.—building owners must plan for the safety of their building and its occupants. Including security needs during the design phase provides the most effective and cost-efficient solutions for mitigating emergency events, avoiding the potential loss of life, and providing an overall robust security program.

To create a safe environment, the security design of a new facility or campus must go beyond basic camera and access control devices to a holistic approach that blends security strategies with technology. It's also crucial to understand the difference between safety and security.

Safety is the perception of how safe a person feels in their environment, while security refers to the various layers of tactical implementation used to achieve the desired level of safety.

An owner shouldn't have to choose one or the other—an effective security design can accomplish both.



This holistic approach evaluates everything from the layout of hallways and exterior sight lines to the fencing or vegetation used at the perimeter of the property, in addition to the technology typically used for security cameras, access control systems, and visitor management. Each strategy plays a role in providing the optimum safety for your building, people, and assets.

Implementing the strategies laid out in this guide can help mitigate vulnerabilities and reduce the risk of violence, theft, and unauthorized access to your facility and assist in managing your campus footprint to keep your people safe in an emergency situation.

STRATEGY #1: Include security planning early in design

The types of threats faced by building owners have remained the same over the last several decades—natural disasters, active shooters, civil unrest, etc.—but the frequency of these events is increasing and moving into more public spaces, such as hospitals and large event venues. Those who perpetrate threats adapt their strategies to evade standard security measures. Tactics for preventing, responding to, and recovering from these threats should also evolve.

The first step to getting the most out of your security design is to consult with a security expert from the very beginning of the design process. Your security consultant should work closely with your architect to address all potential threats to people and assets to create a cohesive design that provides a high level of security without detracting from the architect's aesthetic and overall goals for the building. Discussing security considerations from the beginning of design also provides savings for clients by avoiding costly change orders to add security measures later in the design or construction (that may not be effective). For example, security cameras often are tacked on at the end of a design in ways that don't significantly contribute to the building's safety.

While many security strategies can apply to a variety of building and market types, each client will need customized solutions that best protect their property and people. Some clients, such as government buildings and detention centers, prefer a hardened and institutionalized approach to security, while others, like education and healthcare owners, want a more inviting environment. A facility's location (rural or urban), the community's crime rate, and the owner's corporate culture will also dictate the design direction and necessities.

Tailoring security measures to each facility means that the organization's culture and the architect's vision can be blended with the security technology to create a design that is not only effective, but also maintains the desired aesthetic.



STRATEGY #2: Guiding the master plan

Consulting with security experts early in the design will allow you to create a master plan that can be fulfilled on your timeline. Architects and security consultants can work together to conceptualize and implement the owner's intent for their building or campus. An organization's overall culture, whether proactive or passive in their approach to security, will affect the final design of their facility.

This plan will need to consider the following:

- **Site environment.** Are there trees on the site that could obscure sight lines into or out of the building? Is the site positioned to withstand a natural disaster?
- **Building function.** A government building will have different security needs than an educational facility, and all building types will have their own unique aesthetic that must be considered.
- **Surrounding community population.** Crime rates, demographics, and the building's distance from law enforcement and emergency services affect a building's likelihood of threats and violence. For example, rural settings may need a higher level of protection because of the longer wait for law enforcement to arrive, even though the likelihood for crime might be less than what is typical for an urban setting.



SCHOOL SAFETY: Fixing the gaps

More than half of all public schools reported at least one [violent incident](#) in the 2021-2022 school year, as well as limited mental health services for students and fewer school resource officers according to the National Center for Education Statistics. They also [reported](#) that 327 school shootings (defined as any incident in which a gun is brandished or fired, or a bullet hits school property) occurred that year in public and private elementary and secondary schools, nearly seven times more than the 48 occurrences just five years earlier.

In addition to getting involved earlier in the design phase of new facilities, schools need to conduct security assessments and evaluate what security measures are already in place, what is being done right, where there are gaps and vulnerabilities, and how can those be fixed.

The holistic approach is the most effective solution, in addition to training, drills, and rehearsals for staff and students. Schools also need to be proactive and vigilant about watching for early warning signs.

STRATEGY #3: Concentric circles of security

Blending security and technology design involves all aspects of a site and the facility. An effective security design provides layers, or [concentric circles of security](#) (as shown on page 5). Each circle encompasses an aspect of security and technology, such as cameras, access control, building envelope, landscaping, Crime Prevention Through Environmental Design (CPTED) principles, and more. All these circles work in tandem to provide an all-encompassing security plan.

The [graphic](#) at right shows the various security measures that can be applied in a healthcare setting. However, these strategies could be applied to any building type and customized to meet the client's needs.

The numbered list below corresponds with the numbered elements on the graphic.

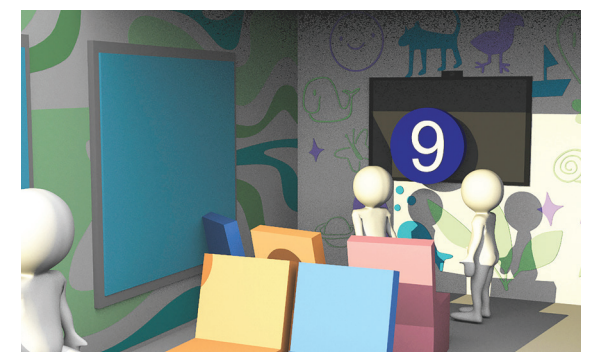
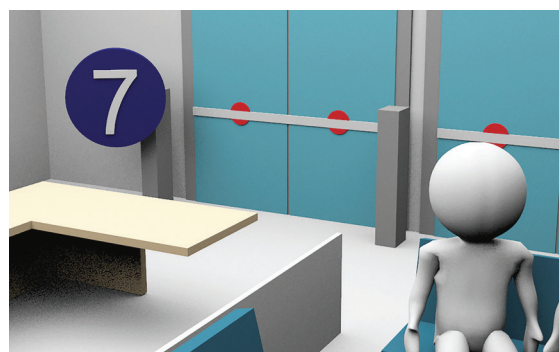
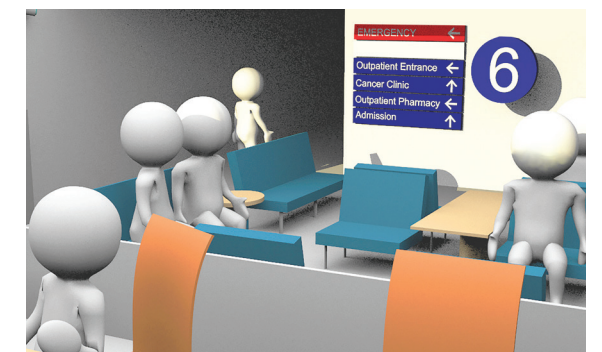
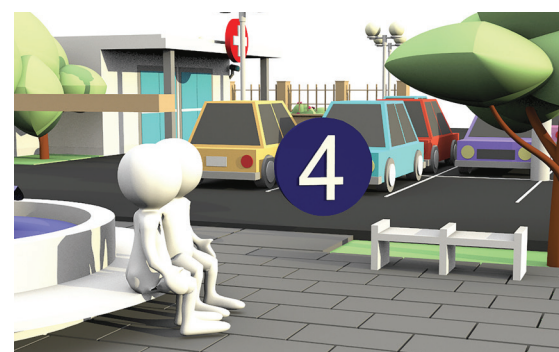
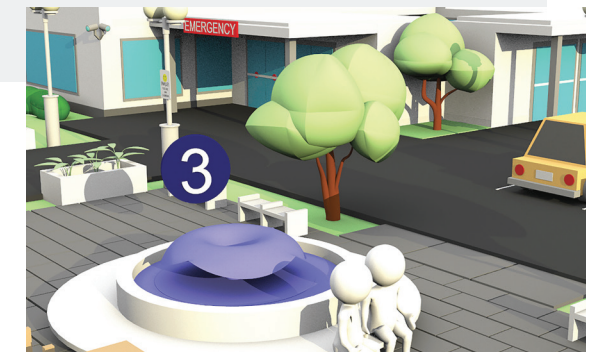
These items include:

1. Vegetation and perimeter fencing to set territorial boundaries
2. Open spaces for unobstructed sight lines to provide natural surveillance
3. Open sitting areas to encourage more watchful eyes in public spaces and deter crime
4. Purposeful architectural elements that prevent loitering in public spaces
5. Sufficient parking lot lighting
6. Clear wayfinding throughout the property, inside and outside
7. Natural access control at the front entry
8. Efficient use of security cameras
9. Behavioral health patient art program (specific to a healthcare facility) to de-escalate conflict and mitigate staff assaults

Designers and owners should work together to identify the options within each circle that work best for their specific project and create a plan to implement these solutions.

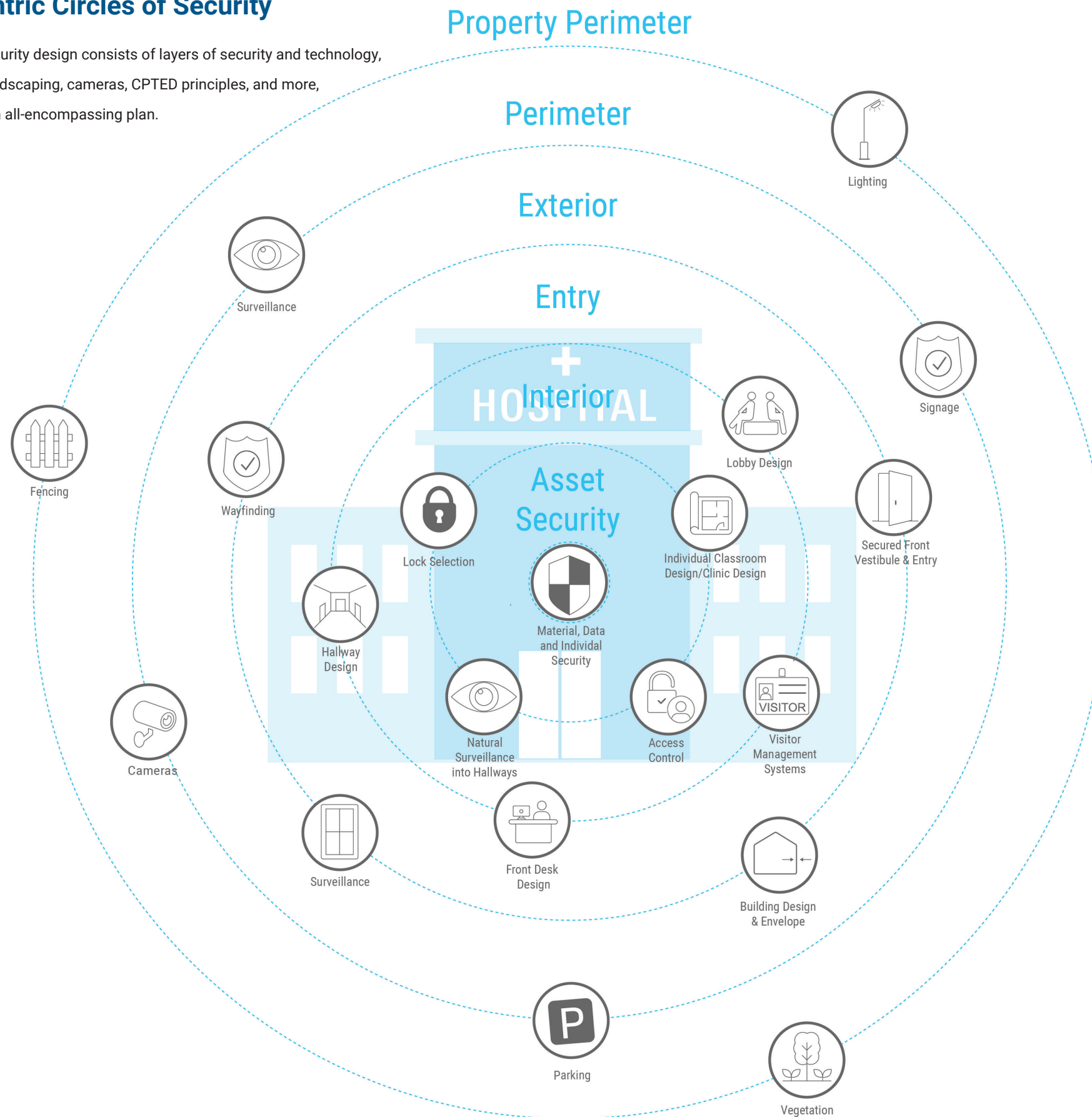


[Follow this link to view an interactive 3D rendering of this secure hospital.](#)



Concentric Circles of Security

Effective security design consists of layers of security and technology, including landscaping, cameras, CPTED principles, and more, to provide an all-encompassing plan.



THE COST OF CARE: Nurses at high risk for workplace violence

Healthcare workers are five times more likely to experience violence in the workplace than employees in all other industries, according to the Bureau of Labor Statistics. These experiences are causing nurses to leave the profession in droves. National Nurses United, the largest union and professional association of registered nurses in the U.S., recently [surveyed](#) nearly 1,000 nurses and found the majority experienced at least one type of workplace violence in 2023. Healthcare staff are increasingly at risk of working with a violent patient or family member in all types of healthcare facilities.

De-escalation is key to diffusing situations that can become dangerous for staff. Many hospitals provide duress buttons to signal help from security and/or trained behavioral health support but combining the technology with Crime Prevention Through Environmental Design (CPTED) strategies—such as calming colors, natural lighting, textures from nature, and natural surveillance and access control—can create a less stressful environment for work and treatment.

The goal of De-escalation by Design is to defuse situations in advance so nurses and staff only resort to conflict resolution and crisis intervention training as an exception, not the rule.

STRATEGY #4: Going beyond technology design

While technology provides a reactive response to security threats and visible security systems can be a deterrent to crime, it's often not enough to stop those who are set on doing harm.

The holistic approach to security design is more effective because it prepares your facility and your staff for the impact of an emergency event and how to respond afterward. The three components of this strategy for disaster mitigation are to **prevent** the event from occurring, **respond** effectively in the event of an active threat, and **recover** post-event. To accomplish this, consider adding the following elements to your design and planning:

- **CPTED strategies.** Increase physical security without creating an overly institutionalized aesthetic by leveraging architectural elements to create secure environments with CPTED strategies. These strategies can include increasing natural surveillance, ensuring territorial boundaries, and establishing social management programs.



- **Emergency preparedness and response.** Establish a plan for your organization's response to emergencies and disasters—whether natural disasters, security incidents, or public health crises. Train employees to respond correctly and quickly in an emergency.
- **Policy and procedures.** Some organizations may have safety officers who work to protect employees from accidents, but a company's procedures also need to include threat protection and recovery. Establish a chain of command for senior management that will respond quickly to an event and follow the company's specific procedures for reporting the incident, providing crisis management, and handling media inquiries. This will help your business recover and remain operational after an event.
- **Market-specific operational intent.** Response to and mitigation of security threats are different for each market, necessitating a unique design for each client. The overall security design will depend on your company or organization culture, desired aesthetics, and safety perceptions. The security team should provide a creative design that will accomplish your goals without interfering with the purpose of the building and the chosen aesthetics.

Thoughtful design builds organization resiliency

Violent crime rates in the U.S. have fluctuated over the last 10 years but overall are on the rise, according to the University of Pennsylvania's Richard Berk, Emeritus Professor of Criminology and Statistics. While [gun violence](#) deaths decreased in 2023, more than 650 mass shootings occurred that year, more than double the 272 mass shootings of 2014. Experts offer various explanations for these trends, but regardless of your building type it is crucial to prepare for all security threats.

Security design for your facility should be a thoughtful, holistic process. Owners need to look beyond bolt-on technology for their access control and security cameras and approach security design with a deeper understanding of CPTED and preventive security strategies. They also must fully train staff to respond to a variety of events. Using technology in tandem with these security strategies will maximize the protection of your people, assets, and property, and help ensure your organization is resilient when a potential threat becomes reality.



For more information

Ryan Searles
Security Consulting Group Leader
210.570.7894
ryan.t.searles@imegcorp.com