

Safety by Design

Schools, both new and old, can incorporate design principles that increase safety and security and subtly signal the appropriate behavior for public, semipublic, and private spaces.

Education in America is undergoing a transformation that reflects changes in the students, the economy, technology, families, and communities. Schools have moved from a one-size-fits-all approach to individualization and respect for diversity, and students are much more active participants in their education than they were in the past. Teachers facilitate learning by using many sources within and outside the school, and parents and the community are considered integral to the process. These changes have also led to a shift in how schools are used and the kinds of safety and security issues they experience.

Although 50 percent of the schools in the United States were built 40–50 years ago, they have modern-day needs for academic achievement, security, and community involvement. The design and the function of most of these buildings offer unique challenges for today's school administrators. Because of the increase of violent incidents in our communities and schools, there is a strong interest in assuring the safety of students, staff members, and visitors.

The following recommendations are based on a school safety by design approach called Crime

Prevention Through Environmental Design (CPTED). CPTED principles are receiving increased attention from community planners, architects, and police and apply to any space where people come together: schools, businesses, neighborhoods, parks, etc. The CPTED approach blends effective design with the physical, social and psychological needs of the occupants. When a safe and secure design and the efficient use of public spaces are combined, occupants experience an enhanced comfort level whether or not they are consciously aware of the safety features. In contrast, potential offenders recognize these same safety and security cues and are discouraged from committing vandalism and other crimes.

Whether a school district is constructing a new school, renovating an existing school, or seeking ways to improve the safety of building occupants, CPTED principles are achieved through three overlapping strategies:

1. Increase the territorial concern or watchfulness of occupants
2. Improve the ability to see what is happening on campus (natural surveillance features)
3. Exercise control over people's access to spaces within a school campus (natural access control).

BY DON BLUE



Increase Territorial Concern

Community-oriented policing supports crime prevention by empowering residents of a neighborhood or community to protect their own interests. This territorial concern or watchfulness can include schools, businesses, or parks as people extend their control over the spaces in which they live, work, or play. Specific territorial strategies should:

1. Involve a variety of people when planning new or renovated designs. Ask students, staff members, and community members to plan and comment on the safety aspects of a building.
2. Reduce user confusion and increase “ownership” or territorial “regard” by clearly defining spaces such as entrances; administration areas; counseling areas; student, staff, or visitor parking; etc.
3. Celebrate entrances you want people to use with architectural features.
4. Provide clear signs to avoid confusion. Imagine this is your first visit to the school as a student or parent—is it clear where you are supposed to go and what the expectations for conduct are?
5. Direct all visitors to the school through one entrance that offers contact with a receptionist. This person can determine the purpose and the destination of the visit and provide a sign-in/sign-out log, an identification tag, and assistance prior to building access.
6. Provide adequate lighting for safety and way finding.
7. Create a smaller look and feel to the school campus by dividing the school into a school within a school (for example, freshman wing, sophomore area). Use color and design to create smaller, clearly distinguished spaces for occupants.
8. Attend consistently to the upkeep and appearance of a school by making necessary repairs, picking up trash, and eliminating signs of graffiti. ►



or recessed and covered with an impact-resistant material. Exterior light should gradually “step down” from bright entrances to parking areas. Consider the effects of glare, shadows, and blind spots, and the need for pedestrian friendly lighting in which people’s faces can be seen at 25 yards. Be aware of the line of sight between the lighting source and objects that may cast shadows.

9. Create student-friendly gathering areas where small groups of students can gather and be monitored by adults. Gathering areas should offer room for groupings of 4-6 students, shade, and trash containers in a pleasant, interesting space.
10. Look for opportunities to support an inviting climate and school pride.

Support Natural Surveillance

Visibility is a crucial factor in school safety. Clear sight lines for vehicle and pedestrian safety and student supervision are essential to preventing problems. The potential for vandalism, assault, and other criminal activity rises dramatically if perpetrators believe they will not be seen and recognized. Combine this belief with an attractive target and a motivated offender, and you have a recipe for a crime to occur. Even the perception of surveillance (two-way mirrors or reflective glass, for example) can be a powerful deterrent. Effective surveillance strategies:

1. Promote visual control by maximizing sight lines for key areas such as school entrances, parking areas, hallways, cafeterias, playgrounds, student gathering areas, or bus queuing areas.
2. Reduce or eliminate hallway projections that limit visual control and block the movement of students. Create broad, well-lit hallways with see-through or chamfered corners at congested intersections.
3. Position employee work stations to maximize visibility in key areas.
4. Develop clear criteria to determine lighting adequacy. Select light sources that provide natural and full-color rendition. Interior fixtures should be flush mounted

6. Plan for supervision sites in places where students congregate that allow one or two staff members to have a full view of the area.
7. Recognize that student toilets and locker rooms are areas that present serious concerns for vandalism, victimization, smoking policy violations, and other conduct violations. For safety and security, ensure that:

- Toilets are located in areas that maximize supervision potential
- A well-lit maze entry allows quick ingress and egress for students and easy supervision for staff.
- Walls are made of a durable material that can handle repeated cleaning in these and other graffiti-prone areas
- Toilet stalls allow staff to see below and above partitions



- Removable ceiling tiles are replaced
- Areas where contraband can be hidden are identified.

Natural Access Control

Influencing or controlling access to a space can be as subtle as a low sidewalk border or as obvious as a chain-link fence. People take cues from their environment each day and use these cues to guide their behavior. CPTED offers an array of strategies that cue people to the attendant behavior expected of them as they move from public to semipublic to private space. Restricting, limiting, or defining access within a school campus clarifies behavioral expectations. Successful access control strategies:

1. Limit the number of entry and exit points to the campus.
2. Limit the number of entrances and exits to school parking lots or provide for easy closure during non-peak times.
3. Separate bus, car, and delivery traffic on the campus.
4. Define pedestrian areas clearly with curbs, sidewalks, and raised or stripped walkways.
5. Calm traffic with speed humps and meandering traffic patterns on campus.
6. Locate student parking in areas that allow ease of monitoring.
7. Funnel or choke down traffic entering a school campus from multilane entry to fewer lanes and disperse vehicles to parking areas deep within campus to alleviate congestion on public roadways.
8. Provide vehicles and pedestrians with clear visual pathways to their destination.
9. Define walkways, borders, and other spaces outside the building with low bushes, trees, and intermittent earth berms rather than opaque walls and dense foliage.
10. Landscape with bushes no taller than three feet and trees free of limbs up to seven feet.
11. Avoid structural features or plantings that allow unwanted access to the roof.
12. Define hallways, classrooms, offices, and school wings or departments by using varied wall and floor colors, textures, and materials. Flooring differences can help differentiate public hallway spaces from semi-private or private office spaces.
13. Eliminate interior or exterior entrapment areas, enclosing such hiding places as the underside of stairwells and eliminating recessed exits that offer hiding places in out of the way areas.
14. Provide the library with low stacks, well spaced and parallel to the librarian's line of sight. If the school library is used for meeting space, consider its location in regard to public access.
15. Keep audiovisual equipment in a locked room separate from the general equipment and storage.



16. Store all valuable property in interior zones away from exterior walls, windows, and doors.
17. Organize locker rooms for easy surveillance and provide a clear circulation pattern with no dead ends or entrapment areas.
18. Locate the gym instructor's office near the main door and provide windows to monitor the locker area.

Research consistently demonstrates the value of adult supervision of students in schools. When compared with cameras and other technologies, there is no substitute for adults providing a caring presence. When good supervision is combined with clear expectations in which students know the rules and consequences for misbehavior and believe the rules are reasonable and fairly applied, the result is less disorder and rule violations. CPTED principles applied to schools directly support an increase of territorial concern or ownership of the school and allow all people who use the space to see what is happening on campus and to exercise control over those spaces. The result is greater comfort and safety of people and greater security of school assets.

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